

Appendix I

Traffic Impact Assessment

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Eastern Outfall Pressurised Main

29-Jul-2025
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Commercial-in-Confidence

Traffic Impact Assessment

Eastern Outfall Pressurised Main

Client: Townsville City Council

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Glossary

AADT	Annual Average Daily Traffic
AC	Asbestos Cement
BAL	Basic Left Turn Treatment
BAR	Basic Right Turn Treatment
CBSTP	Cleveland Bay Sewage Treatment Plant
DOS	Degree of Saturation
EOPM	Eastern Outfall Pressure Main
ESA	Equivalent Standard Axles
HV	Heavy Vehicle
LOS	Level of Service
MSCL	Mild Steel Cement Lined
SARs	Standard Axle Repetitions
SCR	State Controlled Road
SIDRA	Intersection Analysis Software
SISD	Safe Intersection Sight Distance
SSRM	Southern Suburbs Rising Main
TCC	Townsville City Council
TIA	Traffic Impact Assessment
TMR	Department of Transport and Main Roads
WOPM	Western Outfall Pressure Main

1.0 Introduction

1.1 Background

Townsville City Council (TCC) is undertaking the replacement of the existing DN675 Asbestos Cement (AC) Eastern Outfall Pressure Main (EOPM) due to its deteriorated condition. The EOPM services the Eastern suburbs of Townsville, conveying sewage to the Cleveland Bay Sewage Treatment Plant (CBSTP). The new alignment extends approximately 3 km from Sixth Street East to Racecourse Road, generally within a Powerlink easement. Connections will be made to an existing DN813 Mild Steel Cement Lined (MSCL) rising main and to the Southern Suburbs Rising Main (SSRM) and Western Outfall Pressure Main (WOPM).

At the pre-lodgement meeting with the State Assessment and Referral Agency (SARA) on 13 March 2025, the Department of Transport and Main Roads (TMR) identified that the proposed Project's proximity to a state-controlled road (Townsville Port Road) makes it an assessable development under the Planning Regulation 2017, and therefore requested a Traffic Impact Assessment (TIA) to state the potential impacts and required mitigation options.

This TIA has been prepared to evaluate potential traffic impacts on the State Controlled Road network for the EOPM project. It considers factors such as heavy vehicle movements, deliveries, and temporary access requirements to ensure road capacity, safety, and amenity are appropriately managed.

1.1.1 Site Location

The project site is located between Sixth Street East (South Townsville) and Racecourse Road, within the western section of a Powerlink easement, adjacent to the Townsville Port Access Road (Townsville Port Road) (841), known locally as Ron McLean Drive. The location of the subject site and other key features within the study area are illustrated in Figure 1.



Figure 1 EOPM Replacement – Project Overview

Further details regarding the project area are discussed in Section 3.0.

1.2 Pre-lodgement Meeting Notes

A pre-lodgement meeting for the Project was held with all the relevant authorities for the EOPM development including the State Assessment and Referral Agency (SARA), Department of Transport and Main Roads (TMR) and Townsville City Council (TCC).

Minutes of this pre-lodgement meeting is provided for reference in Appendix A, with one of the main points of discussion at this meeting being the requirement for a TIA to support future development applications for the project. In the pre-lodgement meeting, TMR raised the following points for consideration in the preparation of the TIA:

- The proposed works intend to utilise four existing accesses along the western side of the Townsville Port Road (refer to Figure 2). These accesses are unlikely to comply with relevant standards.
- Considering the low standard of formation of these existing accesses and the high-speed environment of the Townsville Port Road, TMR are concerned about the suitability of these accesses for the volumes of light and heavy vehicles utilising them during the construction period. TMR advise that traffic management is likely required to mitigate the potential safety and operational performance impacts to the Townsville Port Road during construction.
- Since the works involve the construction of a maintenance track within the premises, TMR advise that it may be more suitable to investigate the formalisation of one of these four accesses, to be utilised throughout construction and beyond, reducing or eliminating the use of the other three accesses.
- TMR anticipate that upgrades to one or more of these accesses will likely be required to maintain the safety of road users on the Townsville Port Road.

To demonstrate compliance with these Performance Outcomes and the requirements under the *Transport Infrastructure Act 1994*, the preliminary construction Traffic Impact Assessment in this report will provide details on assumed vehicle trips and types, as well as swept paths demonstrating accesses are suitable for the largest design vehicle, in addition to other relevant assessments, in support of the future development application.



Figure 2 Four existing accesses along Townsville Port Road

1.3 Methodology

Based on the information provided by TCC, the traffic volumes generated during the construction phase of the project are expected to greatly exceed the transport movements required for ongoing operation of the pipeline. As such, the traffic assessment has focused on the construction period as the peak traffic generation phase of the project. If no adverse impacts are identified during this period, it is considered that the operational phase will similarly have no significant traffic impacts.

The assessment methodology adopted is in alignment with TMR's Guide to Traffic Impact Assessments (2018), which is broadly summarised in the key tasks listed below:

- Broadly identify the existing transport infrastructure which is of relevance to the Project.
- Estimate traffic generation associated with the construction phase of the Project and the distribution of this traffic on the identified road network, including the movement of materials, plant and equipment in addition to the construction workforce.
- Assess the potential impact of the Project on the surrounding transport infrastructure during the construction phase.
- Identify potential mitigation and management strategies to be implemented during the construction phase to offset the impact of the proposed Project (if required).

The following items have been excluded from the assessment:

- Operation traffic impact assessment
- Route assessment for transportation of equipment and materials to the site. This TIA focuses on the impacts of the Project to Townsville Port Road only.
- Road Safety Audit.
- Collection of traffic data (field survey).

The adopted methodology centres on establishing a background, “without development” traffic scenario for the identified transport route, and comparing this with a scenario including the Project-generated traffic, i.e. the “with development” scenario. The process allows for the assessment of the traffic impacts of the Project in terms of road safety, intersections, pavement and other infrastructure. Following this, if required, potential mitigation and management measures would be formulated to address the potential traffic impacts caused by the operation of the proposed Project.

1.4 Limitations

This TIA has been prepared based on the available information. The outcomes of this assessment should be read in conjunction with the following limitations and exclusions.

- This investigation has assessed the impacts of the proposed development on the relevant State-Controlled Road network, which is limited to Townsville Port Access Road (841).
- This report is not a route assessment for transportation of equipment and materials to the site.
- This report does not include any agreements for works or maintenance.
- This assessment excluded detailed design of road sections, intersection mitigation works or accesses.
- This preliminary construction traffic impact assessment is based on the known construction activities listed herein and are informed by assumptions obtained through consultation with the pipeline design development team. As the project develops further, and a suitable contractor is engaged, this assessment should be updated to reflect the updated construction information.

1.5 Data Sources

The following sources of data have been used for the purpose of this assessment:

- TMR AADT Road Segment Data for identified sections of:
 - Townsville Port Road (841)
- Queensland Government Open Data Portal – Crash Data for Queensland Roads
- EOPM design drawings (prepared by AECOM)
- Construction details and assumptions obtained through consultation with the pipeline design development team.
- Gazette Notice ISSN 0155-9370 No. 24 (9 February 2018)

2.0 Existing Conditions

2.1 Land Use and Zoning

A review of the land use and future growth areas of the Townsville township and surrounding areas was undertaken to identify any major development activities and land use changes that may impact traffic volumes on the Townsville Port Road and associated accesses. The current and future land use is shown in Figure 3, which is an extract of the Townsville Regional Council Planning Scheme 2024 Zoning for Townsville.



Figure 3 Townsville Regional Council Planning Scheme 2024 – Zoning for Townsville

The proposed EOPM alignment extends approximately 3 km from Sixth Street East to Racecourse Road, generally within the Powerlink easement. This easement and subsequent project site are zoned as Special Purpose. The works do not relate to a material change of use or reconfiguration of a lot.

At the time of assessment, no planned port development or major expansion activities were expected to significantly impact traffic volumes on Townsville Port Road during construction of the EOPM project.

2.2 Transport Network Details

The Townsville Port Road (841) is approximately 7.8 km in length and provides a vital connection between the Port of Townsville and both the Flinders Highway and Bruce Highway. Its purpose is to facilitate freight and heavy vehicle movements which is reflected in the relatively high heavy vehicle use (22.04% in 2023).

The road currently operates as a two-way, two-lane carriageway with posted speed limit varying between 60 km/h at the northern end near the urban fringe, 80 km/h between approx. TMR chainage 5.90 and 6.77 km, and 100 km/h for the remaining rural section. The AADT (2023) for this link is approx. 2,747 vehicles per day (both directions).

The road is gazetted as a Limited Access Road, with the full gazette notice included in Appendix B. The relevant details are summarised below.

The purpose of declaring the Townsville port road, a limited access road is to enable TMR to achieve a high level of access control to:

- *Ensure that the required functionality of this major road transport asset is achieved and preserved by maintaining the traffic speed, flow capacity and safety characteristics consistent with the function of a high mobility road;*
- *Maintain the necessary road standards required to eliminate property and lower order road access, other than at planned long term interchanges and intersections;*
- *Ensure that, if any access is permitted temporarily, it meets design standards; and*
- *Provide for future enhancement of the heavy vehicle link*

Access will be managed in accordance with the following principles:

- *TMR will rationalise and reduce the number of accesses to the state-controlled road by restricting access to a side road and/or local road network. As an interim measure adjacent properties with access to a state-controlled road may have their accesses combined wherever possible.*
- *The design and location of any access or intersection will be in accordance with TMR “Road Planning and Design Manual”*

Changes to the use of an access will require written approval under the TIA94.

Approval of a permit for access may be conditional upon the proponent or owner of the land fulfilling requirements. The conditions may include but are not limited to:

- *The access to be designed in accordance with the TMR “Road Planning and Design Manual”*
- *All works and construction to be to the satisfaction of the TMR chief executive*
- *The allowable type and number of vehicles using the road access*
- *The allowable times of the day when the access may be used*
- *The allowable use of the access by pedestrians; and*
- *The access design and works including future maintenance be at the expense of the developer or owner of the land*

Where long term access is not desirable, temporary access may be permitted if arrangements are made for permanent access to another road and where the temporary access will not compromise the safety and efficiency of the road.

If a temporary or long term road access cannot be designed and sited in accordance with the RPDM, the access will not be permitted.

The proposed EOPM project will alter the use of existing accesses along this Limited Access Road from solely servicing Powerlink operations to accommodating both Powerlink activities and the construction and ongoing operation of the pipeline. As this change involves increased vehicle volumes and different operational demands, written approval will be required under the *Transport Infrastructure Act 1994*.

A summary of the relevant gazette notice, including the sections of the report where the requirements are addressed is included in Table 1.

Table 1 Response to limited gazette notice requirements on Townsville Port Road

Extract from Limited Gazette Notice	Location of Relevant Response within this Report
Ensure that the required functionality of this major road transport asset is achieved and preserved by maintaining the traffic speed, flow capacity and safety characteristics consistent with the function of a high mobility road	Capacity and speed are addressed in Section 5.2.1. Road safety is addressed in Section 5.3.
Maintain the necessary road standards required to eliminate property and lower order road access, other than at planned long term interchanges and intersections;	Based on the zoning information provided in Section 2.1, it can be seen that there are no alternative access roads for the proposed pipeline alignment. Also, due to the environmentally sensitive areas, a continuous access track along the alignment is also not possible. Therefore, the proposed accesses are considered the minimum required for safe access to the project site and are not expected to impede TMR's future plans for this link.
Ensure that, if any access is permitted temporarily, it meets design standards; and	Design standard for the accesses is addressed in Section 5.2.2.
Provide for future enhancement of the heavy vehicle link	Major upgrades to the Townsville Port Road are not currently listed in QTRIP, therefore such upgrades are unlikely to occur prior to the installation of the EOPM. As the EOPM construction period is only 12 months, and then the operations phase is associated with low traffic volumes, the provision for future enhancement of the link is not affected by the proposed use of these accesses by the project.
TMR will rationalise and reduce the number of accesses to the state-controlled road by restricting access to a side road and/or local road network. As an interim measure adjacent properties with access to a state-controlled road may have their accesses combined wherever possible.	The EOPM project has no alternative access options, other than the Townsville Port Road, due to the adjacent environmentally sensitive areas. Already, the project has minimised accesses to 4 locations which correspond to access points currently used for the maintenance of third-party infrastructure, namely Powerlink assets. These accesses are located to reduce the impact on the adjacent environmentally sensitive areas. The number of project accesses has been restricted to also limit the impact on the operations of the Townsville Port Road, which is explored in Section 2.3.
The design and location of any access or intersection will be in accordance with TMR "Road Planning and Design Manual"	Design standard for the accesses is addressed in Section 5.2.2.
Approval of a permit for access may be conditional upon the proponent or owner of the land fulfilling requirements. The conditions may include but are not limited to: The access to be designed in accordance with the TMR "Road Planning and Design Manual" All works and construction to be to the satisfaction of the TMR chief executive The allowable type and number of vehicles using the road access	Design standard for the accesses is addressed in Section 5.2.2. Project traffic volumes and vehicle types are addressed in Section 4.0. Hours of operation are summarised in Section 4.3.2.4. Pedestrian use is addressed in Section 2.7. Safety and efficiency of the road is addressed in Section 5.2.1 and 5.3.

Extract from Limited Gazette Notice	Location of Relevant Response within this Report
The allowable times of the day when the access may be used The allowable use of the access by pedestrians; and The access design and works including future maintenance be at the expense of the developer or owner of the land Where long term access is not desirable, temporary access may be permitted if arrangements are made for permanent access to another road and where the temporary access will not compromise the safety and efficiency of the road. If a temporary or long-term road access cannot be designed and sited in accordance with the RPDM, the access will not be permitted.	

2.2.1 Transport Routes

As the project is currently under Design, the construction details are not fully known. This TIA is therefore based on a preliminary estimate of the construction activities, including assumed sources for materials.

Regardless of origin, Townsville Port Road provides the only access to the Project site. It is expected that this road will be used by all vehicles associated with the Project for the transportation of materials, equipment and personnel during both the construction and operation phases. This study focuses on the traffic impact of the Project on Townsville Port Road, with the anticipated impact on the wider road network considered to be minimal.

As the construction details are confirmed, it is expected that this TIA will be revised to reflect the updated traffic conditions.

2.3 Site Access

There are four existing accesses to the Powerlink corridor along the west of the Townsville Port Road. It is proposed that these are utilised for access during the construction phase and ongoing operation of the EOPM. The construction phase is expected to require daily use of multiple access points for a relatively short time period (approx. 12 months) while the operational phase will have very low associated traffic movements (<1 per week) for the lifetime of the asset.

An assessment of the proposed vehicle access locations was undertaken considering the expected traffic volumes utilising the site access and Townsville Port Road, as well as the available sight distances in both directions from the proposed access points.

Advice from TMR as noted in the pre-lodgement minutes for the Project (refer to Appendix A) identified the requirement for adequate site distance to be available at potential access locations. The sight distance requirement was based on:

- For Access 1, 2 and 3: A design speed of 110 km/h, in accordance with the current 100 km/h posted speed on this section of Townsville Port Road.
- For Access 4: A design speed of 90 km/h, in accordance with the current 80 km/h posted speed on this section of Townsville Port Road.

Based on this speed environment, the required Safe Intersection Sight Distance (SISD) is approximately 300 m for Access 1, 2 and 3, and 226 m for Access 4, as required under Table 3.2 of *Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* (2023).

Site inspections were undertaken on Tuesday 20 May 2025 to investigate the feasibility and safety of the proposed site access locations for the Project site. Commentary regarding the findings of these investigations is provided below.

2.3.1 Access 1 – TMR Ch. 4.37 km

There is an existing access to the Powerlink corridor located at approximate TMR Chainage 4.37 km (i.e. 4.37 km from the Townsville Port Road / Bruce Highway intersection).

The access currently operates as a three-way priority-controlled (give way) intersection as indicated below in Figure 4, with priority given to the Townsville Port Road approaches. There are no existing signs in the vicinity of the access (i.e. give way on the minor leg, intersection ahead warning signs).

The existing informal access is currently used for infrequent access to the adjacent Powerlink infrastructure. Based on the current conditions, it is expected only light vehicles currently use the access as it is a single lane, unformed track.

The Townsville Port Road approaches are signed as 100 km/h and comprise a single traffic lane in each direction (approx. 7m between edge lines). Due to the relatively straight road geometry, the line marking comprises a broken centre line (i.e. crossing movements are permitted).

Based on field measurements, the available sight distances at the proposed access location in both directions were found to exceed the minimum (300 m) distance required, as shown by the sight distance photos provided in Figure 5 and Figure 6. It is therefore concluded that the proposed access location can be considered acceptable.



Figure 4 Townsville Port Access Road / Access 1 intersection – aerial view

[Source: Queensland Globe]

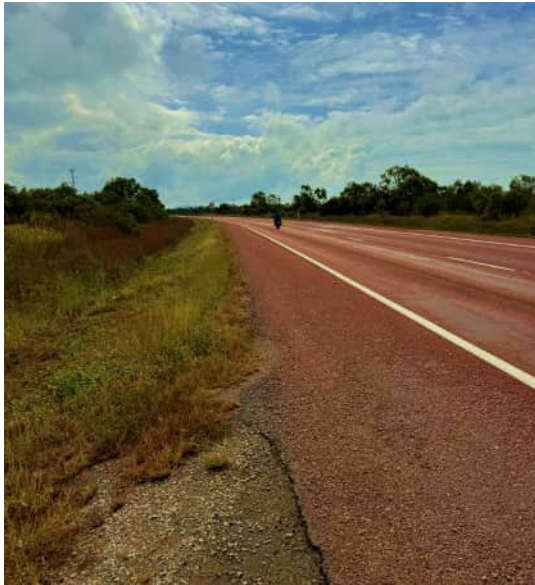


Figure 5 Townsville Port Access Road / Access 1 intersection – looking north



Figure 6 Townsville Port Access Road / Access 1 intersection – looking south

2.3.2 Access 2 – TMR Ch. 5.09 km

An existing access intersection with Townsville Port Road is located at approximate TMR Chainage 5.09 km, providing a link to the adjacent Powerlink infrastructure corridor. The access track comprises a single lane of unformed track, allowing for occasional light vehicle access.

The access currently operates as a three-way priority-controlled (give way) intersection as indicated below in Figure 7, with priority given to the Townsville Port Road approaches. There are no existing signs in the vicinity of the access (i.e. give way on the minor leg, intersection ahead warning signs).

The Townsville Connection Road approaches are signed as 100 km/h and comprise a single traffic lane in each direction (approx. 7m between edge lines). Due to the relatively straight road geometry, the line marking comprises a broken centre line (i.e. crossing movements are permitted).

Field measurements collected at the site indicated that the proposed access location has adequate sight distance (> 300 m) available in both directions as shown in Figure 8 and Figure 9 below. On this basis, it is concluded that the proposed access location can be considered acceptable.



Figure 7 Townsville Port Access Road / Access 2 intersection – aerial view

[Source: Queensland Globe]



Figure 8 Townsville Port Access Road / Access 2 intersection – looking north



Figure 9 Townsville Port Access Road / Access 2 intersection – looking south

2.3.3 Access 3 – TMR Ch. 5.78 km

There is an existing access to the Powerlink corridor located at approximate TMR Chainage 5.78 km, which operates in its existing form as a three-way priority-controlled (give way) intersection, with priority given to Townsville Port Road (refer to Figure 10). There are no existing signs in the vicinity of the access (i.e. give way on the minor leg, intersection ahead warning signs).

The existing informal access is currently used for infrequent access to the adjacent Powerlink infrastructure. Based on the current conditions, it is expected only light vehicles currently use the access as it is a single lane, unformed track.

The Townsville Connection Road approaches are signed as 100 km/h and comprise a single traffic lane in each direction (approx. 7m between edge lines). Due to the straight approach road geometry, the line marking comprises a broken centre line (i.e. crossing movements are permitted).

Based on field measurements taken at the site, adequate sight distances (> 300 m) were achieved in both directions, as shown in Figure 11 and Figure 12 below. Accordingly, it is concluded that the access location at approximate TMR Chainage 5.78 km can be considered acceptable as an access point for the Project.



Figure 10 Townsville Port Access Road / Access 3 intersection – aerial view

[Source: Queensland Globe]



Figure 11 Townsville Port Access Road / Access 3 intersection – looking north



Figure 12 Townsville Port Access Road / Access 3 intersection – looking south

2.3.4 Access 4 – TMR Ch. 6.23 km

There is an existing access to the Powerlink corridor located at approximate TMR Chainage 6.23 km, which has been identified for potential use by the Project.

The access currently operates as a three-way priority-controlled (give way) intersection, with priority given to Townsville Port Road as shown below in Figure 13. There are no existing signs in the vicinity of the access (i.e. give way on the minor leg, intersection ahead warning signs).

The existing informal access is currently used for infrequent access to the adjacent Powerlink infrastructure. Based on the current conditions, it is expected only light vehicles currently use the access as it is a single lane, unformed track.

At this location, Townsville Connection Road is signed as 80 km/h and comprises a single traffic lane for both directions of travel (approx. 7m between edge lines). Due to the access' location relative to a tight horizontal curve, the line marking comprises a solid line for both northbound traffic (i.e. no right-out movement permitted) and southbound traffic (i.e. no right-in movement is allowed).

Based on field measurements, the available sight distances at the proposed access location in both directions were found to be less than the minimum (226 m) distance required, as shown in Figure 13 and Figure 14 below. These reduced sightlines are due to the existing road geometry and existing vegetation. It is therefore recommended that this access is not utilised during the construction phase. The subsequent assessments in this report are based on this approach.



Figure 13 Townsville Port Access Road / Access 4 intersection – aerial view

[Source: Queensland Globe]



Figure 14 Townsville Port Access Road / Access 4 intersection – looking north [Source: Google Street View]



Figure 15 Townsville Port Access Road / Access 4 intersection – looking south [Source: Google Street View]

2.4 Background Traffic Volumes

The background traffic volumes for the road section relevant to the Project were developed using the available 2023 Annual Average Daily Traffic (AADT) segment data provided by TMR, which is included for reference in Appendix C.

The Townsville Port Road is currently designated as a Type 2 Road Train route, with a historical 10-year traffic growth rate of 2.44%.

Based on the information provided by TCC, the traffic volumes generated during the construction phase of the project are expected to greatly exceed the transport movements required for ongoing operation of the pipeline. As such, the traffic assessment has focused on the construction period as the peak traffic generation phase of the project. If no adverse impacts are identified during this period, it is considered that the operational phase will similarly have no significant traffic impacts.

The assessment has considered 2026 to be the critical year, as it includes the highest number of workdays during the construction phase of the Project. Refer to Section 4.0 for the construction traffic estimates.

2.4.1 Daily Road Link Volumes

Background traffic volumes were established based on the TMR traffic count data available through the Queensland Open Data Portal. The most recent count data available for Townsville Port Road was collected in 2023.

A historical 10-year growth rate of 2.44% (average growth rate, compounding annually) was recorded for the Townsville Port Road and applied to forecast the expected background traffic volumes to the required 2026 assessment year. The recorded and forecast background traffic volumes on Townsville Port Road are presented below in Table 2.

Table 2 Background road link volumes

Road Link	Count Site ID	Count Year	AADT	HV%	Annual Growth Rate	2026 AADT	2026 Heavy Vehicles
Townsville Port Road (0 – 7.336 km)	92206	2023	2,747	22.04%	2.44%	2,948	650

2.4.2 Peak Hour Volumes

The directional, peak hour traffic volumes on the Townsville Port Road are required to assess the safety and efficiency of the proposed access intersections.

Intersection count data is not available, as these access are used minimally at present. In lieu of undertaking traffic counts, an estimate of the directional, hourly traffic volume was obtained through review of the Queensland Open Data Portal dataset titled “*Qld-traffic-data-average-by-hour-by-day*”. This data is collected and produced as part of the estimate of AADTs and breaks down the recorded data to provide an average of the traffic volumes recorded at each hour on each day of the week divided by travel direction. While this is not a true ‘peak hour’, it is indicative of directional traffic movements in hourly segments. The summarised information is provided in Appendix D.

This data does not provide a break-down of heavy vehicle movements, therefore the average heavy vehicle percentage associated with the AADT data was adopted for peak hour traffic movements.

At this preliminary stage of the project, this data is expected to provide a reasonable indication of the background traffic volumes on the Townsville Port Road for the purpose of this assessment.

A review of the dataset indicated the following:

- Weekday morning (AM) traffic peak is approximately 7:00 to 8:00 AM, with the primary direction of travel being northbound (gazettal) towards Townsville City and the Port.
- Weekday afternoon (PM) traffic peak is approximately 4:00 to 5:00 PM, with the primary direction of travel being southbound (against gazette) away from the commercial areas.
- Weekend traffic volumes were much lower than weekday traffic movements.

The average weekday traffic volumes for the morning and afternoon peak hours for the count collection year are summarised below in Table 3. The 10-year annual growth rate of 2.44% was then applied to forecast the expected hourly traffic volumes for the assessment year of 2026, which are also included in Table 3.

Table 3 Background peak hour volumes

Movement	2023 – AM Peak Hour (7-8 AM)	2023 – PM Peak Hour (4-5 PM)	2026 – AM Peak Hour (7-8 AM)	2026 – PM Peak Hour (4-5 PM)
Townsville Port Road	371 (82) ¹	290 (64)	400 (88)	313 (69)
Northbound (gazette)	218 (48)	135 (30)	235 (52)	146 (32)

Movement	2023 – AM Peak Hour (7-8 AM)	2023 – PM Peak Hour (4-5 PM)	2026 – AM Peak Hour (7-8 AM)	2026 – PM Peak Hour (4-5 PM)
Southbound (against gazette)	153 (34)	155 (34)	165 (36)	167 (37)

Note 1: heavy vehicle numbers are indicated in brackets, and were estimated by applying the link's heavy vehicle percentage of 22.04%

In addition to the background peak hour volumes in Table 3, the background hourly traffic from 5:00 to 6:00 AM and 5:00 to 6:00 PM were also considered, as this represents the times in which construction workers would travel to and from site (assumed work day is 6:00 AM to 5:00 PM). Applying the 10-year annual growth rate of 2.44%, the background (2023) and expected hourly traffic volumes for the assessment year of 2026 were calculated, as shown in Table 4.

Table 4 Worker peak hour volumes

Movement	2023 – AM Worker Hour (5-6 AM)	2023 – PM Worker Hour (5-6 PM)	2026 – AM Worker Hour (5-6 AM)	2026 – PM Worker Hour (5-6 PM)
Townsville Port Road	136 (30) ¹	265 (58)	147 (32)	286 (63)
Northbound (gazette)	64 (14)	138 (30)	78 (17)	137 (30)
Southbound (against gazette)	72 (16)	127 (28)	69 (15)	149 (33)

Note 1: heavy vehicle numbers are indicated in brackets, and were estimated by applying the link's heavy vehicle percentage of 22.04%

2.5 Road Safety Issues

2.5.1 Existing Site Conditions

A site visit by AECOM personnel was undertaken on Tuesday 20 May 2025 and focused on the construction access locations only. The following safety concerns were recorded as part of the site inspection:

- All accesses currently only provide a single lane. This does not allow for concurrent inbound and outbound vehicle movements.
- There exists a double white line at Access 4, restricting crossing movements due to limited sight distance associated with the tight horizontal curve at this location. Dense roadside vegetation further reduces visibility at this access point.
- Access tracks are in poor condition with areas identified to have rutting and water ponding on the track. The condition of these tracks may cause safety issues for project traffic and environmental concerns associated with contamination of water by regular vehicle use during the construction phase. It is recommended that the project install suitable all-weather access tracks to repair the existing damage and reinstate a suitable road surface for ongoing use.
- Access 3 may also require some vegetation clearing, which is likely to occur with upgrade of the access for the project.

Further details regarding the findings from these site investigations are provided in Section 3.1

2.5.2 Crash History

A review of crash data provided by the Queensland Government Open Data Portal was undertaken to determine the occurrence of crashes within the vicinity of the subject site. Between 2019 and 2024, three crashes were recorded along Townsville Port Road in proximity to the project site (refer to Figure 16). No crash records were identified in the vicinity of the four access intersections.

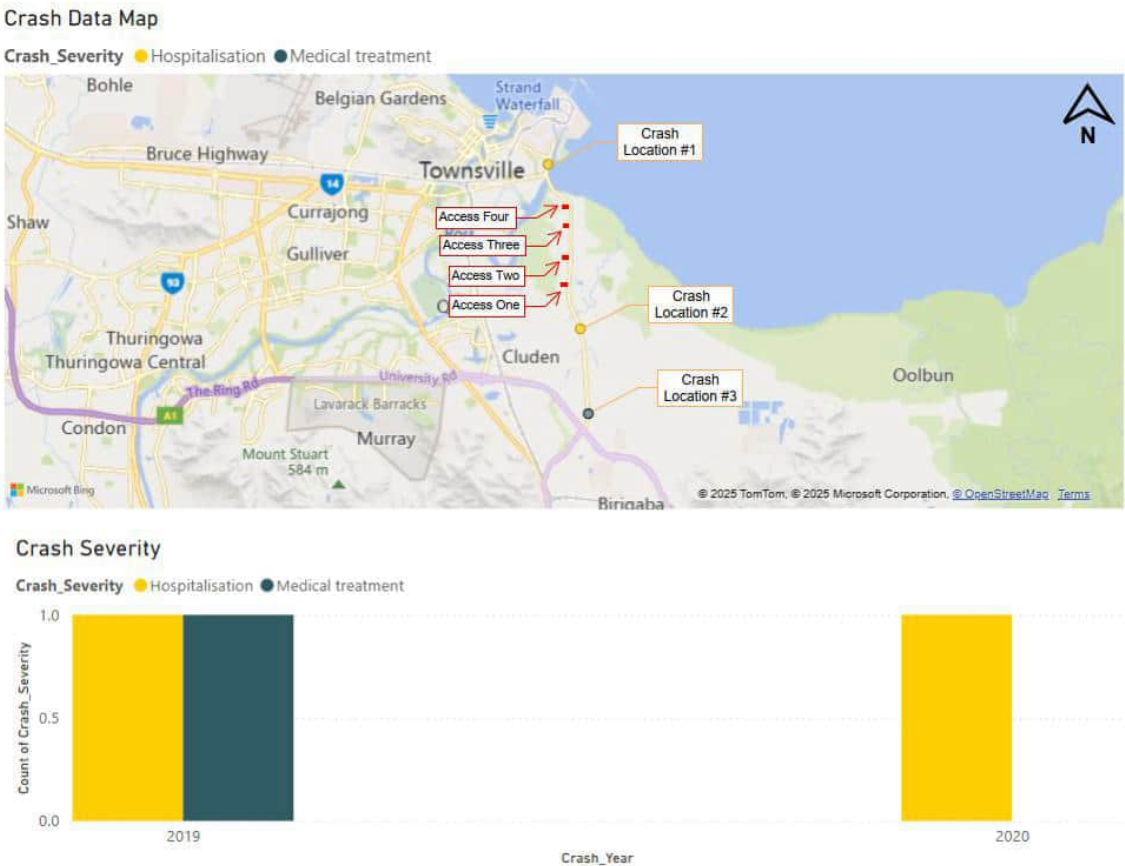


Figure 16 Queensland Data Portal (2024) reported crash history on the Townsville Port Road

Table 5 summarises the details related to the recorded crashes, including crash type and severity.

Table 5 Reported crash history

Attribute	Crash Location #1	Crash Location #2	Crash Location #3
Severity	Hospitalisation	Hospitalisation	Medical Treatment
DCA Code	408	400	703
Type	Angle	Hit Animal	Hit Object
Date	November 2020	August 2019	August 2019
Light	Daylight	Dawn/Dusk	Daylight
Conditions	Clear	Clear	Clear

- Key observations from the crash data include:
- Two (66.7%) of the reported crashes on Townsville Port Road were Fatal and Serious Injury (FSI) crashes.
 - One crash involved hitting an animal during low light conditions (i.e. dawn / dusk). It is recommended that the risks of animal impact are passed on to the Contractor.
 - The reported crashes on Townsville Port Road were not associated with the existing access intersections adjacent the project site. This is likely due to the low traffic volumes currently accessing the Powerlink easement.

2.6 Public Transport

There are no public transport facilities provided within the vicinity of the subject site.

2.7 Active Transport

Currently, no active transport facilities exist within the vicinity of the subject site. A review of the Central North Queensland Principal Cycle Network Plan 2016 (PCNP) (Map 12) and the respective Priority Route Maps (Priority Route Map 9) indicates no provisions for future planning of the active transport network along the Townsville Port Road.

It is also noted that there are no commercial or residential areas within proximity to the Townsville Port Road. Vulnerable user groups, such as schools, community use facilities (sports, etc.), retirement facilities or medical facilities do not exist within the project extents.

2.8 Pavement

Townsville Port Access Road is a heavy vehicle and freight route servicing the Port of Townsville. The pavement loadings on Townsville Port Road were estimated based on the forecast background heavy vehicle traffic volumes, which are associated with the construction phase of the project (2026 and 2027).

Traffic impacts on pavement are estimated by Standard Axle Repetitions (SAR). For granular pavements, the SAR calculated with a load damage exponent of 4 is commonly referred to as Equivalent Standard Axle (ESA) (i.e. 1 ESA = 1 SAR⁴). Based on a review of the Townsville Port Road, the applicable pavements are granular so the ESA loads will be used for the assessment.

The ESA for the background traffic was estimated based on the heavy vehicle component of the traffic volumes for the forecast year, and the following assumptions:

- The heavy vehicle percentage will be maintained for future years.
- Equivalent Standard Axles per Heavy Vehicle (ESAs / HV) were adopted based on the following values (previously advised by TMR):
 - 2.9 ESAs/HV for the Bruce Highway
 - 3.2 ESAs/HV for all other roads

The estimated pavement loadings were calculated based on these assumptions and are presented below in Table 6.

Table 6 Forecast Background ESAs

Road	AADT Segment		Count Year	Base Year HV% and Volume		10yr GR %		ESAs / HV	No. Days	Background ESAs			
	Start (km)	End (km)		Gazette	Against	Gazette	Against			2026		2027	
										Gazette	Against	Gazette	Against
Townsville Port Road	0	7.336	2023	18% 263	26% 344	2.14%	2.77%	3.2	365	326,905	435,181	333,479	446,311

2.9 Intersection and Network Performance

The Townsville Port Road has a daily traffic volume of 2,747 in 2023, forecast to increase to 2,948 vehicles per day (2026) (refer to Section 2.4.1), which is well below the capacity of a well-built, two lane, two-way carriageway. Therefore, it is concluded that there are no capacity issues with the existing road.

The existing access intersections are understood to be used infrequently to access the adjacent Powerlink infrastructure. Based on this irregular use, that is, low volumes, there are not expected to be any existing capacity or performance issues associated with the use of these accesses.

3.0 Proposed Development Details

3.1 Development Layout

The EOPM pipeline works will involve construction of the pipeline using both Horizontal Directional Drilling and open trench installation methods, as well as installation of associated valves, flow meter and corridor access tracks. These elements of the project are identified in Figure 17. As indicated previously, four access intersections have been identified along Townsville Port Road (also shown in Figure 17) which are currently in place to provide access to the existing Powerlink easement, and which the project proposes to use for both the construction and operation phases of the EOPM.

3.2 Vehicle Access

Figure 17 identifies four proposed accesses for the development from Townsville Port Road.

An assessment of the proposed vehicle access locations was undertaken considering the expected traffic volumes utilising the site access and Townsville Port Road, as well as the available sight distances in both directions from the proposed access points. Full details of this assessment are provided in Section 2.3.

3.3 Internal Site Facilities

The plan of development provided to date identifies proposed internal access roads and parking facilities as part of the proposed EOPM project. The site office is expected to be established adjacent Access 1, with parking facilities provided at this location.

However, it is understood that additional details regarding these elements of the site will be developed in subsequent design stages. It is expected that the design of internal access roads and parking facilities will be carried out in accordance with the requirements of all relevant standards, guidelines and policies.

3.4 Preliminary Construction Timeframes

The preliminary construction program prepared by the pipeline design development team for the project is estimated as 9 to 12 months. It is noted that the dates and timeframes adopted for this assessment are indicative only and subject to change. Note that while the timeframe is flexible, the construction program is likely to be approx. 12 months, and therefore a relatively short-term impact on the road network.

At this stage, it is anticipated that the approvals process will be finalised by early 2026 with construction to commence in May 2026 and continue until March 2027. A 2-week shutdown period has been assumed between 28 December 2026 and 10 January 2027.

An outline of the program of works is provided below Figure 18.

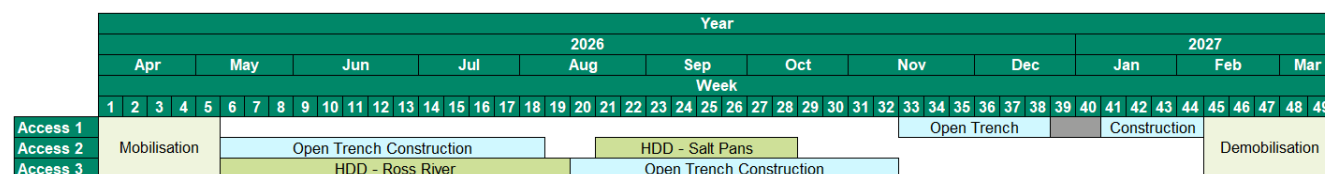


Figure 18 Proposed construction program for the EOPM project

4.0 Development Traffic

4.1 Background Traffic

The background traffic volumes for the road sections relevant to the Project were developed using the available 2023 AADT segment data provided by TMR, which is included for reference in Appendix C.

Full details regarding the background traffic for this Project are discussed in Section 2.4.

4.2 Annual Pavement Loading

In addition to the current traffic volumes, estimates were generated for the forecast background pavement loadings for each of the identified road segments.

A summary of the forecast background ESAs for each of the relevant road segments is provided in Section 2.8.

4.3 Project Assumptions

The general construction and operational assumptions adopted during both phases of the Project are discussed in the sections below.

4.3.1 Operational Phase

It is anticipated that the operational phase of the pipeline will be managed via existing facilities with occasional site visits to the pipe alignment (i.e. less than 1 per month).

The identified accesses and the access tracks built as part of the project works are anticipated to be utilised for this ongoing purpose.

4.3.2 Construction Phase

The following information was provided regarding the proposed construction methods:

- Site establishment is expected to involve upgrade of accesses, formation of internal access tracks and laydown areas, establishment of site facilities (offices, amenities, etc.).
- Pipe laying will occur via 2 methods, namely Horizontal Directional Drilling (HDD), and open trench construction.
- HDD is slated to occur in 2 sections, between pipeline chainages 0.077 km – 0.978 km (Ross River section) and 2.140 km – 2.563 km (salt pans section).
- Due to space constraints on the northern side of the Ross River, the pipeline for the Ross River section of the HDD construction will be assembled on the southern side of the river (near Access 4). After pipe assembly, the route is drilled and the pipeline is pulled through in a single continuous section.
- The salt pans section which will employ HDD is a shorter length, and the pipeline may be assembled on either side of the section. Pipe deliveries could occur either north or south of this section, i.e. via Access 1 or Access 2.
- HDD sections require no surface disturbance between the launch and landing areas identified on the plans. Therefore, there is no continuous site access adjacent these segments of the pipeline.
- Open trench construction is expected to involve surface preparation, formation of access tracks and laydown areas, trenching and stockpile of spoil, sand bedding, pipe laying and assembly, sand backfill, trench fill with treated stockpile fill, and surface restoration.
- Heavy vehicle movements associated with the section of EOPM adjacent Townsville Port Road are expected to be associated with:
 - Imported road base – 1,900m³
 - Pipe delivery – 2,940m

- Imported sand backfill – 1,190m³ (approx. 1.6 m³/m length of pipe)
- Remove spoil – 3,540m³ (conservative estimate based on trench excavation to 3m deep and consequent removal off-site of 2.25 m³/m length of pipe)
- A small portion of the pipeline (approx. 69m) is also to be installed along Sixth Street East, on the northern side of the Ross River and accessed via the local road network. The works at this location are not expected to impact the performance of the accesses which are the primary focus of this TIA. Therefore, this location has not been considered in further analysis.
- Additional heavy vehicle movements are expected, associated with, but not limited to, the following activities: concrete and steel deliveries, water truck movements for dust suppression, maintenance of access tracks and laydown areas, other consumables.

The construction site is therefore expected to be divided into the sections listed below in Table 7. These sections are also illustrated in Figure 17.

Table 7 Pipeline construction segments

Pipeline segment name	Approx. Pipeline Chainages (m)	Works
Sixth Street East worksite	0 – 69	• Power pole relocation • Open trench construction • Approx. 69m of pipeline • Flow meter, valves, HDD termination zone indicated
Ross River HDD	69 – 988	• No ground disturbance for the extent of the HDD section • Staging for this is expected to be adjacent Access 4, at the northern end of the central open trench section. • Northern end will be staging for the Ross River HDD segment, that is, HDD worksite will be adjacent Access 4. Expected activities: machinery establishment, pipe joining along the open trench alignment (HDD pipeline length approx. 919m)
Central open trench	988 – 2130	• Open trench construction • Section length approx. 1,142m with 3 accesses (Access 2, 3 and 4).
Salt pans HDD	2130 – 2573	• No ground disturbance for the extent of the HDD section. • Staging for this section could be from either the northern or southern end, therefore using either Access 1 or Access 2. • Expected activities: machinery establishment, pipe joining along the open trench alignment (HDD pipeline length approx. 443m)
Southern open trench	2573 – 3003	• Open trench construction • Section length approx. 430m • Only accessible via Access 1

This traffic impact assessment is based on the known construction activities listed above. As the project develops further, and a suitable contractor is engaged, this assessment should be updated to reflect the updated construction information.

4.3.2.1 Project Site

The following details regarding the project site, access and egress were adopted for this assessment:

- Access to the site from the adjacent road network will be via formed access intersections at 4 locations. These accesses will be established at existing informal access locations, which are located to provide access for the Powerlink corridor. The proposed access locations are indicated on the plans.

- The site office is expected to be established adjacent Access 1.
- Laydown areas are identified on plans, as shown in Figure 17.
- Access tracks will be established adjacent the open trench pipeline sections as indicated on the plans.
- Access tracks are not provided adjacent the HDD sections. This means:
 - Open trench south and the site office are only accessible via Access 1. Vehicles accessing other parts of the site must use Townsville Port Road, as an internal access track is not available.
 - Open trench 'central' may be accessed via Access 2, 3 or 4.
 - Ross River HDD staging may be accessed via Access 2, 3 or 4.
 - Salt pans HDD staging is at the discretion of the Contractor. This may be entirely established either north or south of the section, and therefore could use Access 1 solely, or from Access 2 (or 3 or 4 when using the connected access tracks).
- Heavy vehicle turnarounds are provided at access track terminations, as shown on the plans.

4.3.2.2 Workforce

The following details regarding the construction workforce were adopted for this assessment:

- Peak construction workforce is estimated to comprise approximately 30 personnel working typical construction hours.
- Construction staff will be local Townsville workforce, transported to the site by private car, with parking at the site office at Access 1.
- Assumed equal directional split for arrivals/departures from/to the north and south along Townsville Port Road.
- Construction works are anticipated to occur 11 hours per day, 5 days per week. Works may occur on a Saturday morning as well, based on Contractor preferences. For the purpose of this assessment, all works are assumed to occur on weekdays.

4.3.2.3 Construction Deliveries

- Vehicle types that may be used for the transport of materials and equipment during construction include but are not limited to body trucks, semi-trailers, truck and dog combinations, and low loaders.
- Pipe components, machinery, materials and other equipment used for construction will be transported by road to the Project site.

Construction planning is not confirmed at this preliminary design stage, however this TIA is based on the following assumptions:

- Contractor will upgrade Accesses 1, 2 and 3 to a standard acceptable to TMR for the duration of the construction phase.
- Salt pans HDD staged from the northern end, that is, deliveries will use Access 2.
- Ross River HDD segment deliveries will use Access 3.
- Construction deliveries associated with the central open trench segment will be equally split between Accesses 2 and 3.
- Based on the configuration of Access 4, particularly its location adjacent a double white line, it is recommended that this access is not utilised during the construction phase. Construction traffic distribution is based on this approach.

A summary of the proposed assumptions at each access is provided in Table 8.

Table 8 Construction assumptions at each access

Access	TMR Ch. (km)	Pipeline Ch. (m)	Activities
1	4.37	3000	• Site office • Access track and laydown construction • Open trench construction (430m) • Possible pipe assembly for Salt pans HDD segment (440m) • Possible HDD staging
2	5.09	2130	• Access track and laydown construction • Shared access for open trench construction (1,143m) • Possible pipe assembly for Salt pans HDD segment (440m) • Possible access location for Salt pans HDD staging
3	5.78	1435	• Access track and laydown construction • Shared access for open trench construction (1,143m) • Nearest access for pipe assembly for Ross River HDD segment (920m) • Nearest access for Ross River HDD staging
4	6.23	1028	• Double white line, therefore only LILO could be permitted • Propose that this is used for operations, not construction

4.3.2.4 Access Design Heavy Vehicle

It is anticipated that the largest vehicle requiring access to the site will be a truck-and-dog combination vehicle. The assumed heavy vehicle types that may be used for the transport of materials and equipment during construction include:

- Pipe delivery: Semi-trailer
- Sand backfill delivery: Truck-and-dog combination vehicle
- Spoil removal: Truck-and-dog combination vehicle
- Gravel / road delivery: Truck-and-dog combination vehicle

4.3.2.5 Summary of Assumptions

The below list provides a summary of the key assumptions that were adopted and may be varied by the Contractor:

- Site office assumed to be located adjacent Access 1.
- Access 4 will not be used, due to limited sight distance and double white line restriction.
- Salt pans HDD section may be staged from the north, that is, deliveries associated with the HDD staging occur to Access 2.
- Material delivery source locations may be different to the following assumptions:
 - Sand from north along Townsville Port Road.
 - Road base from north along Townsville Port Road.
 - Pipes from north along Townsville Port Road.
- Hours of operation are assumed between 6:00 am and 5:00 pm, 5 days per week.
- Construction workforce of 30 personnel on-site for the entire construction period (no fluctuations).

4.4 Project Traffic Generation and Distribution

At this stage of the Project, detailed traffic generation and distribution information was not available. Consultation with the pipeline design development team led to an estimate of construction-related traffic based on the assumptions recorded herein.

4.4.1 Construction Phase

The main traffic generating activities occurring within the construction phase of the Project are the delivery of construction materials and the daily movements of the construction workforce. The assumed traffic volumes discussed in the following sections relate specifically to the section of the EOPM adjacent to Townsville Port Road.

As outlined in Section 4.3.2, a small portion of the pipeline (approx. 69m) will also be installed along Sixth Street East, located on the northern side of the Ross River and accessed via the local road network. The works at this location are not expected to impact the performance of the accesses which are the primary focus of this TIA. Therefore, the delivery movements at this location have not been considered in further analysis.

4.4.1.1 Pipeline Delivery Movements

Pipe components are expected to be sourced from a local supplier, possibly located in the Bohle Industrial Estate. The shortest transport route between the supplier and the EOPM project site would mean pipe components would arrive from the north along Townsville Port Road. Alternative routing may be explored by the Contractor.

Based on a semi-trailer capacity of two pipe sections per trip (totalling 24 m) and a required pipe length of 2,940 m for the EOPM adjacent to Townsville Port Road, approximately 130 round trips are anticipated. This estimate includes a conservative 5% allowance for additional pipe length. Assuming a 10-month construction period, this equates to an average of 2-3 deliveries per week for each construction activity.

A summary of the estimated number of truck movements required to deliver the pipeline materials across the construction period is presented in Table 9.

Table 9 Pipeline delivery movements

		Year																																																																																			
		2026																																										2027																																									
		Apr							May							Jun							Jul							Aug							Sep							Oct							Nov							Dec							Jan							Feb							Mar						
		Week																																																																																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49																																			
Access 1	Mobilisation																																																																																				
Access 2		Open Trench Construction																		HDD - Salt Pans														Open Trench Construction															Demobilisation																																				
Access 3		HDD - Ross River																		Open Trench Construction																																																																	
		Pipe Deliveries (Round Trips)																																																																																			
Access 1	0																																																																																				
Access 2		2 2 2 2 2 2 2 2 2 2 2 2 1																		3 3 3 3 2 2 2 2 2 2														2 2 2 2 2 2 2 0 0 2 2 2 1															0																																				
Access 3		3 3 3 3 3 3 3 3 3 3 3 3 3 2																		2 2 2 2 2 2 2 2 2 2 2 2 1																																																																	

As shown in Table 9, the peak number of vehicle movements expected to be generated as part of the pipeline delivery activities for the Project is 5 return truck movements per week from Access 2 and 3 in months May, June, July and September. Distributing these volumes evenly across a proposed 5-day work week equates to a maximum of 1 heavy vehicle trip to/from the north, per day, at both Access 2 and 3, which is assumed to occur during both the AM and PM background peak hours (conservative approach).

4.4.1.2 Sand Backfill Delivery Movements

Sand is expected to be sourced from a local quarry, possibly located north-west of Townsville Port Road. For the purpose of this assessment, the transport route for sand deliveries is to/from the north of the project site, along Townsville Port Road. Alternative routing may be explored by the Contractor.

Based on the expected capacity of a truck-and-dog combination vehicle (20 m³) and the total sand backfill volume required for the EOPM adjacent to Townsville Port Road (1,900 m³), approximately 100 round trips will be needed. This estimate includes a conservative 5% allowance for additional sand backfill volumes. Assuming a 10-month construction period, this equates to an average of 3 deliveries per week for the open trench construction activities.

A summary of the estimated number of truck movements required to deliver the sand backfill materials across the construction period is presented in Table 10.

Table 10 Sand backfill delivery movements

		Year																																																												
		2026																																				2027																								
		Apr				May				Jun				Jul				Aug				Sep				Oct				Nov				Dec				Jan				Feb				Mar																
		Week																																																												
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49												
Access 1	Mobilisation																																																													
Access 2		Open Trench Construction																		HDD - Salt Pans										Open Trench										Construction								Demobilisation														
Access 3		HDD - Ross River																		Open Trench Construction																																										
		Sand Backfill Deliveries (Round Trips)																																																												
Access 1	0																																					3	3	3	3	3	3	3	0	0	3	3	2	2	0											
Access 2		3	3	3	3	3	3	3	3	2	2																																																			
Access 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2																																										

As shown in Table 10, the peak number of vehicle movements expected to be generated as part of the sand backfill delivery activities for the Project is 3 return truck movements per week, occurring across Access 1, 2 and 3 during their respective open trench construction periods. Distributing these volumes evenly across a proposed 5-day work week equates to a maximum of 1 heavy vehicle trip to/from the north, which is assumed to occur during both the AM and PM background peak hours (conservative approach).

4.4.1.3 Spoil removal vehicle movements

Backfill of the open trench will result in excess spoil from the excavation, therefore removal of spoil from the project site is required. Due to the low elevation of the worksite, this spoil is expected to be disposed of at the Stuart Landfill facility located to the south of Townsville Port Road. Therefore, spoil removal vehicle movements are assumed to occur to/from the south of the nominated accesses. Alternative routing may be explored by the Contractor.

Based on the expected capacity of a truck-and-dog combination vehicle (20 m³) and the total spoil removal volume required for the EOPM adjacent to Townsville Port Road (3,540 m³), approximately 187 round trips will be needed. This estimate includes a conservative 5% allowance for additional spoil removal volumes. Assuming a 10-month construction period, this equates to an average of 5-6 movements per week for the open trench construction activities. It is assumed that this material will be regularly removed from site throughout the construction period.

A summary of the estimated number of truck movements required to remove spoil material from site across the construction period is presented in Table 11.

Table 11 Spoil removal vehicle volumes

		Year																																																
		2026																																				2027												
		Apr				May				Jun				Jul				Aug				Sep				Oct				Nov				Dec				Jan				Feb				Mar				
		Week																																																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
Access 1																																																		
Access 2	Mobilisation		Open Trench Construction																HDD - Salt Pans										Open Trench										Construction				Demobilisation							
Access 3			HDD - Ross River																		Open Trench Construction																													
Spoil Removal Vehicle Movements (Round Trips)																																																		
Access 1																																																		
Access 2	0		5	5	5	5	5	5	5	5	5	6	6	6																	5	5	5	5	6	6	0	0	5	5	5	4	0							
Access 3																				5	5	5	5	5	5	5	5	5	5	5	6	6	6																	

As shown in Table 11, the peak number of vehicle movements expected to be generated as part of the sand backfill delivery activities for the Project is 6 return truck movements per week, occurring across Access 1, 2 and 3 during different construction periods. Distributing these volumes evenly across a proposed 5-day work week equates to a maximum of 2 heavy vehicle trip to/from the south, per day at Access 2 and 3 during the respective open trench construction periods. These movements are assumed to occur during both the AM and PM background peak hours (conservative approach).

4.4.1.4 Gravel / road material delivery movements

Access track and laydown construction activities are expected to occur during the mobilisation period. Gravel / road base materials are assumed to be sourced from a local supplier, with delivery movements assumed to occur to/from the north of Townsville Port Road.

Based on the expected capacity of a truck-and-dog combination vehicle (20 m³) and the total gravel / road material volume required for the access track and laydown construction activities (1,900 m³), approximately 100 round trips will be needed. This estimate includes a conservative 5% allowance for

additional gravel / road material volumes. Assuming deliveries occur over the first 5 weeks of the program, this equates to approximately 6-8 deliveries per week, per access.

A summary of the estimated number of truck movements required to deliver gravel / road material to site across the construction period is presented in Table 12.

Table 12 Gravel / road material delivery movements

	Year																																																	
	2026																																				2027													
	Apr				May				Jun				Jul				Aug				Sep				Oct				Nov				Dec				Jan				Feb				Mar					
	Week																																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	
Access 1																																																		
Access 2	Mobilisation				Open Trench Construction												HDD - Salt Pans												Open Trench										Construction				Demobilisation							
Access 3	HDD - Ross River																		Open Trench Construction																															
Gravel / Road Material Delivery (Round Trips)																																																		
Access 1	6	6	6	6	2																																													
Access 2	8	8	8	8	5																																													
Access 3	8	8	8	8	5																																													

As shown in Table 12, the peak number of vehicle movements expected to be generated as part of the sand backfill delivery activities for the Project is 22 return truck movements per week, occurring across Access 1, 2 and 3 during site mobilisation. Distributing these volumes evenly across a proposed 5-day work week equates to a maximum of 2 heavy vehicle trip to/from the south, per access, per day, which is assumed to occur during both the AM and PM background peak hours (conservative approach).

4.4.1.5 Construction Staff Movements

The anticipated peak construction workforce is estimated to comprise approximately 30 personnel working typical construction hours. Construction staff will be local Townsville workforce, transported to the site by private car, with parking at the site office at Access 1.

For the purpose of estimating the construction staff related traffic movements to/from the site, the following assumptions (based on the information above) have been made:

- 50% of staff will travel to/from the north along Townsville Port Road.
- 50% of staff will travel to/from the south along Townsville Port Road.
- 100% of staff will use personal light vehicles.

Therefore, during the peak construction period when the full 30 workers are expected to be on site, the resultant daily and peak hour construction staff vehicle movements are expected to be as follows:

Daily Movements

- Staff vehicles to/from Townsville Port Road: 30 vehicles to/from site.

AM Peak Movements

- Staff vehicles from north: 15 vehicles to site (light vehicles).
- Staff vehicles from south: 15 vehicles to site (light vehicles).
- It was assumed that the worker AM peak period would occur one-hour prior to the commencement of work (5:00 AM to 6:00 AM). Note, this peak period does not align with the background peak period identified along Townsville Port Road (7:00 AM to 8:00 AM).

PM Peak Movements

- Staff vehicles to north: 15 vehicles from site (light vehicles).
- Staff vehicles to south: 15 vehicles from site (light vehicles).
- It was assumed that the worker PM peak period would occur one-hour after the end of the workday (5:00 PM to 6:00 PM). Note, this peak period does not align with the background peak period identified along Townsville Port Road (4:00 PM to 5:00 PM).

4.4.1.6 Additional Vehicle Movements

The assessment has considered an additional allowance for light vehicle trips to conservatively reflect possible miscellaneous movements made to/from the construction site daily. The assumed daily movements were as follows:

- 20 round trips between Access 1 and Access 3.
- 10 round trip movements between Access 3 and Townsville (north of the project site).
- 10 round trip movements between Access 1 and south of the project site.

Additional heavy vehicle movements have also been conservatively included in the traffic assessment, comprising 4 heavy vehicle movements per week to account for additional material deliveries and transport of equipment. The assumed movements were as follows:

- 3 round trip movements (truck-and-dog combination vehicle) per week on Townsville Port Road.
- 1 round trip movement (semi-trailer vehicle) per week on Townsville Port Road.

Distributing these volumes evenly across a proposed 5-day work week equates to a maximum of 1 heavy vehicle trip per day along Townsville Port Road. For this assessment, it was assumed that this additional heavy vehicle movement will occur outside of both the worker and critical AM and PM peak hour periods and are therefore included in daily traffic totals and overall pavement loadings.

4.4.1.7 Summary of Construction Phase Movements

From the anticipated vehicle numbers for each of the main construction activities identified above, the peak number of daily traffic movements or trips associated with the construction phase of the Project was estimated to be approximately 70 light vehicles and 7 heavy vehicle round trips per day in 2026 during the mobilisation phase.

4.4.1.8 Occasional Infrequent Movements

Due to the preliminary nature of the design for the Project, detailed delivery and logistics plans are not available at this time, particularly in regards to demobilisation of the site, where the internal access tracks and access upgrades will remain in place for future operational works associated with the EOPM. Deliveries associated with site demobilisation are expected to be relatively low in number, with the majority of movements spread over a 4-5 week period at the end of the Project, or progressively as construction activities are completed in different sections. Further to this, these demobilisation movements are unlikely to coincide with the delivery of materials described above. Due to the infrequent nature and anticipated small number of movements spread across the construction timeline, demobilisation trips are not expected to be critical in terms of traffic operation or pavement impact.

4.4.2 Operational Phase

As previously discussed in Section 1.3, the traffic volumes generated during the construction phase of the project are expected to greatly exceed the transport movements required for ongoing operation of the pipeline. As such, the traffic assessment has focused on the construction period as the peak traffic generation phase of the project. If no adverse impacts are identified during this period, it is considered that the operational phase will similarly have no significant traffic impacts.

4.5 Development Traffic

The AM and PM peak hour traffic volumes generated by the construction of the EOPM are presented in the following sections for each access. These volumes reflect the trip generation rates detailed in Section 4.4.1.

4.5.1 Access 1

For Access 1, it was assumed that workforce-generated traffic would occur outside the background peak periods. As a result, only the heavy vehicle movements coinciding with the background peak hour were considered in the assessment, representing the critical case for this access. These critical movements at the Access 1 / Townsville Port Road intersection are expected to occur during the open trench construction works at Access 1 (December 2026). A summary of the resultant peak hour project

traffic volumes at the intersection are shown in Figure 19 and Figure 20, with further details of the combined background traffic and development traffic turning volumes provided in Appendix E.

Scenario: 2026 AM Construction Traffic (HV Assessment)

Access: Access 1, TMR CH. 4.37 km

Phase: Open trench construction at Access 1

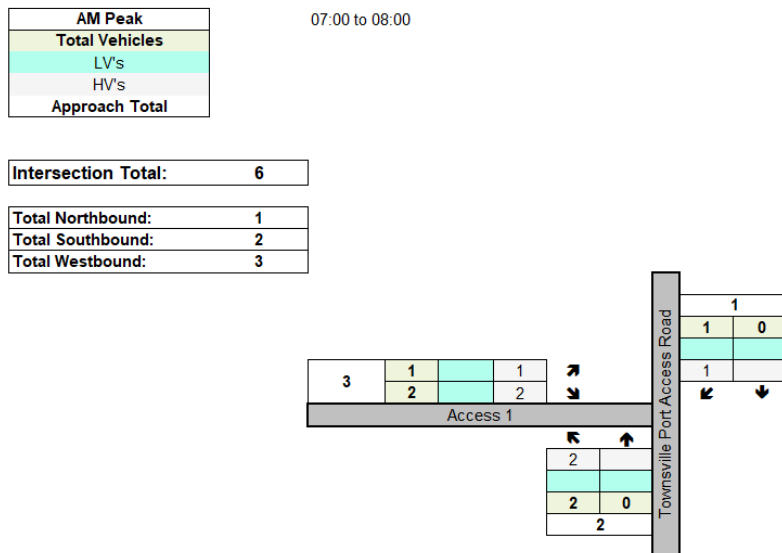


Figure 19 Critical AM (2026) peak hour development traffic volumes at Access 1 (during open trench construction at Access 1)

Scenario: 2026 PM Construction Traffic (HV Assessment)

Access: Access 1, TMR CH. 4.37 km

Phase: Open trench construction at Access 1

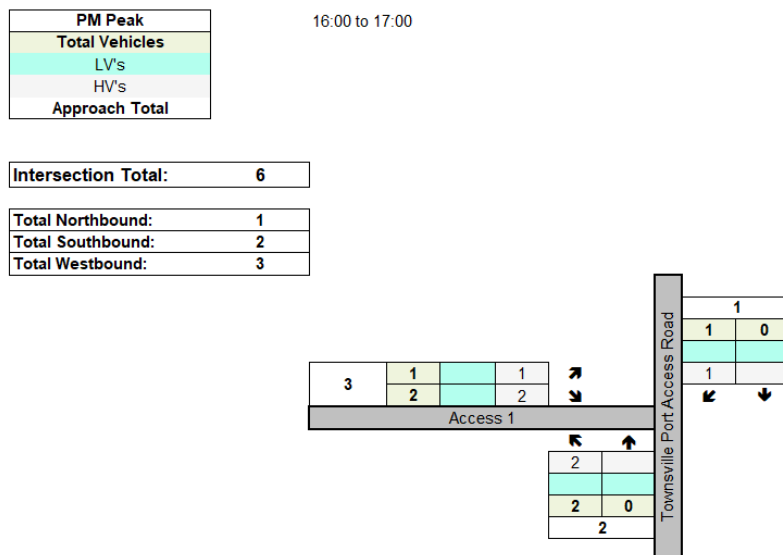


Figure 20 Critical PM (2026) peak hour development traffic volumes at Access 1 (during open trench construction at Access 1)

4.5.2 Access 2

For Access 2, the critical traffic movements are expected to coincide with the background peak hour during either the mobilisation phase (April 2026) or during the concurrent open trench construction works at Access 2 and HDD Ross River works at Access 3 (July 2026). Peak hour project traffic volumes at the intersection are summarised in Figure 21 and Figure 22 for the mobilisation period, and in Figure 23 and Figure 24 for the open trench / HDD construction period. Further details, including combined background and project-generated turning volumes, are provided in Appendix E.

Scenario: 2026 AM Establishment Traffic (HV Assessment)

Access: Access 2, TMR CH. 5.09 km

Phase: Mobilisation

AM Peak	
Total Vehicles	
LV's	
HV's	
Approach Total	

07:00 to 08:00

Intersection Total:	8
---------------------	---

Total Northbound:	4
Total Southbound:	2
Total Westbound:	2

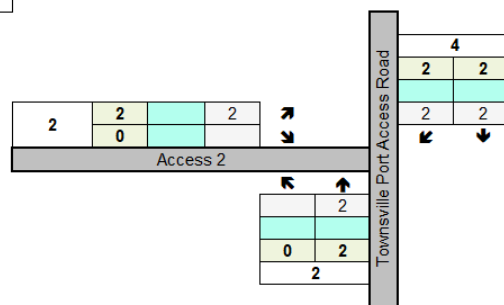


Figure 21 Critical AM (2026) peak hour development traffic volumes at Access 2 (during mobilisation)

Scenario: 2026 PM Establishment Traffic (HV Assessment)

Access: Access 2, TMR CH. 5.09 km

Phase: Mobilisation

PM Peak	
Total Vehicles	
LV's	
HV's	
Approach Total	

16:00 to 17:00

Intersection Total:	8
---------------------	---

Total Northbound:	4
Total Southbound:	2
Total Westbound:	2

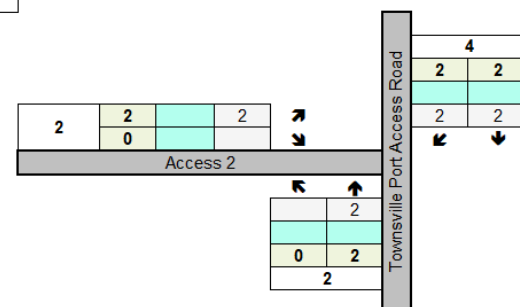


Figure 22 Critical PM (2026) peak hour development traffic volumes at Access 2 (during mobilisation)

Scenario: 2026 AM Construction Traffic (HV Assessment)

Access: Access 2, TMR CH. 5.09 km

Phase: Concurrent Open Trench Construction Works (Access 2) and HDD Ross River Works (Access 3)

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00

Intersection Total:	6
---------------------	---

Total Northbound:	1
Total Southbound:	2
Total Westbound:	3

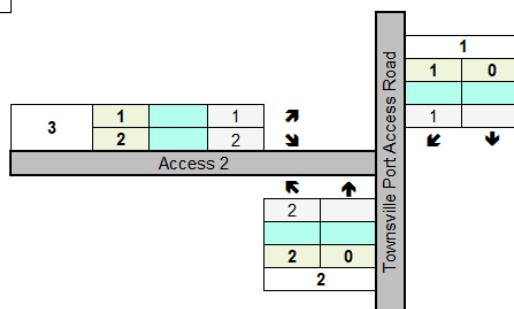


Figure 23 Critical AM (2026) peak hour development traffic volumes at Access 2 (during open trench / HDD construction period)

Scenario: 2026 PM Construction Traffic (HV Assessment)

Access: Access 2, TMR CH. 5.09 km

Phase: Concurrent Open Trench Construction Works (Access 2) and HDD Ross River Works (Access 3)

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00

Intersection Total:	6
---------------------	---

Total Northbound:	1
Total Southbound:	2
Total Westbound:	3

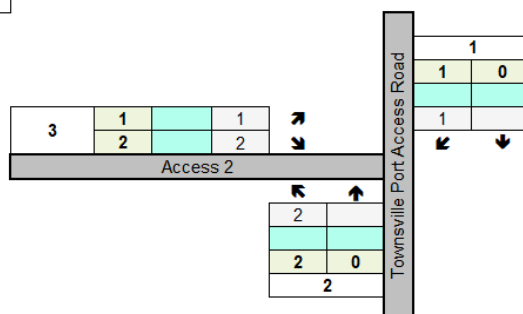


Figure 24 Critical PM (2026) peak hour development traffic volumes at Access 2 (during open trench / HDD construction period)

4.5.3 Access 3

For Access 3, the critical traffic movements are expected to coincide with the background peak hour during either the mobilisation phase (April 2026) or during the open trench construction works at Access 3 (November 2026). Peak hour project traffic volumes at the intersection are summarised in Figure 25 and Figure 26 for the mobilisation period, and in Figure 27 and Figure 28 for the open trench

construction period. Further details, including combined background and project-generated turning volumes, are provided in Appendix E.

Scenario: 2026 AM Establishment Traffic (HV Assessment)

Access: Access 3, TMR CH. 5.78 km

Phase: Mobilisation

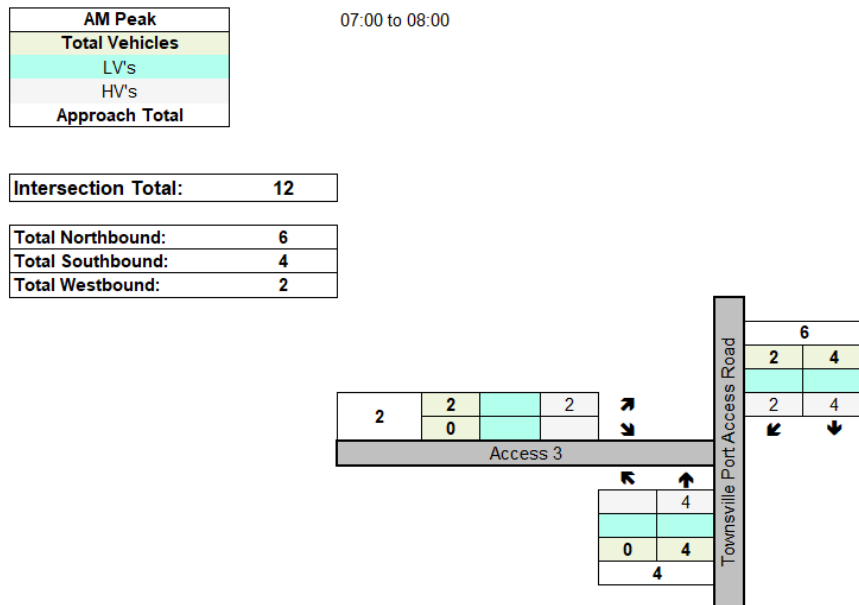


Figure 25 Critical AM (2026) peak hour development traffic volumes at Access 3 (during mobilisation)

Scenario: 2026 PM Establishment Traffic (HV Assessment)

Access: Access 3, TMR CH. 5.78 km

Phase: Mobilisation

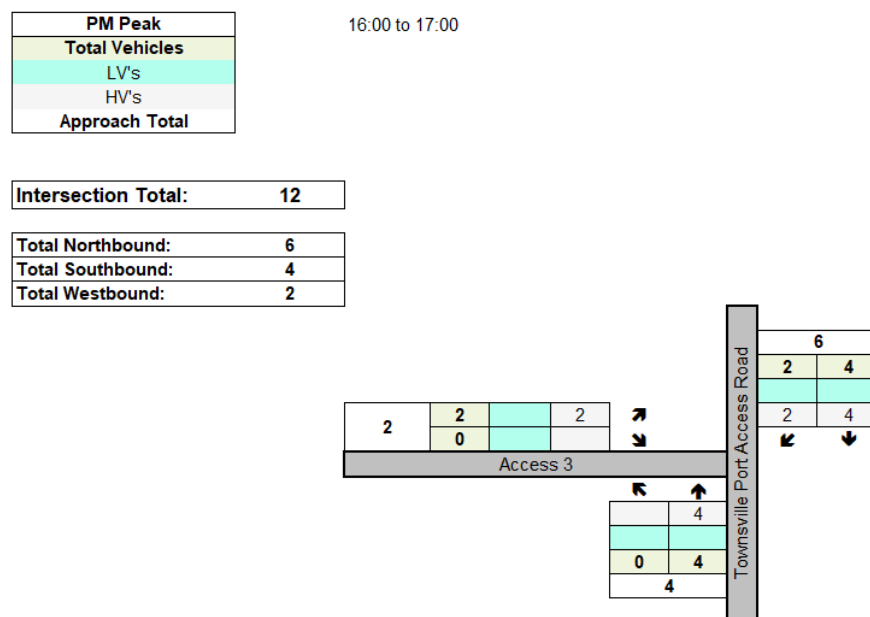


Figure 26 Critical PM (2026) peak hour development traffic volumes at Access 3 (during mobilisation)

Scenario: 2026 AM Construction Traffic (HV Assessment)

Access: Access 3, TMR CH. 5.78 km

Phase: Open trench construction at Access 3

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00

Intersection Total:	6
---------------------	---

Total Northbound:	1
Total Southbound:	2
Total Westbound:	3

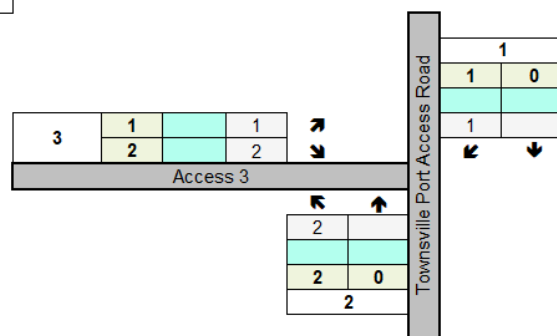


Figure 27 Critical AM (2026) peak hour development traffic volumes at Access 3 (during open trench construction at Access 3)

Scenario: 2026 PM Construction Traffic (HV Assessment)

Access: Access 3, TMR CH. 5.78 km

Phase: Open trench construction at Access 3

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00

Intersection Total:	6
---------------------	---

Total Northbound:	1
Total Southbound:	2
Total Westbound:	3

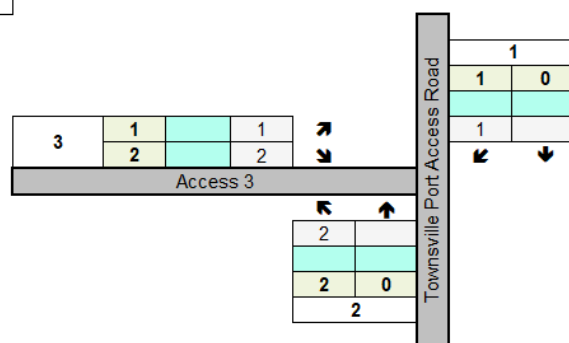


Figure 28 Critical PM (2026) peak hour development traffic volumes at Access 3 (during open trench construction at Access 3)

5.0 Preliminary Construction Impact Assessment

5.1 Road Link Capacity Assessment and Mitigation

The operational performance of the Townsville Port Road in the vicinity of the Project was assessed to understand the potential traffic impacts in terms of the percentage increase in traffic from the existing conditions and to identify the magnitude of the additional Project related traffic.

To determine whether the Project would have a 'significant' impact on the traffic operation of the surrounding road network, the traffic volumes expected to be generated by the Project were compared to the forecast base traffic volumes on the road network. The assessment considers the identified critical construction year for the development, where peak traffic generation from the sites is anticipated (2026). Where the Project generated traffic equals or exceeds 5% of the background traffic levels, the traffic operation of that road is considered to be impacted and consideration of how to best mitigate these impacts is required.

5.1.1 Construction Phase

The daily traffic volumes expected to be generated by the Project construction activities will be comprised of staff movements between the site and Townsville as well as vehicle movements associated with the transport of materials from both the north and south of the Townsville Port Road.

The peak number of daily traffic movements or trips associated with the construction phase of the Project was estimated be approximately 70 light vehicles and 7 heavy vehicle round trips per day in 2026 during the mobilisation phase.

An assessment of the traffic impacts during this critical construction phase of the Project was undertaken for the Townsville Port Road, as summarised for the critical segment in Table 13 below. Refer to Appendix F for the full AADT segment breakdown between each access.

Table 13 Peak traffic comparison

Road	Road ID	AADT Segment		Background AADT	Project-Generated Critical Daily Traffic Volumes	% Increase
		Start (km)	End (km)	2026	2026	2026
Townsville Port Road	841	0	7.336	2,948	80	2.71%

As can be seen by the results in Table 13, the addition of the peak construction phase traffic from the Project is not expected to significantly impact the Townsville Port Road, with the AADT on this road link not anticipated to increase by more than 5%. On this basis, it is concluded that the traffic impacts of the Project on Townsville Port Road on road link capacity can be considered minimal.

5.1.2 Operational Phase

As previously identified, it is anticipated that the operational phase of the EOPM will have very low associated traffic movements (<1 per week) for the lifetime of the asset.

These volumes are very low and equate to an increase in traffic volume on the Townsville Port Road of less than 5%. Based on this, it can be seen that the traffic impacts of the ongoing operation beyond 2027 of the Project can be considered negligible and no further traffic assessment of the relevant road link is deemed necessary.

5.2 Access and Frontage Impact Assessment and Mitigation

5.2.1 Intersection Analysis

SIDRA Analysis was undertaken to establish the operational performance of the critical access intersection utilised for construction of the EOPM, with the analysis considering the AM and PM peak hour periods during the 2026 critical construction stages.

A summary of the results for each intersection are provided in the following sub-sections, with detailed SIDRA output results for the relevant intersections included for reference in Appendix G.

5.2.1.1 Intersection Desired Standard of Service

The desired standard of service adopted in this preliminary construction TIA for transport infrastructure is based on the criteria outlined in *Austrroads Management of Traffic Modelling Processes and Applications (2021)* and *Austrroads Guide to Traffic Management (AGTM) – Part 3 (2020)*.

The metrics used to assess operational performance of intersections include Degree of Saturation (DOS) and Level of Service (LOS).

A DOS of 0.8 and LOS C performance threshold has been adopted for this preliminary construction TIA. A delayed-based method for defining the LOS that is consistent with the AGTM-Part 3: Traffic Studies and Analysis and SIDRA criteria have been adopted in the assessment. The criteria used is shown in Table 14.

Table 14 Adopted LOS threshold (Austrroads and SIDRA)

Level of Service	Control delay per vehicle in seconds (d)		
	Signals	Roundabout	Sign Control
A	$d \leq 10$	$d \leq 10$	$d \leq 10$
B	$10 < d \leq 20$	$10 < d \leq 20$	$10 < d \leq 15$
C	$20 < d \leq 35$	$20 < d \leq 35$	$15 < d \leq 25$
D	$35 < d \leq 55$	$35 < d \leq 50$	$25 < d \leq 35$
E	$55 < d \leq 80$	$50 < d \leq 70$	$35 < d \leq 50$
F	$80 < d$	$70 < d$	$50 < d$

5.2.1.2 Access 1 / Townsville Port Road

The existing Access 1 / Townsville Port Road intersection was modelled in SIDRA based on the assumption that the Contractor will upgrade this access to a standard acceptable to TMR for the duration of the construction phase. The indicative SIDRA intersection layout is shown in Figure 29 below.

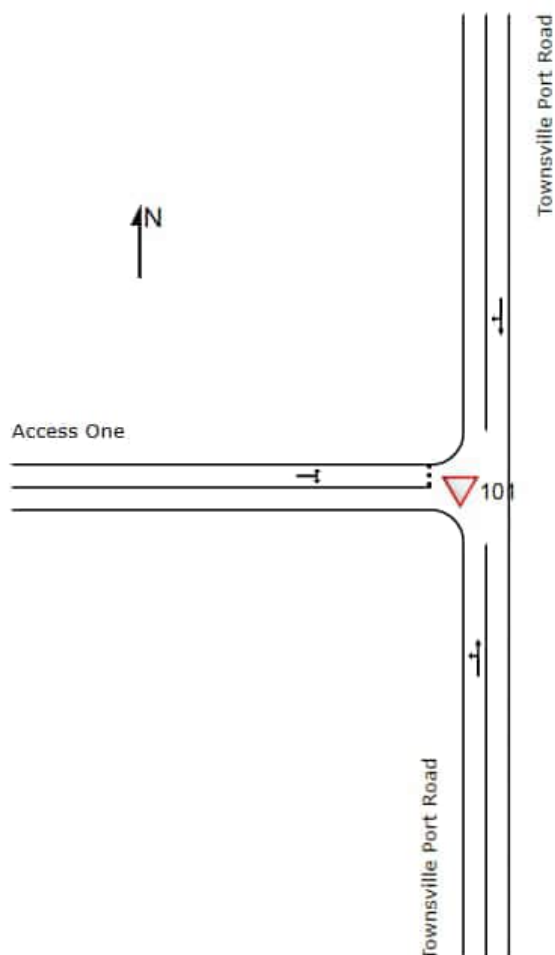


Figure 29 Access 1 / Townsville Port Road intersection – indicative SIDRA layout

Table 15 summarises the AM and PM peak intersection performance results for critical movements during the open trench construction works at Access 1 (December 2026).

Table 15 Access 1 / Townsville Port Road intersection performance results - open trench construction

Scenario	Peak Hour Period	Intersection DOS	Intersection LOS ^[1] [] Worst Mvmt. LOS	Worst Mvmt. Average Delay (sec)	95 th % Back of Queue	
					No. of Vehicles	Distance (m)
Open Trench Construction at Access 1	AM Peak (7 – 8 AM)	0.149	N/A [B]	12.2 RT from TPR (north)	0	0
	PM Peak (4 – 5 PM)	0.106	N/A [B]	10.8 RT from TPR (north)	0	0.3

Note [1]: Level of Service is not defined (N/A) for major road approaches or intersections as a whole for Two-Way Sign Control.

The SIDRA intersection analysis results show that:

- The intersection operates with spare capacity and below the DOS of 0.8 for sign-controlled intersections in both the AM and PM peak hours during the critical open trench construction phase at Access 1.

- The right-turn movement from Townsville Port Road is the critical movement at the intersection. During the critical open trench construction phase at Access 1, both the AM and PM peak periods report a LOS B for this movement, which is within the acceptable LOS limits.
- No significant queuing was observed along Access 1 or the Townsville Port Road during both the AM and PM peak periods.

The results presented in Table 15 demonstrate that during the AM and PM peak hour periods, the Access 1 / Townsville Port Road intersection operates within acceptable limits of DOS and LOS during the critical open trench construction phase at Access 1. On this basis, it is concluded that the traffic impacts of the Project on the Access 1 / Townsville Port Road can be considered minimal.

5.2.1.3 Access 2 / Townsville Port Road

The existing Access 2 / Townsville Port Road intersection was modelled in SIDRA based on the assumption that the Contractor will upgrade this access to a standard acceptable to TMR for the duration of the construction phase. The indicative SIDRA intersection layout is shown in Figure 30 below.

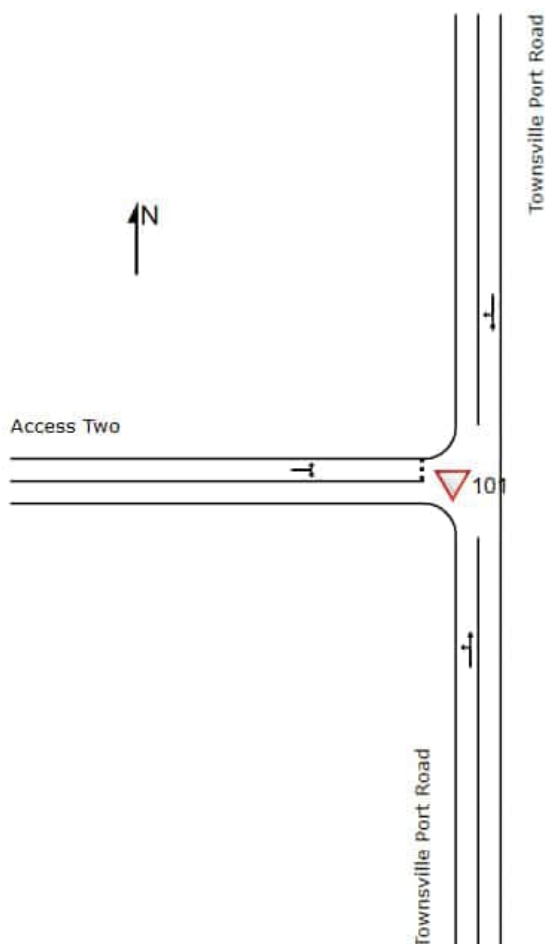


Figure 30 Access 2 / Townsville Port Road intersection – indicative SIDRA layout

Table 16 summarises the AM and PM peak intersection performance results for critical movements during the mobilisation phase (April 2026) and during the concurrent open trench construction works at Access 2 and HDD Ross River works at Access 3 (July 2026).

Table 16 Access 2 / Townsville Port Road intersection performance results

Scenario	Peak Hour Period	Intersection DOS	Intersection LOS ^[1] [] Worst Mvmt. LOS	Worst Mvmt. Average Delay (sec)	95 th % Back of Queue	
					No. of Vehicles	Distance (m)
Mobilisation Phase	AM Peak (7 – 8 AM)	0.150	N/A [B]	14.1 RT from TPR (north)	0	0.3
	PM Peak (4 – 5 PM)	0.109	N/A [B]	11.4 RT from TPR (north)	0	0.2
Open Trench Construction / HDD Ross River Works	AM Peak (7 – 8 AM)	0.149	N/A [B]	12.2 RT from TPR (north)	0	0.3
	PM Peak (4 – 5 PM)	0.106	N/A [B]	10.8 RT from TPR (north)	0	0.2

Note [1]: Level of Service is not defined (N/A) for major road approaches or intersections as a whole for Two-Way Sign Control.

The SIDRA intersection analysis results show that:

- The intersection operates with spare capacity and below the DOS of 0.8 for sign-controlled intersections in both the AM and PM peak hours during the mobilisation phase and open trench / HDD Ross River construction period.
- The right-turn movement from Townsville Port Road is the critical movement at the intersection. During both the mobilisation phase and open trench / HDD Ross River construction scenarios, both the AM and PM peak periods report a LOS B for this movement, which is within the acceptable LOS limits.
- No significant queuing was observed along Access 2 or the Townsville Port Road during both the AM and PM peak periods.

The results presented in Table 16 demonstrate that during the AM and PM peak hour periods, the Access 2 / Townsville Port Road intersection operates within acceptable limits of DOS and LOS during the critical mobilisation phase and open trench / HDD Ross River construction scenario. On this basis, it is concluded that the traffic impacts of the Project on the Access 2 / Townsville Port Road can be considered minimal.

5.2.1.4 Access 3 / Townsville Port Road

The existing Access 3 / Townsville Port Road intersection was modelled in SIDRA based on the assumption that the Contractor will upgrade this access to a standard acceptable to TMR for the duration of the construction phase. The indicative SIDRA intersection layout is shown in Figure 31 below.

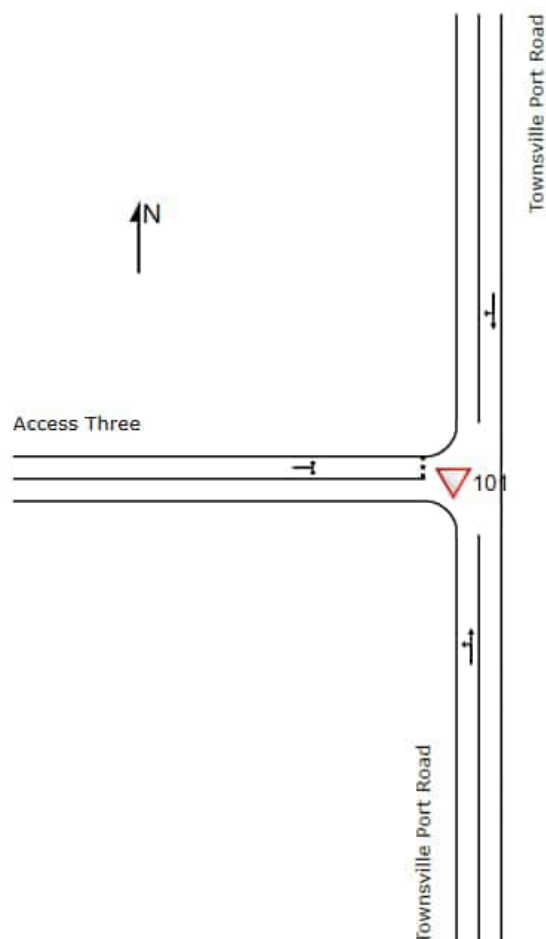


Figure 31 Access 3 / Townsville Port Road intersection – indicative SIDRA layout

Table 17 summarises the AM and PM peak intersection performance results for critical movements during the mobilisation phase (April 2026) and during the open trench construction works at Access 3 (November 2026).

Table 17 Access 3 / Townsville Port Road intersection performance results

Scenario	Peak Hour Period	Intersection DOS	Intersection LOS ^[1] [] Worst Mvmt. LOS	Worst Mvmt. Average Delay (sec)	95 th % Back of Queue	
					No. of Vehicles	Distance (m)
Mobilisation Phase	AM Peak (7 – 8 AM)	0.152	N/A [B]	14.1 RT from TPR (north)	0	0.3
	PM Peak (4 – 5 PM)	0.111	N/A [B]	11.5 RT from TPR (north)	0	0.2
Open Trench Construction at Access 3	AM Peak (7 – 8 AM)	0.149	N/A [B]	12.2 RT from TPR (north)	0	0.3
	PM Peak (4 – 5 PM)	0.106	N/A [B]	10.8 RT from TPR (north)	0	0.2

Note [1]: Level of Service is not defined (N/A) for major road approaches or intersections as a whole for Two-Way Sign Control.

The SIDRA intersection analysis results show that:

- The intersection operates with spare capacity and below the DOS of 0.8 for sign-controlled intersections in both the AM and PM peak hours during the mobilisation phase and open trench construction period.
- The right-turn movement from Townsville Port Road is the critical movement at the intersection. During both the mobilisation phase and open trench construction scenarios, both the AM and PM peak periods report a LOS B for this movement, which is within the acceptable LOS limits.
- No significant queuing was observed along Access 3 or the Townsville Port Road during both the AM and PM peak periods.

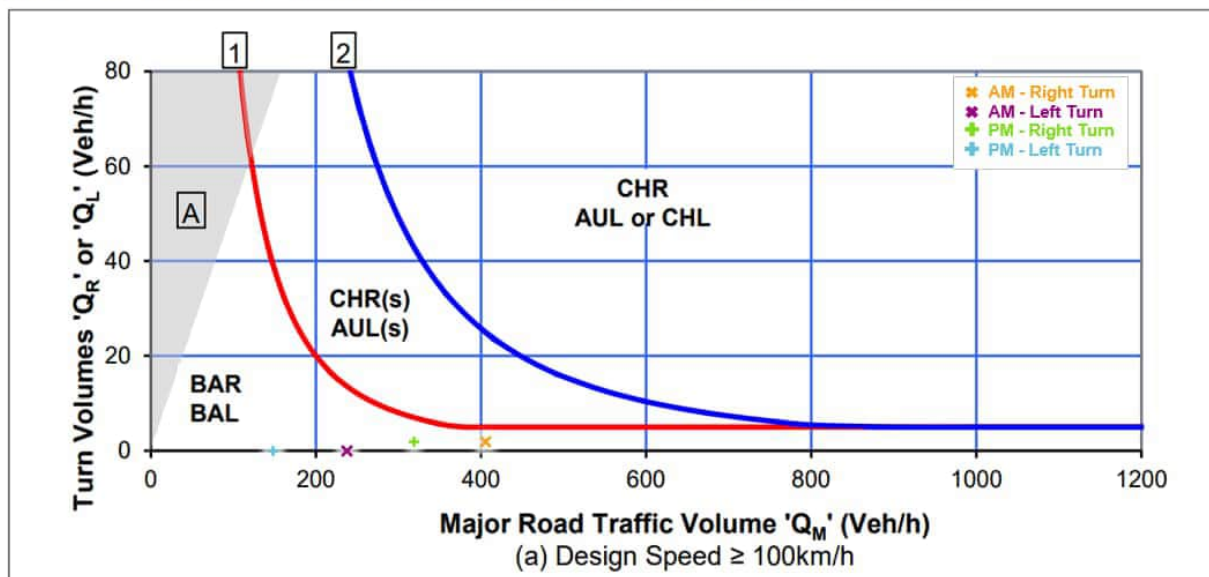
The results presented in Table 17 demonstrate that during the AM and PM peak hour periods, the Access 3 / Townsville Port Road intersection operates within acceptable limits of DOS and LOS during the critical mobilisation phase and open trench construction scenario. On this basis, it is concluded that the traffic impacts of the Project on the Access 3 / Townsville Port Road can be considered minimal.

5.2.2 Turn Warrants

A turn warrants assessment was then undertaken for the estimated construction phase turning movements from the Townsville Port Road into the site accesses to establish potential turn treatment requirements. The traffic volumes described above were utilised to assess the turn warrants at the proposed access intersections, based on the limits presented in TMR's *Supplement, Traffic and Road Use Management, Volume 1 – Guide to Traffic Management, Part 6: Intersections, Interchanges and Crossings* (2024).

This assessment is presented in Figure 32 and Figure 33 below, with further information provided in Appendix H.

Figure 3.25: Warrants for turn treatments on major roads at unsignalised intersections



Legend			
BAR	Basic Right Turn	BAL	Basic Left Turn
CHR(S)	Channelised Right Turn (short)	AUL(S)	Auxiliary Left Turn (short)
CHR	Channelised Right Turn	AUL	Auxiliary Left Turn
		CHL	Channelised Left Turn

Figure 32 Turn warrants assessment for critical site access intersection with Townsville Port Road during the AM and PM background periods

Figure 3.25: Warrants for turn treatments on major roads at unsignalised intersections

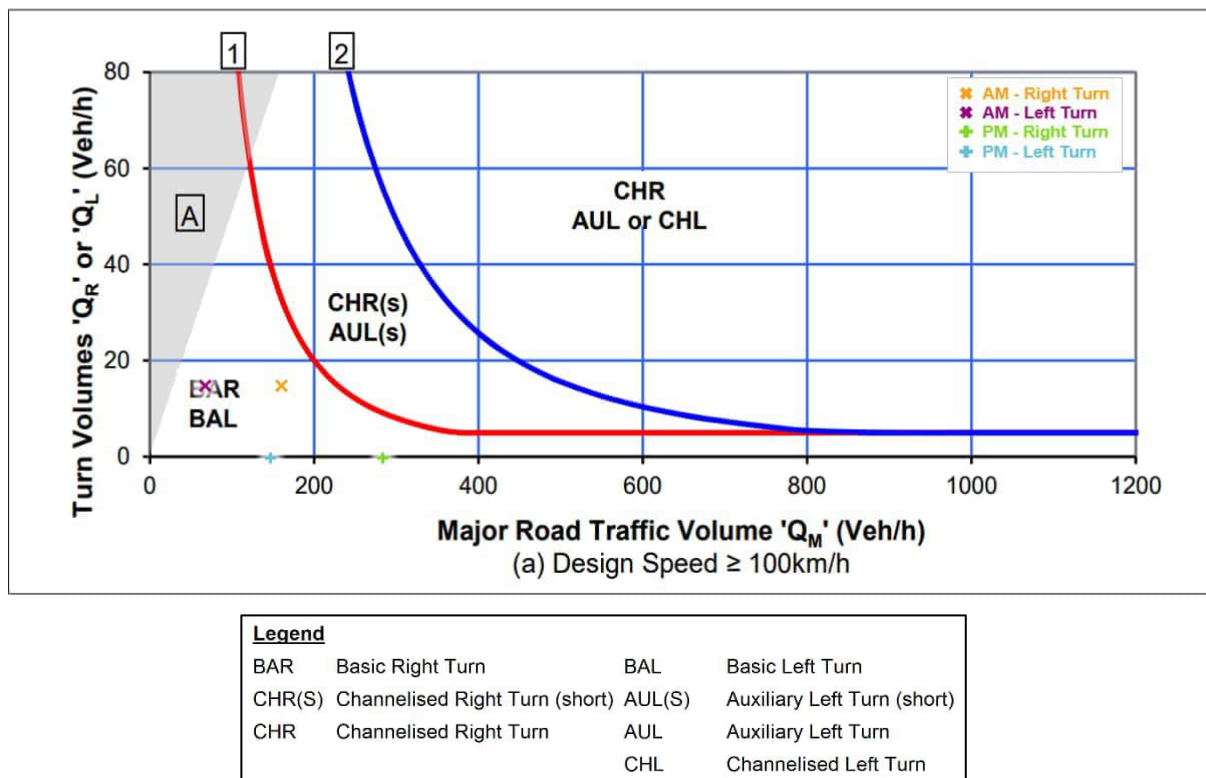


Figure 33 Turn warrants assessment for critical site access intersection with Townsville Port Road during the AM and PM worker periods

Figure 32 and Figure 33 shows that the expected construction phase traffic volumes at the proposed access locations were shown to warrant Basic Right Turn (BAR) and Basic Left Turn (BAL) treatments for turning vehicles on Townsville Port Road, however, they were shown to be at the lower end of the requirements for these treatments due to the low traffic volumes anticipated.

In addition, it is considered that due to the low background traffic volumes on Townsville Port Road and the limited timeframe of the construction works (12 months) that such BAL / BAR treatments will not be provided.

As such, it is considered that the provision of BAL / BAR treatments at the proposed access intersection locations will not be provided and that the construction of a suitable rural access treatment (as per Figure 7.4 of Austroads Guide to Road Design Part 4 (2023)), designed to accommodate the largest expected vehicle at the access (19m truck and dog vehicles) can be deemed acceptable.

Additional traffic management controls, such as advisory "truck turning" signage, should be provided on the Townsville Port Road approaches during the construction phase to the intersections to further delineate the access locations and reduce the potential for conflicts between the construction traffic and opposing traffic.

5.2.3 Swept Paths

A swept paths assessment was then undertaken for the estimated construction phase turning movements from the site accesses to the Townsville Port Road to establish that the largest design vehicle can enter and exit the subject site without impacting upon the through traffic of the Townsville Port Road. The design vehicles detailed in Section 4.4 were utilised to assess the swept paths at the proposed access intersections, based on the requirements presented in Austroads Design Vehicle and Turning Path Templates (AP-G34-23) (2023), Figure 7.4 of Austroads Guide to Road Design Part 4 (2023) and any supplementary TMR standards, including the Road Planning and Design Manual Volume 3 – Guide to Road Design (2024).

This assessment is presented in Appendix I and demonstrated that the largest design vehicle can enter and exit the subject site without impacting upon the through traffic on the Townsville Port Road, provided the Contractor upgrades the accesses to a rural access treatment as per Figure 7.4 of Austroads Guide to Road Design Part 4 (2023).

5.3 Road Safety Impact Assessment and Mitigation

A road safety assessment was undertaken to identify the key existing and construction-related road safety risks in accordance with TMRs GTIA.

To establish the level of risk regarding the identified road safety considerations for the current and forecast traffic conditions during construction, a safety risk score matrix (refer Figure 34) was utilised, with the results of the road safety risk assessment completed summarised in Table 18.

Figure 9.3.2(a) – Safety risk score matrix

		Potential consequence				
		Property only (1)	Minor injury (2)	Medical treatment (3)	Hospitalisation (4)	Fatality (5)
Potential likelihood	Almost certain (5)	M	M	H	H	H
	Likely (4)	M	M	M	H	H
	Moderate (3)	L	M	M	M	H
	Unlikely (2)	L	L	M	M	M
	Rare (1)	L	L	L	M	M

L: Low risk

M: Medium risk

H: High risk

Figure 34 Adopted risk score matrix

Table 18 Road safety assessment

	Without Development			With Development				With Development and Mitigation		
Risk Item	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score	Mitigation Measures	Likelihood	Consequence	Risk Score
The proposed construction works will lead to an increase in left-turning vehicle movements at the access intersections. The posted speed limit at Access 1, 2 and 3 is currently 100 km/h. This increase in left-turning vehicles could be considered to have the potential to lead to an increase in rear-end collisions with left-turn entry movements at the intersection.	Rare	Medical Treatment / Hospitalisation	Medium	Unlikely	Medical Treatment / Hospitalisation	Medium	Contractor will upgrade Accesses 1, 2 and 3 to two lanes in accordance with Figure 7.4 of Austroads Guide to Road Design Part 4 (2023) and any supplementary TMR standards, including the Road Planning and Design Manual Volume 3 – Guide to Road Design (2024). It is recommended Access 4 is not utilised during the construction phase due to reduced sightlines. Implement traffic management controls, such as advisory “truck turning” signage on the Townsville Port Road approaches, to improve perception of the access to road users (part of Traffic Management Plan). <i>Note: Existing intersection experiences LOS B (construction).</i>	Unlikely	Medical Treatment / Hospitalisation	Medium

	Without Development			With Development				With Development and Mitigation		
Risk Item	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score	Mitigation Measures	Likelihood	Consequence	Risk Score
The proposed construction works will lead to an increase in right-turning vehicle movements at the access intersections. The posted speed limit at Access 1, 2 and 3 is currently 100 km/h. This increase in right-turning vehicles from / onto a high-speed (100 km/h) road could be considered to have the potential to lead to vehicle conflicts at the access intersections during construction.	Rare	Hospitalisation / Fatality	Medium	Unlikely	Hospitalisation / Fatality	Medium	Swept path assessment demonstrated that the largest design vehicle (truck and dog vehicle) can enter and exit the subject site without impacting upon the through traffic on the Townsville Port Road. This assumes the Contractor will upgrade the accesses in accordance with Figure 7.4 of Austroads Guide to Road Design Part 4 (2023) and any supplementary TMR standards. It is recommended Access 4 is not utilised during the construction phase due to reduced sightlines. Implement traffic management controls, such as advisory “truck turning” signage on the Townsville Port Road approaches, to improve perception of the access to road users (part of Traffic Management Plan). <i>Note: Existing intersection experiences LOS B (construction).</i>	Unlikely	Medical Treatment / Hospitalisation	Medium

	Without Development			With Development				With Development and Mitigation		
Risk Item	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score	Mitigation Measures	Likelihood	Consequence	Risk Score
The proposed construction works will lead to an increase in vehicle movements at dusk and dawn. This has the potential to lead to more vehicle conflicts with animals on the road. The posted speed limit on Townsville Port Road is currently 100 km/h.	Unlikely	Medical Treatment / Hospitalisation	Medium	Unlikely	Medical Treatment / Hospitalisation	Medium	No mitigation measure proposed during the design stage of the Project. Contractor to be aware of this risk and manage during construction.	Unlikely	Medical Treatment / Hospitalisation	Medium
The existing accesses are single lane entry/exit points, with observed rutting and water ponding on the track. This has the potential to lead to more vehicle conflicts with inbound and outbound vehicles.	Rare	Hospitalisation	Medium	Rare	Hospitalisation	Medium	Contractor will upgrade Accesses 1, 2 and 3 to two lanes in accordance with Figure 7.4 of Austroads Guide to Road Design Part 4 (2023) and any supplementary TMR standards, including the Road Planning and Design Manual Volume 3 – Guide to Road Design (2024). The design of the new access tracks will support a low-speed environment.	Rare	Hospitalisation	Medium

5.4 Pavement Impact Assessment and Mitigation

A preliminary desktop pavement impact assessment was undertaken based on the existing background traffic data available for the relevant road sections. The heavy vehicle component of the Average Annual Daily Traffic (AADT) was calculated for the construction period by adopting the background heavy vehicle percentages from the data provided.

The development traffic volumes for the various construction stages were calculated based on the indicative construction activities and timelines (see Section 3.4). These traffic volumes were converted into Standard Axle Repetitions (SARs) based on the assumed heavy vehicle classes used on the Project and the appropriate SAR for each vehicle class.

SARs are a measure defining the cumulative damaging effect to the pavement of the design traffic. It is expressed in terms of the equivalent number of 80kN axles on the pavement. The SAR for the background heavy vehicle component was calculated based on the provided heavy vehicle splits for the relevant road sections.

Where the number of SARs of the additional Project related traffic equals or exceeds 5% of the background SARs, the pavement is considered to be impacted, and further assessment is required. It should be noted that the 5% pavement comparison assessment is only designed to highlight potential areas of pavement impact, where further detailed investigation is required and is not by itself a conclusive, remaining pavement life analysis.

5.4.1 Construction Phase

The assessment of potential pavement impacts during the construction phase involved comparison of the annual SAR associated with the background traffic volumes on the road link to the SAR estimated for the heavy vehicles expected across the construction years.

As stated previously, transportation of materials to the site in the construction phase of the Project is anticipated to be carried out by semi-trailer and truck and dog vehicles. Heavy vehicles movements are predicted to travel along the Townsville Port Road, as defined in Section 4.0.

Similar to the road link assessment (refer to Section 5.1), the heavy vehicle traffic travelling along Townsville Port Road are not expected to have a significant impact on the road pavement of that link. That is, the additional loadings generated by the Project are not anticipated to increase the background traffic loadings on the relevant sections of the Townsville Port Road by more than 5%.

A summary of the comparison of the background and development pavement loadings is provided in Table 19 below, with further details of the high-level calculations undertaken included in Appendix J.

Table 19 Pavement comparison

Road	Road ID	AADT Segment		Background Annual SAR4 (ESA)		Project-Generated Annual SAR4 (ESA)		% Increase	
		Start (km)	End (km)	Gazette	Against	Gazette	Against	Gazette	Against
2026 Construction Traffic									
Townsville Port Road	841	0	7.336	326,905	435,181	588	3,362	0.2%	0.8%
2027 Construction Traffic									
Townsville Port Road	841	0	7.336	333,479	446,311	28	279	0.01%	0.1%

The results in Table 19 indicate that the heavy vehicle movements associated with the construction of the EOPM project are expected to lead to an increase in pavement loadings on the relevant section of the Townsville Port Road less than 5%. Therefore, mitigation measures are not required to address pavement impacts caused by the construction of the proposed Project.

6.0 Conclusions and Recommendations

6.1 Traffic Impacts

Traffic generated during construction activities associated with the Project was identified to be expected to primarily utilise the State-controlled road network, specifically the Townsville Port Road.

Based on assumptions developed by the pipeline design development team, it was established that relatively low volumes of traffic were expected to be generated by the Project throughout the construction phase, with maximum or peak daily traffic movements in the order of 80 vehicles per day. Based on the information provided by TCC, the traffic volumes generated during the construction phase of the project are expected to greatly exceed the transport movements required for ongoing operation of the pipeline. As such, the traffic assessment focused on the construction period as the peak traffic generation phase of the Project.

The low volume of development traffic is anticipated to have negligible impact on the operation of the relevant sections of the Townsville Port Road due to the higher traffic volumes currently utilising these links. The increase in daily traffic volumes associated with the construction phase of the project did not exceed 5% of the background traffic volumes forecasted in 2026. These volumes were well within the capacity for two-way, two lane sealed rural road. As such it is expected that the impact of the Project on the operation of the surrounding Townsville Port Road link can be considered minimal.

Turn warrants assessments were undertaken to establish potential turn warrant requirements of the proposed access intersections for the sites off Townsville Port Road, with the low volumes estimated at the accesses placing the warrant at the lower end of the BAL/BAR turn treatment requirement.

It is considered that the low traffic volumes anticipated combined with the short-term timeframes of the construction works for each site (12 months) means that the full provision of BAL / BAR treatments is not required. Based on this, the provision of a suitable rural access treatment (refer Figure 7.4 of Austroads Guide to Road Design Part 4), designed to accommodate the movements of the largest vehicle expected (19m truck and dog vehicle), is considered acceptable to cater for the traffic volumes generated by the Project.

Additional traffic management controls, such as advisory “truck turning” signage, should be provided on the Townsville Port Road approaches during the construction phase to the intersections to further delineate the access locations and reduce the potential for conflicts between the construction traffic and opposing traffic.

It is noted that the construction dates and timeframes adopted for this assessment are indicative only and may be subject to change.

6.2 Vehicle Access Impacts

A detailed assessment was undertaken to evaluate the construction impacts on the operation and safety of the Site Access / Townsville Port Road intersections. Based on the vehicle access impact assessment, the following conclusions were drawn:

- The proposed Site Access / Townsville Port Road intersections are expected to operate satisfactory under the forecast traffic conditions in 2026. The SIDRA analysis revealed that during the AM and PM peak hour periods, Access 1, 2 and 3 all operated within acceptable limits of DOS and LOS during their respective critical construction periods. On this basis, it is concluded that the traffic impacts of the Project on the accesses can be considered minimal.

In addition to the intersection impacts, TMR also noted in the pre-lodgement meeting that adequate site distance should be available at the potential access locations. These checks revealed that Access 1, 2 and 3 have the required site distance for the surrounding high-speed environment. However, it is proposed that Access Four is not utilised during the construction phase due to reduced sightlines.

A swept path assessment was also undertaken to demonstrate that the largest design vehicle can enter and exit the subject site without impacting upon the through traffic on the Townsville Port Road. The assessment revealed the swept path envelope is compliant at Access 1, 2 and 3, upon the condition

that the Contractor upgrade the accesses to a rural access treatment as per Figure 7.4 of Austroads Guide to Road Design Part 4 (2023).

6.3 Pavement Impacts

A preliminary desktop pavement impact assessment for relevant road network was undertaken for the construction phase of the Project. The impact was identified to be negligible on the Townsville Port Road, with the increase in pavement loading determined to be less than the 5% threshold. Therefore, mitigation measures are not required to address pavement impacts caused by the construction of the proposed Project.

6.4 Recommendations

In light of the information provided above, it is considered that, conditional to the following, the proposed EOPM Project will have a minimal impact on the traffic operation and road pavements of the Townsville Port Road:

- The provision of upgrade works identified for the existing access tracks are expected to be addressed by the Contractor. The Contractor will upgrade Accesses 1, 2 and 3 to a rural access treatment as per Figure 7.4 of Austroads Guide to Road Design Part 4 (2023) and any supplementary TMR standards, including the Road Planning and Design Manual Volume 3 – Guide to Road Design (2024).
- Access 4 is not used for construction purposes due to the limited sight distance at this location.
- Traffic management controls, such as advisory “truck turning” signage, should be provided on the Townsville Port Road approaches to the proposed site access intersections to further delineate the access locations and reduce the potential for conflicts between the construction traffic and opposing traffic.
- This preliminary construction traffic impact assessment is based on the known construction activities listed above. As the project develops further, and a suitable contractor is engaged, this assessment should be updated to reflect the updated construction information.

It is therefore recommended that the Project be approved from a traffic engineering perspective.

Appendix A

SARA Pre-Lodgement Advice



SARA reference: 2501-44467 SPL

14 April 2025

Townsville City Council
C/- AECOM
Level 5, 7-13 Tomlins Street
SOUTH TOWNSVILLE QLD 4810
frances.mahlouzarides@aecom.com

Attention: Frances Mahlouzarides

Dear Ms Mahouzarides,

SARA Pre-lodgement advice - 426 Racecourse Road, Stuart; 21 Seventh Avenue, South Townsville; 4001 Wharf Area X, South Townsville; Ron Mclean Drive, Stuart; Ron Mclean Drive

I refer to the pre-lodgement meeting held on 13 March 2025 in which you sought advice from the State Assessment and Referral Agency (SARA) regarding the proposed development at the above address. Our apologies for the delay in responding. This notice provides advice on aspects of the proposal that are of relevance to SARA.

SARA's understanding of the project

The project is intended to support the Eastern Outfall Pressure Main (EOPM) being delivered by Townsville City Council. It is understood that the applicant intends seeking approval for the following:

- A 3 km HDPE Pipeline that runs from Sixth Street (South Townsville) adjacent to the Southern Port Road.
- The pipeline is to be predominantly installed through open-trench construction.
- There are two locations that will require installation via Horizontal Directional Drilling (HDD), including:
 - a 900 m section underneath Ross River, near the Southern Port Road Bridge.
 - a 420 m section at a 90 m offset to Southern Port Road.
- Pipe material for sections installed via HDD are HDPE.
- A 30 m wide construction corridor.

The subject area comprises of Lot 11 on RP703385, Lot 1 on SP313085, Lot 302 on SP223355, Lot 333 on EP806 and Lot 3 on SP251252. It is understood that there are three planning instruments which impact the project area – the Townsville State Development Area Development Scheme (2019), the Townsville City Plan (2014) and the Port of Townsville Port Land Use Plan (2013).

The proposed works comprise operational work and trigger state referral. SARA would be a referral agency for the proposed application under the *Planning Act 2016*.

Supporting information

The advice in this letter is based on the following documentation that was submitted with the pre-lodgement request or tabled at the pre-lodgement meeting.

Drawing/report title	Prepared by	Date	Reference no.	Version / issue
Layout Plan and Drawing Index	AECOM	5 Nov 2024	60691504-01	B
General Notes and Legend	AECOM	5 Nov 2024	60691504-02	B
Plan and Longitudinal Section Sheet 1	AECOM	5 Nov 2024	60691504-03	B
Plan and Longitudinal Section Sheet 2	AECOM	5 Nov 2024	60691504-04	B
Plan and Longitudinal Section Sheet 3	AECOM	5 Nov 2024	60691504-05	B
Plan and Longitudinal Section Sheet 4	AECOM	5 Nov 2024	60691504-06	B
Plan and Longitudinal Section Sheet 5	AECOM	5 Nov 2024	60691504-07	B
Open Trenched Construction Typical Section	AECOM	5 Nov 2024	60691504-11	B

Pre-lodgement meeting record

Meeting date	13 March 2025
Meeting location	MS Teams
Meeting chair	Bronwyn Bignoux
Meeting attendees	Refer to Attachment 1

Pre-lodgement advice

The following advice outlines the aspects of the proposal that are of relevance to SARA.

SARA's jurisdiction and fees	
1.	The application will require referral to SARA under the following provisions of the Planning Regulation 2017: - Schedule 10, Part 9, Division 4, Subdivision 2, Table 5, Item 1 – Operational work on premises near a state transport corridor. This will require a fee of \$3,636 to be paid in accordance with Schedule 10, Part 9, Division 4, Subdivision 2, Table 5, Item 8. - Schedule 10, Part 6, Division 3, Subdivision 3, Table 1, Item 1 – Operational work that is the removal, destruction or damage of marine plants. This will require a fee of \$14,538.00

	to be paid in accordance with Schedule 10, Part 6, Division 3, Subdivision 2, Table 1, Item 5 (c). • Schedule 10, Part 17, Division 3, Table 2, Item 1 - Development application for operational work that is assessable development under section 28. This will require a fee of \$7,271.00 to be paid in accordance with Schedule 10, Part 17, Division 3, Table 2, Item 8 (c). • Schedule 10, Part 3, Division 4, Table 1, Item 1 – Native vegetation clearing. This will require a fee of \$3,636.00 is to be paid in accordance with Schedule 10, Part 3, Division 3, Table 1, Item 5 (b) (i). SARA would be referral agency for the proposed application.
Key matters and action items	
2.	The key issues identified in relation to the proposed development are as follows: (a) <u>State transport corridor</u>: The proposed development is located in proximity to a state-controlled road (Port Road). As detailed in section 3 below, the proposed development is considered assessable development in terms of Schedule 10, Part 9, Division 4, Subdivision 2, Table 5, Item 1 of the Planning Regulation 2017. A Traffic Impact Assessment and stormwater and flood information will be required as part of a development application. It is also advised that Section 62 access approvals may be required under the <i>Transport Infrastructure Act 1994</i>. (b) <u>Marine plants</u>: The proposed works are located on tidal land and will involve the removal, destruction or damage of marine plants. As detailed in section 4 below, the works are considered assessable development and require a development approval. It must be demonstrated that the finalised pipeline alignment makes all reasonable efforts to avoid, minimise and mitigate impacts to marine plants and tidal lands. (c) <u>Maritime safety</u>: No requirements in relation to maritime safety have been identified (refer to section 5 below). (d) <u>Clearing native vegetation</u>: As detailed in section 6 below, the development will impact five separate lots and vegetation clearing for the development will impact the following: Category X area; Category B area; Category R area; several Least concern/of concern regional ecosystems; vegetation associated with watercourse or drainage features; and Essential habitat. As detailed in section 6 below, while vegetation clearing for the development may be exempt clearing work (under Schedule 21 of the Planning Regulation 2017) or may be accepted development under (under Schedule 7, Part 3, section 12 of the Planning Regulation 2017) for certain lots, the remainder of lots will require referral to SARA for the clearing of native vegetation under Schedule 10, Part 3 of the Planning Regulation 2017. In this instance, prior to submitting a development application to clear native vegetation, an applicant must first obtain a relevant purpose determination under section 22A of the <i>Vegetation Management Act 1999</i>. (e) <u>Acid sulfate soils</u>: It is understood that the majority of the project will occur on land that is at or below an elevation of 5 m AHD. As large portions of the pipeline alignment are mapped as 'high probability of occurrence of ASS' under the National ASS mapping program, an acid sulfate soils investigation should be undertaken to identify the extent and severity of any acid sulfate soils on site (refer to section 7 below).

State Transport Corridor	
3.	(a) The proposed development is located in proximity to a state-controlled road (Port Road) and is assessable development in terms of Schedule 10, Part 9, Division 4, Subdivision 2, Table 5, Item 1 of the Planning Regulation 2017, as the proposed development involves operational work within 25m of a state transport corridor and the work involves excavating or filling more than 50m³ (and the work does not relate to a material change of use or reconfiguration of a lot). A future development application will be required to demonstrate compliance with the applicable outcomes of State code 1: Development in a state-controlled road environment. Further guidance on what information needs to be supplied with a formal development application can be obtained from the Department of Transport and Main Roads' (TMR) SDAP Supporting Information, available at: https://www.tmr.qld.gov.au/community-and-environment/planning-and-development/planning-and-development-assessment-under-the-planning-act/assessable-development. (b) <u>Development Plans:</u> When lodging a formal development application, the applicant is required to provide scaled and sufficiently detailed plans and supporting documentation which clearly identify all aspects of the proposed development in relation to the state-controlled transport corridors. In particular, this should include the following, amongst other relevant considerations: • the layout, design and extent of all earthworks, construction and laydown areas; • vehicle access points, design vehicle manoeuvring areas/driveways, and car parks. This information is required to assess the proposal against the provisions of State code 1: Development in a state-controlled road environment. Once proposal plans are provided illustrating the proposed development on the site, further additional information may need to be provided. (c) <u>Traffic Impact Assessment:</u> Based on the information provided, the following are raised for consideration in the preparation of the development application: • The Port Road is a state-controlled road which sees moderate levels of traffic and a higher degree of heavy vehicle usage. It has been gazetted as a Limited Access Road (LAR), which seeks to limit access points between the road and adjacent premises, to maintain the functionality, speed and safety of the road. • The proposed operational works are proposed to utilise four existing accesses along the western side of the Port Road. These accesses are not, from available records, associated with Section 62 access approvals as required under the <i>Transport Infrastructure Act 1994</i>, and are therefore unlikely to comply with relevant standards. • It is anticipated that the project will involve heavy vehicles utilising these accesses to haul materials and fill to and from the site in both directions. • Considering the low standard of formation of these existing accesses and the high-speed environment of the Port Road, these accesses are unlikely to be deemed suitable for the volumes of light and heavy vehicles utilising them during the construction period. Traffic management is likely required to mitigate the potential safety and operational performance impacts to the state-controlled road throughout the construction. • Given the works involve the construction of a maintenance track within the premises, it

	may be more suitable for the applicant to investigate the formalisation of one of these four accesses, to be utilised throughout construction and beyond, reducing or eliminating the use of the other three accesses. • It is anticipated that upgrades to one or more of these accesses will likely be required to maintain the safety of road users of the state-controlled road. • Of particular concern is the northernmost access, which is subject to reduced sightlines, due to road geometry and existing vegetation. It may be suitable for a Safe Intersection Sight Distance (SISD) check to be carried out for this access, should it be utilised by the development. • As previously mentioned, it is recommended that the potential of one access servicing the entire maintenance track be investigated, with the provision of upgrades if and where necessary. This may require a Turn Warrant Assessment to be carried out. • To demonstrate compliance with these Performance Outcomes and the requirements under the <i>Transport Infrastructure Act 1994</i>, the applicant will be required to provide a Traffic Impact Assessment, providing details on vehicle trips and types, as well as swept paths demonstrating accesses are suitable for the largest design vehicle, in addition to other assessments where deemed relevant. To demonstrate compliance with State Code 1, a Traffic Impact Assessment (TIA) will be required in support of the future development application. The TIA must be prepared by a suitably qualified RPEQ traffic engineer and must be in accordance with TMR's Guide to Traffic Impact Assessment – December 2018 (GTIA), available at: https://www.tmr.qld.gov.au/business-industry/technical-standards-publications/guide-to-traffic-impact-assessment The TIA must address the following items at a minimum: • Identify the number of peak hour trips generated as a result of the proposed development. • Provide a detailed safety and risk assessment, completed in accordance with the GTIA, • Consider the access and queuing and identifying whether there are any unacceptable safety risks at this location (either pre-existing or post-development). • Confirm the timing it takes for the largest design vehicle to enter and exit the site in order to calculate sight lines. • Confirm the sight lines and demonstrate that they will be suitable for vehicular access. • Provide a swept path analysis demonstrating that the largest design vehicle can enter and exit the subject site in a forward gear, without impacting upon the through traffic of the Port Road. • Provide a detailed assessment of the proposed access arrangements to demonstrate that full compliance with all relevant standards and guidelines is achieved. • Ensure that all proposed works take into consideration the current speed limit of the state-controlled Road. • Demonstrate that there will be no disruption to the operation of the State-controlled Road during construction of the proposed development. • Recommend any mitigation measures, where required, to demonstrate that no adverse impacts occur upon the safety and operating conditions of the state-controlled Road network in accordance with TMR's Guide to Traffic Impact Assessment. (d) <u>Stormwater and flooding information:</u> While the competed works are unlikely to result in adverse impacts to the existing overland
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	flow and stormwater drainage regime of state-controlled road corridor, the construction of the pipeline may have impacts on the drainage infrastructure associated with the road. In particular, there are several bridges and culverts under the state-controlled road, where flows are anticipated to travel both east and west, depending on the tidal level and the degree of rainfall. To demonstrate compliance with State code 1, provide details to demonstrate that there will be no adverse impacts to the drainage and overland flows associated with the state-controlled road corridor during the course of construction.
Marine Plants	
4.	(a) The proposed works are located on tidal land and will involve the removal, destruction or damage of marine plants. The works are considered assessable development and require a development approval. It must be demonstrated that the finalised pipeline alignment makes all reasonable efforts to avoid, minimise and mitigate impacts to marine plants and tidal lands: - the HDD entry and exit point should be located above Highest Astronomical Tide (HAT) (i.e. above tidal land); - if a maintenance track is required on tidal land, it should be demonstrated to be the minimum footprint required to service the pipeline; and - outside of any permanent development footprint on tidal land, the works should have a temporary impact and should be conducted to encourage fish habitats and fisheries resource values to naturally regenerate or implement active regeneration where required. (b) <u>Removal destruction or damage of marine plants:</u> The proposed works involve the removal, destruction or damage of marine plants. - Marine plants include: - any plant (a tidal plant, including marine algae) that usually grows on or adjacent to tidal lands whether it is living, dead, standing or fallen; or - any plant material on tidal land (up to the level of HAT). Plants such as mangroves, mangrove fern, saltcouch or samphire species are considered marine plants regardless of whether or not they are above or below the level of HAT. - Marine plants do not include: - a plant that is prohibited matter or restricted matter under the <i>Biosecurity Act 2014</i>; or - a plant that is controlled biosecurity matter or regulated biosecurity matter under the <i>Biosecurity Act 2014</i>. - Marine plant protection applies irrespective of the tenure (e.g. unallocated state land and all state tenured lands, including private freehold and leasehold lands) of the land on which the plant occurs, the time the plant has been growing at the location, or the degree of or purpose of the disturbance. Under the Planning Regulation 2017, works involving the removal, destruction or damage of marine plants must be undertaken in accordance with the relevant accepted development requirements (ADR) or under a development approval (assessable development). There are no provisions under the ADR for the construction of new pipelines. A development approval will be required for assessable development that is the

removal, destruction or damage of marine plants. If possible, avoiding marine plant disturbance would remove the need for an approval and potential fees for this component of the works.

A full response to the relevant sections of the current version of State code 11 of the State Development Assessment Provisions (SDAP): Removal, destruction or damage of marine plants will be required. The [SDAP Guideline for State Code 11](#) will assist in the preparation of the development application and responding to the relevant Performance Outcomes (POs) for assessable development impacting marine plants. Particular attention should be paid to the following POs:

- All development – PO1 to PO3;
- All development in general – PO4 to PO15;
- Temporary works – PO22 and PO23; and
- Restoration – PO24 and PO25.

Relevant plans as per SARA's [DA Forms guide: Relevant plans](#), should be provided including:

- the total amount of marine plants that will be disturbed, identifying portion of permanent and/or temporary disturbance (in square meters or hectares);
- the location of the marine plants to be disturbed in relation to the development works;
- the level of HAT, mean high water spring tide, and low water spring tide;
- location and extent of fish habitat within the development area, including creeks, sand and/or yabby banks, drainage lines, lagoons and marshes.

Note: All plans should be able to be read to scale at A3 size.

PO1 to PO15 of the SDAP address critical issues relating to coastal development proposals which create the need to remove, destroy or damage marine plants. It will be necessary to respond to all relevant POs.

(c) All development - Impacts to marine plants:

PO1: It should be demonstrated that the design, construction and maintenance of the development does not result in adverse impacts to marine plants and fish habitat.

PO2: It should be demonstrated the development is designed, constructed, and maintained to avoid and minimise impacts on matters of state environmental significance. In the first instance the design, including both built form and location, of development should be planned to avoid tidal land and impacts to marine plants wherever possible. If there are any proposed impacts to marine plants, they are to be clearly demonstrated to be unavoidable.

It is understood that HDD methods are proposed to cross the Ross River and also a significant area coastal saltmarsh. HDD entry and exit points should be located above HAT where possible. However, in areas where avoidance of marine plants and tidal land cannot be achieved, it must be demonstrated that impacts have been minimised.

An application should consider minimising impacts through the alignment of the pipeline and location of access/construction areas and other ancillary structures. If a maintenance track is required on tidal land, this should be demonstrated to be the minimum footprint

required to service the pipeline. Lay down areas for machinery, equipment and spoil should also be located away from marine plants.

PO3 It should be demonstrated where development impacts on matters of state environmental significance, development mitigates impacts and provides an offset for any acceptable significant residual impact on matters of state environmental significance. Marine plants are a Matter of State Environmental Significance (MSES) under the *Environmental Offsets Act 2014*. An application must demonstrate how impacts to marine plants have been mitigated. Despite mitigation measures, the works may still result in a Significant Residual Impact (SRI), in which case an environmental offset may be required. Any rehabilitation of marine plants on site may help to reduce the scale of the SRI. Options to mitigate the SRI to marine plants must be pursued before an offset can be considered. The DSDIP [Significant Residual Impact Guideline](#) (see Section 3.9) is useful in determining the likelihood of the proposed development resulting in a SRI.

PO4 Aspects of development are only permitted on tidal land if there is a functional requirement and the development cannot be feasibly located elsewhere. Ancillary elements (such as rest rooms and offices) must be located outside of tidal land.

PO7 It should be demonstrated that the works are to be designed, constructed and maintained to encourage fish habitats and fisheries resource values to naturally regenerate.

Impacts to marine plants within the pipeline footprint should be temporary. Trenches should be backfilled and stabilised; reinstatement of suitable tidal profiles and natural tidal inundation patterns will encourage natural recruitment back to the target area. Furthermore, it is recommended to consider incorporating active restoration or rehabilitation to disturbed areas (also refer to PO24 and PO25) to ensure impacts to marine plants are temporary.

PO8 Development likely to cause drainage or disturbance to acid sulfate soils, prevents the release of contaminants and impacts on fisheries resources and fish habitats.

(d) Temporary works:

PO23 and PO24: It should be demonstrated temporary works are designed, constructed and maintained to be in place for the shortest possible time or are undertaken for a specified period.

Where the use of temporary access tracks or heavy machinery results in the compaction of soils, works should be undertaken to mitigate this and leave the soil in a condition that allows marine plants to recolonise.

(e) Restoration works:

PO24 and PO25: Restoration of fish habitats involves undertaking management actions to return a site to a pre-existing natural condition, including associated habitat values. Where natural regeneration of marine plants and other fish habitat values will not naturally occur, revegetation may be appropriate. In these instances, marine plants used for revegetation purposes must have local provenance, meaning they must be sourced from within the local area and preferably within the same catchment as the restoration site. In an application, submit details of any proposed restoration works, usually in the form of a

	restoration plan (refer to the guideline for further information on details to include).
Maritime Safety	
5.	Based on the information provided, i.e. that no on water activity is proposed and that the depth of the pipeline will be about 18m below the riverbed, no requirements have been identified in relation to maritime safety.
Native vegetation clearing	
6.	(a) <u>Regional ecosystems:</u> Regional ecosystem 11.1.4 is a mangrove RE which is not regulated by the <i>Vegetation Management Act 1999</i> under Part 2 Division 1 Section 8(c). The structure category of RE 11.1.1 is woody grassland and RE 11.1.2 is other. The short description of these ecosystems includes the terms grassland and forbland. It cannot be determined without information obtained from onsite whether these ecosystems contain woody vegetation. If woody vegetation is present in these regional ecosystems, then these areas will include assessable clearing of regulated vegetation. (b) <u>Tenure:</u> Lot 1 on SP313085 is zoned Special purpose zone and contains a powerline. It is understood that the Special purpose zone in this location relates to the Port Road linkage (i.e. to facilitating and maintaining linkages to the Port of Townsville, Townsville State Development Area and major freight routes) and may constitutes an urban zone in the Townsville City Plan (planning scheme) and where the Schedule 21, Part 2, Section 2(g) exemption for urban purposes in an urban area may apply to this zoning. It is also noted that it is not clear how much of the clearing for the pipeline is located within existing exempt clearing already undertaken for the power line in this lot. Ron McLean Drive and Lot 1 on SP313085 are identified as an Infrastructure Corridors Precinct in the Townsville State Development Area. It is not clear how this affects the clearing of regulated vegetation in this area. Freehold Lot 11 on RP703385 is located in the Ross River and does not contain vegetation regulated under the <i>Vegetation Management Act 1999</i>. Reserve Lot 302 on SP223355 has the Department of Environment, Tourism, Science and Innovation as the trustee. It would need to be determined whether the trustee considers the activity to be consistent with achieving the purpose of the trust to undertake works in the reserve under the exemption in Schedule 21, Part 2, section 6, including in the category X area. (c) <u>Construction:</u> The information provided indicates that the construction corridor is 30m wide. This is outside the clearing limits for the clearing for infrastructure ADVCC. It is understood that some of this area may be for temporary laydown areas. It was also not identified whether temporary laydown areas would be included in this corridor.

It was not indicated where permanent clearing would occur and whether this 30m wide corridor would be maintained in a cleared state.

(d) Vegetation management attributes:

The development will impact the following vegetation management attributes:

- Category B area (containing least concern, of concern, endangered regional ecosystems).
- Category R area (regrowth watercourse and drainage feature area)
- Category X area.
- Essential habitat as shown on the essential habitat map for the estuarine crocodile (*Crocodylus porosus*), eastern curlew (*Numenius madagascariensis*), great knot (*Calidris tenuirostris*), western Alaskan bar-tailed godwit (*Limosa lapponica baueri*), red knot (*Calidris canutus*) curlew sandpiper (*Calidris ferruginea*), Australian painted-snipe (*Rostratula australis*), lesser sand plover (*Charadrius mongolus*), and greater sand plover (*Charadrius leschenaultii*).
- Vegetation associated with a watercourse/drainage feature as shown on the vegetation management watercourse and drainage feature map.

Information on the land is available through:

- Queensland Globe - <https://qldglobe.information.qld.gov.au>
- A vegetation management report online - <https://www.qld.gov.au/environment/land/management/vegetation/maps/map-request>
- The vegetation management Regional Ecosystem Description Database - <https://www.qld.gov.au/environment/land/management/vegetation/maps/regional-ecosystems-lookup>

(e) Exempt clearing work:

The development does not require an application to SARA for clearing native vegetation under Schedule 10, Part 3 of the Planning Regulation 2017 where it is exempt clearing work:

- Schedule 21 Part 2 section 2(d) Clearing native vegetation in a category X area on freehold land (Lot 1 on SP313085).
- Schedule 21 Part 2 section 5(a) For land that is dedicated as a road under the Land Act, clearing vegetation that is carried out by a local government if the clearing is in a category R or X area (Smith Street E, Ron McLean Drive).
- Schedule 21 Part 2 section 2(g) For freehold land, clearing vegetation if the clearing is for urban purposes in an urban area and the vegetation is regulated regrowth vegetation (Lots 333 on EP806 and 3 on SP251252).

(f) Accepted clearing work:

The development does not require an application to SARA for clearing native vegetation under Schedule 10, Part 3 of the Planning Regulation 2017 where it is accepted development, i.e. Clearing under an Accepted Development Vegetation Clearing Code (ADVCC) – Clearing for infrastructure ADVCC – 22 November 2023. The code is available and a notification to the Department of Resources can be lodged online at <https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes>.

(g) Operational Works application:

The development will require an application to SARA for the clearing of native vegetation under Schedule 10, Part 3 of the Planning Regulation 2017 as the proposal involves clearing in a category B area that is assessable development.

The application will need to address and meet the requirements of the State Development Assessment Provisions (SDAP) – State code 16: Native vegetation clearing (code). The performance outcomes to be addressed in the code are:

- Table 16.2 – PO1-PO3.
- Table 16.3 – PO4-PO18.

Performance outcomes requiring a detailed response by the development application include:

- Clearing avoids and minimises impacts (PO4)
- Clearing associated with wetlands (PO5, PO6)
- Clearing associated with watercourses and drainage features (PO7, PO8)
- Connectivity (PO9)
- Soil erosion (PO10)
- Salinity (PO11)
- Conserving least concern regional ecosystems where clearing vegetation for temporary use areas (PO12, PO13)
- Conserving endangered and of concern regional ecosystems (PO14, PO15)
- Essential habitat (PO16, PO17)
- Acid sulfate soils (PO18)

Guidance on how to comply with this code is provided in the Guide to State Development Assessment Provisions: State code 16: Native vegetation clearing, Department of Resources, March 2023. This guideline is available online at

<https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development-approvals/sdap>

Providing digital data for the location and extent of vegetation clearing is recommended. Digital data should include a projected spatial reference (e.g. GDA94 or GDA2020) and preferably be in an ESRI compatible format (shapefile, geodatabase or KML).

(h) Potential SDAP State Code 16 offset requirement:

The following prescribed environmental matters, where there is a potential offset requirement, have been identified on the site subject to the development:

- Essential habitat

The response to SDAP will need to address:

- Whether there is a significant residual impact - Guidance for determining if a prescribed activity will have a significant residual impact is provided in the Significant Residual Impact Guideline, Department of State Development, Infrastructure and Planning, 2014 available online at <https://dsdmipprd.blob.core.windows.net/general/dsdip-significant-residual-impact-guideline.pdf>.
- How any significant residual impact can be addressed through a suitable offset.

Further details regarding the *Environmental Offsets Act 2014* and the Queensland

	Environmental Offsets Policy are available online at www.qld.gov.au/environment/pollution/management/offsets. (i) <u>Relevant Purpose Determination:</u> Prior to submitting a development application to clear native vegetation, applicants must first obtain written confirmation from the Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development that the proposed development is for a relevant purpose under section 22A of the <i>Vegetation Management Act 1999</i>. Relevant purpose determination requests can be sent to vegetation@resources.qld.gov.au. There is no fee for these requests. The application form, further information and assistance is available online at www.qld.gov.au/environment/land/management/vegetation/development. Requests relating to <i>relevant infrastructure activities</i> must demonstrate how clearing for the infrastructure cannot reasonably be avoided or minimised. Applications should demonstrate: • Why the infrastructure needs to be in the proposed location and cannot be located elsewhere (avoided). • Why the infrastructure needs to be the size and scale proposed (minimised). • How the infrastructure layout has been consolidated to 'minimise' clearing required. If not, explain why it was not reasonable to do so (minimised). • How the 'avoid and minimise' principles on page 7 of the application form checklist have been followed to minimise the adverse impacts of clearing. If not, explain why it was not reasonable to do so (minimise adverse impacts of clearing). (j) <u>Category C and R area advice on freehold land:</u> Clearing vegetation in a category C or R area on freehold land is not for a relevant purpose under the <i>Vegetation Management Act 1999</i>. Accordingly clearing of vegetation in these areas cannot be applied for under a development approval. Clearing vegetation in these areas must only occur as exempt clearing work or accepted development in accordance with an Accepted Development Vegetation Clearing Code (ADVCC). Clearing vegetation in category C or R areas that is not exempt or in accordance with an ADVCC is prohibited development. Information on exempt clearing work or ADVCCs is available online at https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals.
Acid sulfate soils investigation	
7.	Elevation data along the alignment indicates the majority of the project occurs on land that is at or below an elevation of 5 m AHD. Vegetation in the project area (e.g. mangrove communities, samphire flats, etc.) are strongly correlated to the presence of acid sulfate soils (ASS). Large portions of the alignment are mapped as 'high probability of occurrence of ASS' under the National ASS mapping program. A prior aquaculture farm that resulted in the disturbance of large volumes of ASS occurs along the alignment (see section A6-3 (page 162) of Dear et al. (2024) for more information). Prior to any works, an acid sulfate soils (ASS) investigation must be undertaken to identify the extent and severity of any ASS on site. The investigation must be carried out as per the current 'National ASS Guidance material'. Based on the results from the ASS investigation, a site-based ASS management plan must be prepared and adhered to during construction and operational phases of the development. The ASS management plan must be consistent with the latest version of the '<i>Queensland Acid</i>

	<i>Sulfate Soil Technical Manual, Soil Management Guidelines</i> (currently version 5.1, 2024). The relevant references for ASS investigations (sampling and laboratory methods) and management plans are: • Sullivan L, Ward N, Toppler N and Lancaster G (2018a). National Acid Sulfate Soils Guidance: National acid sulfate soils sampling and identification methods manual. Department of Agriculture and Water Resources, Canberra ACT. • Ward N, Toppler N and Lancaster G (2018b). National Acid Sulfate Soils Guidance: National Acid Sulfate Soils Identification and Laboratory Methods Manual, Department of Agriculture and Water Resources, Canberra OR the Australian Standard 4969; • Dear SE, Williams KM, McElnea AE, Ahern CR, Dobos SK, Moore NG and O'Brien LE (2024). Queensland Acid Sulfate Soil Technical Manual, Soil Management Guidelines, Version 5.1. Department of Resources and Department of Environment, Science and Innovation, Queensland. If any dewatering is proposed during trenching, this must be managed in accordance with: • Shand P, Appleyard A, Simpson S, Degens B and Mosley LM (2018) National acid sulfate soils guidance: guidance for the dewatering of acid sulfate soils in shallow groundwater environments Department of Agriculture and Water Resources, Canberra, ACT. Additionally, during construction and rehabilitation activities, it is recommended that appropriate measures are implemented to monitor and manage surface water quality as ASS disturbance may lead to acid releases and mobilisation of metals detrimental to downstream environments.
Lodgement material	
8.	It is recommended that the following information is submitted when referring the application to SARA: • DA form 1. • A full response to the relevant sections of SDAP Code 1: Development in a state-controlled road environment. • A full response to the relevant sections of SDAP Code 8: Coastal development and tidal works • A full response to the relevant sections of SDAP Code 11: Removal, destruction or damage of marine plants • A full response to the relevant sections of SDAP Code 16: Native vegetation clearing • Landowner's consent. • Relevant plans as per the DA Forms guide, as detailed above.

This advice outlines aspects of the proposed development that are relevant to SARA's jurisdiction.

This advice is provided in good faith and is:

- based on the material and information provided to SARA
- current at the time of issue
- not applicable if the proposal is changed from that which formed the basis of this advice.

The advice in this letter does not constitute an approval or an endorsement that SARA supports the development proposal. Additional information may be required to allow SARA to properly assess the development proposal after a formal application has been lodged.

For further information please contact Bronwyn Bignoux, Principal Planning Officer, on 4747 3907 or via email NQSARA@dasilgp.qld.gov.au who will be pleased to assist.

Yours sincerely



Anthony Walsh
Manager Planning

enc Attachment 1 – Pre-lodgement meeting attendance record

Development details	
Proposal:	Operational Works – Water pipeline
Street address:	426 Racecourse Road, Stuart; 21 Seventh Avenue, South Townsville; 4001 Wharf Area X, South Townsville; Ron Mclean Drive, Stuart; Ron Mclean Drive
Real property description:	Lot 11 on RP703385, Lot 1 on SP313085, Lot 302 on SP223355, Lot 333 on EP806 and Lot 3 on SP251252
SARA role:	Referral agency
Assessment Manager:	Townsville City Council
Assessment criteria:	State Development Assessment Provisions (SDAP): State code 1: Development in a state-controlled road corridor State Code 8: Coastal development and tidal works State Code 11: Removal, destruction or damage of marine plants State code 16: Native vegetation clearing
Existing use:	Infrastructure corridor
Relevant site history:	N/A

Attachment 1 — Pre-lodgement meeting attendance record

Meeting attendees:

Name	Position	Organisation
Frances Mahlouzarides	Senior Environmental Planner	AECOM
Paul Lemcke		AECOM
Kalen Timbs		AECOM
Matt Schembri	Principal Major Projects	Townsville City Council
Naree Griffey	Project Manager	Townsville City Council
Kirsty Brookes	Environmental Officer	Department of Environment, Tourism, Science and Innovation
Sharon Grimes	Principal Environmental Officer	Department of Environment, Tourism, Science and Innovation
Frank D'Souza	Regional Harbour Master	Department of Transport and Main Roads (Maritime Safety)
Aidan Colahan	A/Senior Town Planner	Department of Transport and Main Roads
Magnus Kuttainen	Town Planner	Department of Transport and Main Roads
Jasmine Ballantyne	Fisheries Biologist	Department of Primary Industries
Kristie Williams	Land Resource Officer	Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development
Sarah Woodward	Natural Resource Management Officer	Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development
Isabelle Bice		Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development
Bronwyn Bignoux	Principal Planning Officer	Department of State Development, Infrastructure and Planning

Appendix B

Limited Access Gazette Notice



Queensland Government Gazette

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Queensland Government Gazette

EXTRAORDINARY

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TUESDAY 6 FEBRUARY 2018

[No. 22

NOTICE

Premier's Office
Brisbane, 6 February 2018

I notify that, acting under the provisions of the *Constitution of Queensland 2001*, I have appointed the Honourable Kate Jennifer Jones MP, Minister for Innovation and Tourism Industry Development and Minister for the Commonwealth Games to act as, and to perform all of the functions and exercise all of the powers of, Minister for Employment and Small Business and Minister for Training and Skills Development from 6 February 2018 until the Honourable Shannon Maree Fentiman MP returns to duty.

ANNASTACIA PALASZCZUK MP
PREMIER AND MINISTER FOR TRADE

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Queensland Government Gazette

NATURAL RESOURCES, MINES AND ENERGY

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FRIDAY 9 FEBRUARY 2018

[No. 23

Land Act 1994
OBJECTIONS TO PROPOSED ROAD CLOSURE
NOTICE (No 06) 2018

Short title

1. This notice may be cited as the *Objections to Proposed Road Closure Notice (No 06) 2018*.

Application for road closure [s.100 of the Act]

2. Applications have been made for the permanent closure of the roads mentioned in the Schedule.

Objections

3.(1) An objection (in writing) to a proposed road closure mentioned in the Schedule may be lodged with the Regional Service Director, Department of Natural Resources, Mines and Energy, at the regional office for the region in which the road is situated.

(2) Latest day for lodgement of objections is **22 March 2018**.

(3) Any objections received may be viewed by other parties interested in the proposed road closure under the provisions of the *Right to Information Act 2009*. If you lodge an objection, please include in your objection letter whether you would like to be consulted if this issue becomes the subject of an access request under the *Right to Information Act 2009*.

Plans

4. Inspection of the plans of the proposed road closures may be made at-

- (a) the Department of Natural Resources, Mines and Energy Office at Bundaberg, Gympie and Ipswich; and
- (b) the Local Government Office of Bundaberg Regional, South Burnett Regional, and Scenic Rim Regional;

for a particular plan in that district or that local government area.

SCHEDULE
PERMANENT CLOSURE
South Region, Bundaberg Office

1 An area of 1560 m² being part of Sandstone Street abutting the eastern boundary of Lot 222 on RP7181 (locality of Burnett Heads) and shown as road proposed to be permanently closed on Drawing 18/036. (2018/000214)

South Region, Gympie Office

2 An area of about 407 m² being part of Millards Road abutting the western boundary of Lot 15 on SP288551 (locality of Booie) and shown as road proposed to be permanently closed on Drawing 18/031. (2018/000175)

South Region, Ipswich Office

3 Areas totalling about 2.2 ha being the road separating Lot 11 on SP181843 from Lot 41 on SP254709, the road intersecting Lot 41 on SP254709 and part of Mount Walker West Road adjoining the western boundary of Lot 41 on SP254709 (locality of Rosevale)

and shown as Parts A, B and C road proposed to be permanently closed on Drawing 17/384. (2017/005724)

ENDNOTES

1. Published in the Gazette on 9 February 2018.
2. Not required to be laid before the Legislative Assembly.
3. The administering agency is the Department of Natural Resources, Mines and Energy.

Acquisition of Land Act 1967
TAKING OF EASEMENT NOTICE BY THE MINISTER
(No 02) 2018

Short title

1. This notice may be cited as the *Taking of Easement Notice by the Minister (No 02) 2018*.

Easements taken [ss.6 and 9 of the Act]

2. The easement described in Schedule 2 is taken by Moreton Bay Regional Council for drainage purposes and vests in Moreton Bay Regional Council on and from 9 February 2018.

Rights and obligations

3. That the rights and obligations conferred and imposed by the easement include the matters set out in Schedule 1.

SCHEDULE 1

1 **DEFINITIONS AND INTERPRETATION**

1.1 **Definitions**

In this Easement the following expressions shall have the meanings assigned to them below:-

- (a) Council means Moreton Bay Regional Council and its successors and assigns;
- (b) Owner means the registered owner of the land and the successors and assigns
- (c) Relevant Works

overland or underground drains, pipes, conduits and channels for the passage or conveyance of rainwater and other lawful discharges to local government drainage through, across or under the Easement together with manholes, field inlet pits and all other usual or necessary fittings and attachments as well as works for the protection and/or support of all such things;

1.2 **Interpretation**

In this Easement:-

- (a) a reference to a statute includes Orders in Council, Proclamations, Regulations, Rules, Local Laws and Ordinances made under the statute and any statute amending,

- (b) consolidating or replacing the statute;
- (c) headings have been included for ease of reference and guidance and this Easement is to be construed without reference to them;
- (d) the singular number includes the plural and vice versa;
- (e) words importing a masculine gender includes all other genders; and
- (f) words importing persons include companies and corporations and vice versa.
- 1.3 If a covenant contained in this Easement is or becomes invalid or unenforceable, the remaining covenants contained in this Easement remain in full force and effect;
- 1.4 If the Owner or Council comprise 2 or more legal entities, the covenants contained in this Easement bind each of them jointly and severally.
- 2 RIGHTS OF COUNCIL
- 2.1 The Council has the full and free right and liberty at all times, after the date of this Easement, to enter upon the Easement for the purposes of constructing and thereafter forever using and maintaining the Relevant Works as it shall from time to time think fit and in so doing, the Council by its employees, agents and other persons authorised by the Council shall have the right to:-
- (a) construct, install, extend, deepen, widen, cleanse, add to, remove, inspect, maintain and repair the Relevant Works and when and where thought fit by the Council to remove and replace the Relevant Works with new Relevant Works (whether of a similar nature to those replaced or not);
- (b) to change the size and number of any pipes which form part of the Relevant Works;
- (c) dig into, sink shafts in, and erect scaffolding upon the Easement and to open and break up the soil of the Easement or any part of the Easement including its sub-surface;
- (d) remove and dispose of spoil created as a consequence of the Council exercising its rights under this Easement;
- (e) clear and keep clear the Easement by any means or method and to cut and remove timber, trees and undergrowth from the Easement and to burn off such timber, trees and undergrowth;
- (f) construct and maintain on the Easement such access tracks, gates and appurtenant works as the Council shall consider necessary;
- (g) enter upon and remain, pass and repass on and over the Easement for all or any of the purposes aforesaid with or without vehicles, plant and equipment of any description whatsoever;
- (h) enter and exit to and from the Easement over such part or parts of the Owner's land adjoining or adjacent to the Easement as the Council shall consider most convenient or necessary for the purpose of passing between the Easement and the most convenient point of entry to or exit from the Owner's land (whether adjoining a constructed road or not);
- (i) do such other works and things through, across, in or under the Easement as are incidental to the proper exercise of the rights granted to the Council under this Easement;
- (j) use such part or parts of the Owner's land immediately adjacent to or adjoining either side of the Easement as the Council considers reasonable or necessary for the proper exercise of the rights granted to the Council under this Easement.
- 3 PROPERTY IN RELEVANT WORKS
- 3.1 The Relevant Works are and remain the property of the Council notwithstanding any actual or apparent affixing to the Easement. The Council shall be solely responsible for the operation and maintenance of the Relevant Works.
- 4 REMOVAL OF FENCING
- 4.1 To gain access to the Easement the Council may pull down or break open any fencing on or adjacent to the Easement. However, if livestock are contained within the fenced area, the Council must give reasonable notice to the Owner to enable the Owner to secure the livestock.
- 5 REINSTATEMENT OF FENCING
- 5.1 The Council must either:-
- (a) reinstate all fences (other than a fence erected in contravention of Clause 6) damaged by the Council in the exercise and performance of any of the rights and liberties granted to the Council under this Easement; or
- (b) if the fences are not reinstated, install a gate using materials and employing workmanship which is not less than the quality of the materials and workmanship in the existing fence. The gate installed pursuant to this subclause becomes the property of the owner of the fence in which the gate is installed and after installation shall be maintained by the owner.
- 6 NO STRUCTURES ON THE EASEMENT
- 6.1 The Owner shall not at any time without the express written permission of the Council (which must not be unreasonably withheld):-
- (a) erect any buildings or structures upon the Easement or any part of it;
- (b) permit the Easement or any part of it to be used in such a way as to obstruct or interfere with the Relevant Works and/or the proper and effective use of the Relevant Works by the Council;
- (c) install concrete, bitumen or other pavement or driveways on the Easement or gardens or landscaping involving concrete, brick or other permanent materials;
- (d) remove or stockpile or permit the removal or stockpiling of any soil, sand, gravel or other substance or material on the Easement or construct any roads, dam walls or other earthworks on the Easement which would in any way obstruct or interfere with the Relevant Works and/or the proper and effective use of the Relevant Works by the Council.
7. DAMAGE TO STRUCTURES
- 7.1 The Council in its sole discretion, shall determine how and in what manner the rights granted to the Council under this Easement are exercised. The Council must not wilfully damage or destroy any matter to any extent greater than is reasonably necessary in order to exercise the Council's rights under this Easement but:-
- (a) the Council is not otherwise responsible for any damage to or destruction of any matter in the course of the exercise by the Council of its rights under this Easement; and
- (b) subject to Clause 5.1, the Council is not under any obligation to reinstate or repair any matter damaged or destroyed in consequence of the exercise by the Council of its rights under this Easement and its only obligation where any such matter has been so damaged or destroyed is to leave

- the Easement in as clean and tidy state as practicable having regard to the nature of the matter which has been damaged or destroyed and the work which it has done; and
- (c) the Council is not in any event responsible for any inconvenience or disturbance to the owners or occupiers of the Easement arising out of the exercise by the Council of its rights under this Easement.
- 7.2 In this clause, the term “matter” means buildings, structures or other materials or things erected, placed, found or installed upon the Easement (whether in contravention of Clause 6 or otherwise) and trees and plants within the Easement.
8. **REMOVAL OF UNAUTHORISED STRUCTURES**
- 8.1 If a building, structure or other material or thing (in this clause called “a relevant matter”) is erected, placed, found or installed upon the Easement in contravention of Clause 6, the Council may, in addition to any other remedies and after having first given the Owner reasonable notice of its intention to invoke this clause, enter upon the Easement and remove or demolish the relevant matter and, if it does so:-
- (a) it may dispose of the relevant matter or any resultant demolition materials in such manner as it sees fit without being liable to account to the Owner therefore (except as provided in subclause (b) of this clause); and
- (b) it may recover, in any Court of competent jurisdiction, costs actually incurred by it in taking that action (including internal wage and salary costs) less any moneys actually received by it as a result of disposing of the relevant matter or any resultant demolition materials.
9. **PROTECTION OF RELEVANT WORKS**
- 9.1 The Owner will not do any act or make any omission which will jeopardise or prejudicially affect the safety or reliable working of any Relevant Works.
10. **FURTHER ASSURANCES**
- 10.1 The benefit and burden of this Easement shall pass with and bind the Easement so as to ensure to and bind all persons deriving title thereto from and under the Owner and Council respectively and the Owner, whenever required by the Council or the person or persons for the time being entitled to the benefit of this Easement, must do all such things and give all such assurances as are reasonably required for the proper and effective carrying into effect of the rights conferred under this Easement but not so as to render the Owner liable to be called upon to contribute towards the maintenance and upkeep of the Relevant Works.

SCHEDULE 2**South Region, Caboolture Office****Easement Taken**

Easement A in Lot 1 on RP208474 on SP300210 (to be registered in the Land Registry), area 1297 m², part of Title Reference 17122250.

ENDNOTES

1. Made by the Minister on 5 February 2018.
2. Published in the Gazette on 9 February 2018.
3. Not required to be laid before the Legislative Assembly.
4. The administering agency is the Department of Natural Resources, Mines and Energy.
5. File Reference - 079/0003826

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[No. 24

Transport Infrastructure Act 1994

NOTIFICATION OF DECLARATION OF A STATE-CONTROLLED ROAD AS A LIMITED ACCESS ROAD

Notice is hereby given under section 54(1) of the *Transport Infrastructure Act 1994* that the State-controlled road described in the Schedule is declared a limited access road.

Neil Scales
Director-General
Department of Transport and Main Roads

THE SCHEDULE

That on and from 9 February 2018, access to the State-controlled road as described in the schedule hereto be limited:

TOWNSVILLE PORT ROAD Townsville City Council

Commencing from its intersection with the Bruce and Flinders Highways in Stuart, to its intersection with Archer Street in South Townsville.

Length ... 7.81 kilometres (approximately)

The parts of the State-controlled road to which access is to be limited are as shown on Limited Access Plans LA 11909 to LA 11913 (inclusive), in accord with the Access Management Policy as described hereunder. Copies of these plans and policy are held in the office of the Director-General, Department of Transport and Main Roads, Brisbane and the office of the Regional Director, Department of Transport and Main Roads, Floor 5, 445 Flinders Street, Townsville.

The reason for the declaration is to achieve a high level of access control to:

- ensure that the required road functionality of this major road transport asset is achieved and preserved by maintaining the traffic speed, flow capacity and safety characteristics consistent with the function of a high mobility road,
- maintain the necessary road standards required to eliminate property and lower order road access, other than at planned long term interchanges and intersections,
- ensure that, if any access is permitted temporarily, it meets design standards, and
- provide for future enhancements of the heavy vehicle link.

Any person whose interests are affected by the declaration may—

- (i) under section 485 of the *Transport Infrastructure Act 1994* —
ask for the decision to be reviewed and appeal against the reviewed decision; and
- (ii) Under the *Transport Planning and Coordination Act 1994*, part 5 —
ask for the decision or the reviewed decision to be stayed.

Notice is hereby given that there is a policy in place in relation to the application of section 62 of the *Transport Infrastructure Act 1994* to manage access between Townsville Port Road described in The Schedule and adjacent land. This policy is outlined below.

POLICY FOR MANAGEMENT OF ACCESS ALONG THE TOWNSVILLE PORT ROAD

1.0 Background and Purpose of Policy

Pursuant to the *Transport Infrastructure Act 1994* the Department of Transport and Main Roads (TMR) is responsible for the design, construction, maintenance and management of the State-controlled road network in a manner reflecting the long term function of the road, safety and a desirable level of service.

Access management is critical to the ongoing operational effectiveness of arterial roads. TMR has legislative powers to control access between any State-controlled roads and adjacent land.

Pursuant to section 54 of the *Transport Infrastructure Act 1994*, this policy has been developed in respect to the application of section 62 of the *Transport Infrastructure Act 1994* for access between the Townsville Port Road, a limited access road, the local road network and individual properties.

The policy sets out the matters the Chief Executive will consider, either on the initiative of the Chief Executive, or in response to an application from a person, when deciding whether or not to permit access to the road under Section 62 of the *Transport Infrastructure Act 1994*.

This policy will:

- i. inform stakeholders of the desirable level of access to the Townsville Port Road; and
- ii. set out the objectives and rationale for the management of access.

The purpose of declaring the Townsville Port Road, a limited access road is to enable TMR to achieve a high level of access control to:

- i. ensure that the required road functionality of this major road transport asset is achieved and preserved by maintaining the traffic speed, flow capacity and safety characteristics consistent with the function of a high mobility road;
- ii. maintain the necessary road standards required to eliminate property and lower order road access, other than at planned long term interchanges and intersections;
- iii. ensure that, if any access is permitted temporarily, it meets design standards; and
- iv. provide for future enhancement of the heavy vehicle link.

2.0 Objectives

The Townsville Port Road forms part of the Mt Isa to Townsville section of the National road network. It provides a direct link for Queensland's northwest mineral province to the Port of Townsville. It has been designed to cater for four lanes in the future and will provide limited intersections at locations to be defined to cater for future development of the Townsville State Development Area.

The Townsville Port Road is of high importance to Townsville's economy and network efficiency and is designed and intended to support multi combination vehicles.

The Townsville Port Road will have a general speed limit of 100km/h and 60km/h to 80km/h within defined sections as assessed by TMR. To maintain the desired functionality and standard of the Townsville Port Road, the control and rationalisation of access to adjacent properties is required.

3.0 Access Management

3.1 General

Plan No's LA 11909 to LA 11913 show the areas of the Townsville Port Road that are subject to limitation of access. Within this area access to the Townsville Port Road is only permitted at the locations shown on the above plans for the existing land uses on the adjacent land, and in accordance with any current Section 62 access approvals.

If the accesses shown on these plans are not currently constructed or in use then the owner of the property is required to seek access construction approval from TMR prior to undertaking works or commencing use. It is an offence to construct an access or alter an access to any road in the limited access area without the approval of TMR.

For all accesses shown on these plans, it is not anticipated at this time that there will be any TMR initiatives that will alter these existing accesses. However, should the operation of any access prove to cause unacceptable interference with traffic safety or efficiency, a Section 62 decision about the access may be made. This decision may, for example, prohibit the access, alter its form or apply a condition to its use (see Section 62 of the *Transport Infrastructure Act 1994*).

Triggers for reviewing the management of access may include the following:

- i. road infrastructure planning projects;
- ii. changes in adjacent land use that impact on road safety and efficiency;
- iii. changes in traffic impacting on ; and

Planning will be updated from time to time and particular access locations may be varied.

3.2 Principles

Access will be managed in accordance with the following principles:

- i. TMR will rationalise and reduce the number of accesses to the State-controlled road by restricting access to a side road and/or local road network. As an interim measure adjacent properties with access to a State-controlled road may, have their accesses combined wherever possible.
- ii. The design and location of any access or intersection will be in accordance with TMR “Road Planning and Design Manual”.

3.3 Existing Access

TMR recognises the expectations of persons owning property with historical access to State-controlled roads.

All existing accesses other than shown on the Limited Access Road plans are not historical or approved.

For this reason and except as provided below, existing lawful State-controlled road access locations will be permitted to continue as long as the manner of operation of the access or intensity of use remains unchanged. Changes to the use of an access will require written approval under the *Transport Infrastructure Act 1994*.

The provisions of the *Transport Infrastructure Act 1994* allow the TMR Chief Executive to extinguish an access or to impose or change the conditions for an access for reasons specified in the *Act*. The reasons will relate to the safety and capacity of the road, network planning, or future works. Conditions that may be imposed or varied are described in the *Act*. Compensation to the landowner may be payable under these circumstances when a decision is made on the Chief Executive’s initiative.

3.4 Changes in Access

TMR will exercise its powers under the *Transport Infrastructure Act 1994* to maintain the integrity and operation of the Townsville Port Road and its associated intersections and accesses to the appropriate standard in accordance with the outcomes and objectives outlined in the previous sections of this policy.

An application for access under the *Transport Infrastructure Act 1994* may be approved or refused.

Approval of a permit for access may be conditional upon the proponent or owner of the land fulfilling requirements. The conditions may include but are not limited to:

- i. the access to be designed in accordance with the TMR, “Road Planning and Design Manual”;
- ii. all works and construction to be to the satisfaction of TMR Chief Executive;
- iii. the allowable type and number of vehicles using the road access;
- iv. the allowable times of the day when the access may be used;
- v. the allowable use of the access by pedestrians; and
- vi. the access design and works including future maintenance be at the expense of the developer or owner of the land.

Where long term access is not desirable, temporary access may be permitted if arrangements are made for permanent access to another road and where the temporary access will not compromise the safety and efficiency of the road.

If a temporary or long term road access cannot be designed and sited in accordance with the TMR, “Road Planning and Design Manual”, the access will not be permitted.

When, in response to a development application involving a material change of use or a reconfiguration of land, an access location is not permitted or permitted with conditions, the owners/occupiers are not entitled to compensation for any diminution in value of the property that may result from the decision.

4.0 On the Chief Executive's initiative

It is not anticipated that any further access will be permitted to the limited access area on the initiative of TMR.

5.0 Approval of Policy

I, Brett Whitbread, acting District Director (Northern), as delegate of the chief executive, Department of Transport and Main Roads, in accordance with Section 54 of the *Transport Infrastructure Act 1994*, state that this policy, shall apply to those areas of State-controlled road defined by the limited access plans referred to in this policy.

Signed: Brett Whitbread Date: 12 October 2017

ACTING DISTRICT DIRECTOR, NORTHERN REGION
DELEGATE OF THE DIRECTOR-GENERAL

This policy may in future be amended at any time without a Gazette notice if:

- The amendment merely changes or repeals specific provision for one or more particular properties; and
- The Owner or occupier of each property has been given written notice of the amendment.

Any person whose interests are affected by this Access Policy (or by a change created by a new Access Policy that replaces this Access Policy) may:

- Under section 485 of the TIA, ask for the original decision to be reviewed by the Chief Executive;
- Under part 5, division 2 of the TPCA, apply for the original decision to be stayed; and
- Under part 5, division 3 of the TPCA, appeal against the Chief Executive's decision on the review of the original decision, to

ENDNOTES

1. Published in the Gazette on 9 February 2018.
2. Not required to be laid before the Legislative Assembly.
3. The administering agency is the Department of Transport and Main Roads.



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LOCAL GOVERNMENT

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[No. 25

Planning Act 2016

PUBLIC NOTICE COOK SHIRE COUNCIL PLANNING

Public notice of adoption of amendment to the Far North Queensland Regional Organisation of Councils (FNQROC) Regional Development Manual Planning Scheme Policy.

Notice is given under the *Planning Act 2016* that on December 12 2017, Cook Shire Council resolved to adopt an amendment to the Far North Queensland Regional Organisation of Councils (FNQROC) Regional Development Manual Planning Scheme Policy.

The purpose and general effect of the amendment to the Far North Queensland Regional Organisation of Councils (FNQROC) Regional Development Manual Planning Scheme Policy is to reflect version 03.17 (Issue 7) of the Development Manual within the policy.

The amendments will commence on Monday, February 12 2018.

A copy of the amendment will be available at Cook Shire Council's customer service centre at 10 Furneaux Street, Cooktown or can be viewed and downloaded from Council's website at www.cook.qld.gov.au and the full manual can be found at the FNQROC website at www.fnqroc.qld.gov.au

Ray Burton
Chief Executive Officer
Cook Shire Council

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GENERAL

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FRIDAY 9 FEBRUARY 2018

[No. 26

Department of Justice and Attorney-General
Brisbane, 7 February 2018

It is notified that, pursuant to Section 21(5) of the *Justices of the Peace and Commissioners for Declarations Act 1991*, each of the persons whose name appears in the schedule hereunder has been appointed and is registered as a Justice of the Peace (Qualified).

Damien Mealey
Registrar and Manager
Justices of the Peace Branch

THE SCHEDULE

Frederick David MAYO
Kerri Joy VAN VEENENDAAL

NOTICE

Premier's Office
Brisbane, 8 February 2018

The Governor in Council has approved the appointment of
MICHAEL JAMES KIRTON as a Clerk of the Executive Council.

ANNASTACIA PALASZCZUK MP
PREMIER AND MINISTER FOR TRADE

NOTIFICATION OF THE FILLING OF ADVERTISED VACANCIES

The following appointments to various positions have been made in accordance with the provisions of the *Public Service Act 2008*.

NOTIFICATION OF THE FILLING OF APPOINTMENTS PART I

A public service officer, tenured general employee or a tenured public sector employee of a public sector unit listed in schedule 1 of *Public Service Regulation 2008* who wishes to appeal against a promotion listed in Part 1 must give a written Appeal Notice within 21 days following gazettal of the promotion to –

Industrial Registrar
Industrial Registry
Email: qirc.registry@qirc.qld.gov.au
Web Address: www.qirc.qld.gov.au for Appeal Notice

For general enquiries prior to lodgement of an appeal:
Contact Industrial Registry on 1300 592 987 or email QIRC.registry@qirc.qld.gov.au

APPOINTMENT PART I – APPEALABLE

Reference Number	Vacancy	Date of Appointment	Name of Appointee	Previous Position and Classification (Unless otherwise indicated)
DEPARTMENT OF COMMUNITIES, CHILD SAFETY AND DISABILITY SERVICES				
* 256892/17	Child Safety Officer, Child Safety, Region – Central and Far North Queensland, Cairns (PO3)	Date of duty	Harris, Shari	Child Safety Officer, Child Safety, Region – Far North Queensland, Edmonton (PO2)
^ 259970/17	Senior Child Safety Support Officer, Caloundra and Maroochydore Child Safety Service Centres, Child Safety – Sunshine Coast, Region – North Coast, Maroochydore (AO4)	Date of duty	DeGoey, Martha	Child Safety Support Officer, Maroochydore Child Safety Service Centres, Child Safety – Sunshine Coast, Region – North Coast, Maroochydore (AO3)
* 256892/17	Child Safety Officer, Child Safety, Region – Central and Far North Queensland, Rockhampton (PO3)	Date of duty	Bond, Melissa	Child Safety Officer, Rockhampton Child Safety Service Centre, Child Safety, Region – Central, Rockhampton (PO2)
* 256892/17	Child Safety Officer, Child Safety, Region – Central and Far North Queensland, Maryborough (PO3)	Date of duty	Smith, Ashleigh Kaye	Child Safety Officer, Child Safety, Region – Central, Maryborough (PO2)
* 256892/17	Child Safety Officer, Child Safety, Region – Central and Far North Queensland, Maryborough (PO3)	Date of duty	Johnson, Julie Patricia	Child Safety Officer, Child Safety, Region – Central, Maryborough (PO2)
* 256892/17	Child Safety Officer, Child Safety, Region – Central and Far North Queensland, Emerald (PO3)	Date of duty	Langkilde, Grant	Child Safety Officer, Emerald Child Safety Service Centre, Child Safety, Region – Central, Emerald (PO2)

* Advertised as Various Locations.

^ Advertised as Caloundra and Maroochydore Child Safety Service Centres.

DEPARTMENT OF EDUCATION

CO 262714/17	Senior Advisor Occupational Therapy, Regional Services, North Coast Region, State Schools Division, Moreton Bay (PO5)	05-02-2018	Lamprecht, Donna	Occupational Therapist, Bundaberg Special School, North Coast Region, State Schools Division, Bundaberg (PO3)
SER 262318/17	Head of Department – Languages, Cleveland District State High School, South East Region (HOD)	05-02-2018	Venamore, Kylie Anne	Teacher, Cleveland District State High School, South East Region (TCH)

APPOINTMENT PART I – APPEALABLE

Reference Number	Vacancy	Date of Appointment	Name of Appointee	Previous Position and Classification (Unless otherwise indicated)
SER 262174/17	Guidance Officer, Cleveland District State High School, South East Region (GO)	05-02-2018	Schultz, Annie Maree	Teacher, Alexandra Hills State High School, South East Region (TCH)

DEPARTMENT OF ENVIRONMENT AND HERITAGE PROTECTION

* 245401/17	Senior Intelligence Analyst, Strategic Compliance, Petroleum Gas and Compliance, Environmental Services and Regulation, Brisbane (AO6)	Date of duty	Yabsley, Rebecca	Intelligence Analyst, Strategic Compliance Intelligence and Investigation, Strategy Support and Compliance, Environmental Services and Regulation, Brisbane (AO5)
^ 261569/17	Project Officer, Assessment, Strategic Compliance and Northern Operations, Conservation and Biodiversity Operations, Conservation and Sustainability Services, Garbutt (AO4)	Date of duty	Mastromonaco, Stephen	Wildlife Officer, Assessment, Strategic Compliance and Northern Operations, Conservation and Biodiversity Operations, Conservation and Sustainability Services, Garbutt (OO3)
261569/17	Project Officer, Assessment, Strategic Compliance and Northern Operations, Conservation and Biodiversity Operations, Conservation and Sustainability Services, Cairns (AO4)	Date of duty	Beri, Paul	Wildlife Officer, Assessment, Strategic Compliance and Northern Operations, Conservation and Biodiversity Operations, Conservation and Sustainability Services, Garbutt (OO5)

* Advertised as Multiple Locations.

^ Advertised as Cairns and Townsville.

DEPARTMENT OF HOUSING AND PUBLIC WORKS

244906/17	Manager, Far North Queensland Region, Service Delivery, Housing and Homelessness Services, Cairns (AO8)	Date of duty	Poole, Timothy	Program Officer, Asset Management and Information, Capital and Assets, Strategy Policy and Programs, Housing and Homeless Services, Cairns (AO5)
263584/17	Client Service Manager, North Queensland Region, Service Delivery, Housing and Homelessness Services, Mackay (AO5)	Date of duty	Tatow, Kristy	Senior Housing Officer, North Queensland Region, Service Delivery, Housing and Homelessness Services, Mackay (AO4)
256633/17	Client and Program Manager, Far North Queensland Region, Northern Queensland Operations, Building and Asset Services, Cairns (AO8)	Date of duty	Wardle, Robert	Delivery Manager, Building and Asset Services, Cairns (AO7)

DEPARTMENT OF JUSTICE AND ATTORNEY-GENERAL

254099/17	Principal (Operational) Practice Officer, Practice (Intensive Support), Youth Justice Practice Program and Design, Youth Justice, Brisbane (AO7)	Date of duty	Reader, Aleisha	Senior Case Manager, North Coast Region, Probation and Parole, Statewide Operations, Queensland Corrective Services, Caboolture (PO3)
255153/17	Compliance Officer, Complaint and Program Coordination, Office of Fair Trading, Liquor, Gaming and Fair Trading, Brisbane (AO4)	Date of duty	McManus, Cassandra	Assistant Compliance Officer, Complaint and Program Coordination, Office of Fair Trading, Liquor, Gaming and Fair Trading, Brisbane (AO3)

APPOINTMENT PART I – APPEALABLE

Reference Number	Vacancy	Date of Appointment	Name of Appointee	Previous Position and Classification (Unless otherwise indicated)
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DEPARTMENT OF NATURAL RESOURCES AND MINES

258598/17	Project Officer, Client Management, Land Systems and Spatial Information Access, Land and Spatial Information, Natural Resources, Woolloongabba (AO4)	Date of duty	Rapole, Jayasree	Information Officer, Land and Spatial System Support, Land System and Spatial Information Access, Land and Spatial Information, Natural Resources, Woolloongabba (AO3)
259725/17	Land Administration Officer, Land Services, North Region, Natural Resources, Townsville (AO3)	Date of duty	Dureau-Power, Anne	Administrative Officer, Land Services, North Region, Natural Resources, Townsville (AO2)

PUBLIC SAFETY BUSINESS AGENCY

248799/17	Senior Systems Support Officer, IT Support, IT Operations, Frontline and Digital Services, Kedron (AO6)	Date of duty	Smith, Crystal	Systems Support Officer, IT Support, IT Operations, Frontline and Digital Services, Brisbane (AO5)
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QUEENSLAND HEALTH

258200/17	Health and Safety Advisor, Support, Metro South Local Ambulance Service Network, Queensland Ambulance Service, Spring Hill (AO5)	Date of duty	Finnie, Laura	Administration Officer, Support, Metro North Local Ambulance Service Network, Queensland Ambulance Service, Spring Hill (AO2)
* 258517/17	Communications Support Officer (Continuous Quality Improvement), State Local Ambulance Service Network Operations, Head Office, Queensland Ambulance Service, Kedron Park (AS41)	Date of duty	O'Toole, Kadi	Emergency Medical Dispatcher, State Operations Centre, Local Ambulance Service Network, Queensland Ambulance Service, Kedron Park (AC11)
* 258517/17	Communications Support Officer (Continuous Quality Improvement), State Local Ambulance Service Network Operations, Head Office, Queensland Ambulance Service, Kedron Park (AS41)	Date of duty	Austin, Catherine	Emergency Medical Dispatcher, State Operations Centre, Local Ambulance Service Network, Queensland Ambulance Service, Spring Hill (AC11)

* Advertised as various classifications.

QUEENSLAND POLICE SERVICE

257143/17	Team Leader, Policelink and Programs, Community Contact Command, Specialist Operations, Zillmere, Brisbane (AO5)	Date of duty	Brisbane, Craig Alan	Client Service Officer, Policelink and Programs, Community Contact Command, Specialist Operations, Brisbane (AO3)
259554/17	Public Affairs Officer, Media and Public Affairs, Community Contact Command, Specialist Operations, Brisbane (AO5)	Date of duty	Eiser, Heidi Margaret	Media and Public Affairs Officer, Community Contact Command, Specialist Operations, Brisbane (AO4)
253787/17	Security Operations Officer, Protective Services, Operations Support Command, Specialist Operations, Queensland Police Service, Brisbane (GS005)	Date of duty	Hansen, Mitchell	Senior Protective Security Officer, Protective Services, Operations Support Command, Specialist Operations, Queensland Police Service, Brisbane (GS003)

APPOINTMENT PART I – APPEALABLE

Reference Number	Vacancy	Date of Appointment	Name of Appointee	Previous Position and Classification (Unless otherwise indicated)
QUEENSLAND TREASURY				
262041/17	Manager, Information Management, Corporate Applications, Performance and Governance, Operations and Change, Brisbane (AO8)	Date of duty	Carter, Barbara	Principal Information Management Consultant, Information Management, Corporate Applications, Performance and Governance, Operations and Change, Brisbane (AO7)
260395/17	Assistant Commercial Analyst, Property Projects, Commercial Advisory and Projects, Commercial Group, Brisbane (AO4)	Date of duty	Yeo, Hui Zhen Kathleen	Graduate, Northern Australia Infrastructure Fund, Investment Policy and Attraction, Agency Performance and Investment, Brisbane (AO3)
257835/17	Senior Project Officer, Office of the Commissioner – Office of State Revenue, Office of State Revenue, Brisbane (AO6)	Date of duty	McKinlay, Nina	Executive Officer, Office of the Commissioner – Office of State Revenue, Office of State Revenue, Brisbane (AO5)
DEPARTMENT OF TOURISM, MAJOR EVENTS, SMALL BUSINESS AND THE COMMONWEALTH GAMES				
261665/17	Project Officer (Procurement), Business Service and Market Insights, Office of Small Business, Brisbane (AO4)	Date of duty	Feehan, Terri Anne	Administration Officer, Policy and Industry Engagement, Tourism, Brisbane (AO3)
DEPARTMENT OF TRANSPORT AND MAIN ROADS				
253356/17	Principal Advisor (Contracts), Passenger Transport Contracts and Services, Passenger Transport Services, TransLink, Brisbane (AO7)	Date of duty	Pekaj, Katie	Senior Advisor (Contracts), South East Queensland, Passenger Transport Contracts, Passenger Transport Services, TransLink, Brisbane (AO6)
260121/17	Senior Systems Administrator, Technology, Information Technology, Corporate, Carseldine (AO6)	Date of duty	Edworthy, David	Systems Administrator, Core Technology Services, Infrastructure and Cloud Management, Information Technology, Corporate, Carseldine (AO5)
259171/17	Technical Services Manager, South Coast Region, Program Delivery and Operations, Infrastructure Management and Delivery, Nerang (AO8)	Date of duty	Ebbstein, Robert	Principal Designer, Technical Services, South Coast Region, Program Delivery and Operations, Infrastructure Management and Delivery, Southport (PO5)
261513/17	Senior Analyst, Financial Performance and Systems, Finance and Procurement, Corporate, Brisbane (AO6)	Date of duty	Myles, Jessica	Senior Finance Officer, Systems, Financial Performance and Systems, Finance and Procurement, Corporate, Brisbane (AO5)
259883/17	Application Support Advisor, Maritime Services, Maritime Safety Queensland, Customer Services, Safety and Regulation, Brisbane (AO5)	Date of duty	Willmington, Deborah	Business Officer, Vessel Traffic Management, Maritime Services, Maritime Safety Queensland, Customer Services, Safety and Regulation, Brisbane (AO4)

APPOINTMENT PART I – APPEALABLE

Reference Number	Vacancy	Date of Appointment	Name of Appointee	Previous Position and Classification (Unless otherwise indicated)
257795/17	Policy Advisor, Transport System Management, Transport Strategy and Planning, Policy, Planning and Investment, Brisbane (AO5)	Date of duty	Ireland, Shannon	Environmental Officer, Technical Services, North Coast and Wide Bay/Burnett Region, Program Delivery and Operations, Infrastructure Management and Delivery, Bundaberg (PO3)
262373/17	Senior Designer (Civil), North Coast and Wide Bay/Burnett Region, Program Delivery and Operations, Infrastructure Management and Delivery, Bundaberg (PO4)	Date of duty	Riemer, Darryl	Designer (Civil), Technical Services, North Coast and Wide Bay/Burnett Region, Program Delivery and Operations, Infrastructure Management and Delivery, Bundaberg (PO3)

NOTIFICATION OF THE FILLING OF APPOINTMENTS PART II

Appointments have been approved to the undermentioned vacancies.
Appeals do not lie against these appointments.

APPOINTMENTS PART II – NON-APPEALABLE

Reference Number	Vacancy	Date of Appointment	Name of Appointee
DEPARTMENT OF AGRICULTURE AND FISHERIES			
257615/17	Director Strategy and Coordination, Strategy, Coordination and Skills, Strategic Policy and Planning, Agriculture, Brisbane (SO)	Date of duty	Coyne, Kym
DEPARTMENT OF NATURAL RESOURCES AND MINES			
255694/17	Director, Strategic Policy, Policy Division, Brisbane (SO)	Date of duty	Harch, Susan
DEPARTMENT OF SCIENCE, INFORMATION TECHNOLOGY AND INNOVATION			
257087/17	Director Strategy and Planning, Strategy and Planning – Customers, Smart Service Queensland, Digital Productivity and Services, Brisbane (SO)	Date of duty	Ireland, Julie
DEPARTMENT OF TRANSPORT AND MAIN ROADS			
255712/17	Director, Facilities and Accommodation Solutions, Finance and Procurement, Corporate, Brisbane (SO)	Date of duty	Lee-Steere, David
256570/17	Program Director (Infrastructure Delivery), Program Management and Delivery, Program Delivery and Operations, Infrastructure Management and Delivery, Brisbane (SO)	Date of duty	Hoffman, Lucinda

GOVERNMENT AND PUBLIC NOTICES IN THE GAZETTES AS FROM 1 JULY 2013 INCLUDES 2.4% CPI INCREASE

	New Price	GST	Total
EXTRAORDINARY GAZETTE - FULL PAGE TEXT			
Formatted electronic files or E-mail (check for compatibility) per page	\$ 227.77	\$ 22.78	\$ 250.55
PROFESSIONAL REGISTER AND LISTS GAZETTES			
Formatted electronic files or E-mail (check for compatibility) 0-50 pages	\$ 135.52	\$ 13.55	\$ 149.07
Formatted electronic files or E-mail (check for compatibility) 51+ pages	\$ 115.42	\$ 11.54	\$ 126.96
NATURAL RESOURCES AND MINES GAZETTE AND TRANSPORT AND MAIN ROADS GAZETTE			
Formatted electronic files or E-mail (check for compatibility) per page	\$ 143.79	\$ 14.38	\$ 158.17
LOCAL GOVERNMENT GAZETTE			
Formatted electronic files or E-mail (must be compatible) Full page text	\$ 227.77	\$ 22.78	\$ 250.55
Formatted electronic files or E-mail (that require formatting to make compatible) Full page text	\$ 264.06	\$ 26.41	\$ 290.47
Single column, all copy to set	\$ 2.42	\$ 0.24	\$ 2.66
Double column, all to set	\$ 4.90	\$ 0.49	\$ 5.39
Single column, formatted electronic files or E-mail (check for compatibility)	\$ 0.88	\$ 0.09	\$ 0.97
Double column, formatted electronic files or E-mail (check for compatibility)	\$ 1.78	\$ 0.18	\$ 1.96
VACANCIES GAZETTE IS NO LONGER PUBLISHED - APPOINTMENT NOTICES NOW APPEAR WITHIN THE GENERAL GAZETTE			
GENERAL GAZETTE - FULL PAGE TEXT			
Formatted electronic files or E-mail (must be compatible)	\$ 227.77	\$ 22.78	\$ 250.55
Formatted electronic files or E-mail (that require formatting to make compatible)	\$ 264.06	\$ 26.41	\$ 290.47
GENERAL GAZETTE - PER MM TEXT			
Single column, all copy to set	\$ 2.42	\$ 0.24	\$ 2.66
Double column, all to set	\$ 4.90	\$ 0.49	\$ 5.39
Single column, formatted electronic files or E-mail (check for compatibility)	\$ 0.88	\$ 0.09	\$ 0.97
Double column, formatted electronic files or E-mail (check for compatibility)	\$ 1.78	\$ 0.18	\$ 1.96
GENERAL GAZETTE - APPOINTMENT NOTICES PART I (APPEALABLE) AND PART II (NON-APPEALABLE)			
APPOINTMENTS - PART I & PART II			
2 lines	\$ 44.28	\$ 4.43	\$ 48.71
3 lines	\$ 61.99	\$ 6.20	\$ 68.19
4 lines	\$ 79.70	\$ 7.97	\$ 87.67
5 lines	\$ 92.98	\$ 9.30	\$ 102.28
6 lines	\$ 110.69	\$ 11.07	\$ 121.76
7 lines	\$ 123.97	\$ 12.40	\$ 136.37
8 lines	\$ 137.25	\$ 13.73	\$ 150.98
9 lines	\$ 150.54	\$ 15.05	\$ 165.59
SUBMISSION DEADLINES:			
DEPARTMENTAL APPOINTMENT SUBMISSIONS - PART I & PART II	before 12 noon on Tuesday		
GENERAL GAZETTE SUBMISSIONS	before 12 noon on Wednesday		
LOCAL GOVERNMENT GAZETTE SUBMISSIONS	before 12 noon on Wednesday		
EXTRAORDINARY GAZETTE SUBMISSIONS	any day of the week		
For more information regarding Gazette notices, please email: gazette@hpw.qld.gov.au			
Prices are GST inclusive unless otherwise stated.			



ELECTORAL COMMISSION OF QUEENSLAND

In accordance with Section 63 of the *Electoral Act 1992*, I have ascertained and set out in Schedule A hereunder, as at the date indicated, the number of electors enrolled in each Electoral District for the State of Queensland and have determined the average district enrolment and the extent to which the number of electors enrolled in each district differs from the average enrolment.

Schedule B indicates the adjusted enrolment for Electoral Districts of 100,000 square kilometres or more in area, being the sum of the number of enrolled electors and the additional large district number as specified in Section 45 of the Act, and the extent to which those districts differ from the average district enrolment in Schedule A.

Walter van der Merwe
Electoral Commissioner

SCHEDULE A

Electoral District	Enrolment as at 31/01/2018	% Deviation from Average District Enrolment
1 ALGESTER	33,034	-3.38%
2 ASPLEY	36,315	6.21%
3 BANCROFT	33,485	-2.07%
4 BARRON RIVER	34,902	2.08%
5 BONNEY	32,445	-5.11%
6 BROADWATER	33,011	-3.45%
7 BUDERIM	34,225	0.10%
8 BULIMBA	37,096	8.50%
9 BUNDABERG	34,332	0.41%
10 BUNDAMBA	33,199	-2.90%
11 BURDEKIN	33,789	-1.18%
12 BURLEIGH	34,116	-0.22%
13 BURNETT	33,657	-1.56%
14 CAIRNS	35,788	4.67%
15 CALLIDE	33,059	-3.31%
16 CALOUNDRA	33,808	-1.12%
17 CAPALABA	35,458	3.70%
18 CHATSWORTH	34,295	0.30%
19 CLAYFIELD	37,751	10.41%
20 CONDAMINE	36,144	5.71%
21 COOK*	32,120	-6.06%
22 COOMERA	36,527	6.83%
23 COOPER	36,286	6.13%
24 CURRUMBIN	33,817	-1.09%
25 EVERTON	36,347	6.30%
26 FERNY GROVE	34,936	2.18%
27 GAVEN	32,097	-6.13%
28 GLADSTONE	31,709	-7.26%
29 GLASS HOUSE	32,874	-3.85%
30 GREENSLOPES	35,242	3.07%
31 GREGORY*	24,563	-28.16%
32 GYMPIE	36,603	7.05%
33 HERVEY BAY	37,120	8.57%
34 HILL	36,484	6.71%
35 HINCHINBROOK	32,959	-3.60%
36 INALA	33,586	-1.77%
37 IPSWICH	31,340	-8.34%
38 IPSWICH WEST	33,439	-2.20%
39 JORDAN	33,040	-3.37%
40 KAWANA	34,321	0.38%
41 KEPPEL	34,828	1.86%
42 KURWONGBAH	34,263	0.21%
43 LOCKYER	33,250	-2.75%
44 LOGAN	32,619	-4.60%
45 LYTTON	35,807	4.73%
46 MACALISTER	34,235	0.13%
47 MCCONNEL	34,357	0.48%

Electoral District	Enrolment as at 31/01/2018	% Deviation from Average District Enrolment
48 MACKAY	36,737	7.45%
49 MAIWAR	36,813	7.67%
50 MANSFIELD	33,243	-2.77%
51 MAROOCHYDORE	33,668	-1.53%
52 MARYBOROUGH	35,695	4.40%
53 MERMAID BEACH	33,746	-1.30%
54 MILLER	34,043	-0.43%
55 MIRANI	32,330	-5.44%
56 MOGGILL	34,526	0.98%
57 MORAYFIELD	34,000	-0.56%
58 MOUNT OMMANEY	34,819	1.84%
59 MUDGEERABA	35,646	4.25%
60 MULGRAVE	33,725	-1.36%
61 MUNDINGBURRA	33,031	-3.39%
62 MURRUMBA	36,473	6.67%
63 NANANGO	35,861	4.88%
64 NICKLIN	32,328	-5.45%
65 NINDERRY	35,133	2.75%
66 NOOSA	35,271	3.16%
67 NUDGEES	36,004	5.30%
68 OODGEROO	31,746	-7.15%
69 PINE RIVERS	36,546	6.89%
70 PUMICESTONE	34,517	0.95%
71 REDCLIFFE	36,124	5.65%
72 REDLANDS	34,204	0.04%
73 ROCKHAMPTON	35,200	2.95%
74 SANDGATE	35,645	4.25%
75 SCENIC RIM	35,890	4.97%
76 SOUTH BRISBANE	33,889	-0.88%
77 SOUTHERN DOWNS	35,283	3.19%
78 SOUTHPORT	33,219	-2.84%
79 SPRINGWOOD	34,802	1.79%
80 STAFFORD	36,993	8.19%
81 STRETTON	32,940	-3.66%
82 SURFERS PARADISE	32,604	-4.64%
83 THEODORE	32,635	-4.55%
84 THURINGOWA	34,743	1.61%
85 TOOHEY	32,913	-3.74%
86 TOOWOOMBA NORTH	36,049	5.43%
87 TOOWOOMBA SOUTH	36,730	7.42%
88 TOWNSVILLE	34,211	0.06%
89 TRAEGER*	25,691	-24.86%
90 WARREGO*	29,281	-14.36%
91 WATERFORD	32,268	-5.63%
92 WHITSUNDAY	32,375	-5.31%
93 WOODRIDGE	35,527	3.91%
STATE-TOTAL	3,179,795	
AVERAGE ENROLMENT	34,191	

*Electoral Districts of 100,000 sq kms or more in area

**SCHEDULE B
ENROLMENT FOR
ELECTORAL DISTRICTS OF 100,000 SQUARE KILOMETRES OR MORE IN AREA**

District Name	Area (Sq Kms)	2% of Area	Actual Enrolment as at 31/01/2018	Weighted Enrolment	% Deviation from Average District
COOK	196,805.00	3,936	32,120	36,056	5.45%
GREGORY	327,212.00	6,544	24,563	31,107	-9.02%
TRAEGER	570,502.00	11,410	25,691	37,101	8.51%
WARREGO	279,546.00	5,591	29,281	34,872	1.99%



*Constitution of Queensland 2001***ADMINISTRATIVE ARRANGEMENTS AMENDMENT ORDER (No. 1)
2018****TABLE OF PROVISIONS**

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Short Title

1. This order in council may be cited as the *Administrative Arrangements Amendment Order (No. 1) 2018*.

Amended Order

2. The *Administrative Arrangements Order (No. 4) 2017* is amended as set out in this order.

Amendment of Schedule

- 3.(1) Schedule (opposite the title “Premier and Minister for Trade”) –

- (a) under the heading “*Principal Ministerial Responsibilities*” immediately following the words “Protocol and Intergovernment Relations”

omit

“One-Stop Shop Strategy and Implementation Office”

- (b) under the heading “*Principal Ministerial Responsibilities*” in line with the “Responsible Head” “Queensland Government Chief Information Officer”

omit

“Government Information and Communication Technology Policy and Planning including –

- Cross-jurisdictional Liaison and Coordination
- Cyber Security Policy and Coordination
- ICT Enabled Transformation
- ICT Governance, Accountability and Transparency
- ICT Investment Assurance
- ICT Policy and Standards (including Shared Services)
- ICT Workforce Development
- Information Systems and Information, Communication and Technology Strategy
- Profiling of Government’s ICT
- Queensland Government Enterprise Architecture”

- 3.(2) Schedule (opposite the title “Minister for Innovation and Tourism Industry Development and Minister for the Commonwealth Games”) –

- (a) under the heading “*Principal Ministerial Responsibilities*” in line with the “Administrative Unit” “Department of the Premier and Cabinet” immediately preceding the words “Marketing and Promotion of International Education and Training”

omit

“Digital Economy
Facilitation of Access to Government Owned Optical Fibre Networks”

- (b) under the heading “*Principal Ministerial Responsibilities*” immediately following the words “Marketing and Promotion of International Education and Training”

insert

“Digital Economy
Facilitation of Access to Government Owned Optical Fibre Networks”

- (c) under the heading “Administrative Unit” following the words “Department of the Premier and Cabinet”, and in line with the insertion at paragraph 3.(2)(b)

insert

“Department of Housing and Public Works”

- (d) under the heading “Responsible Head” following the words “Director-General”, and in line with the insertion at paragraph 3.(2)(b)

insert

“Director-General”

- 3.(3) Schedule (opposite the title “Minister for Housing and Public Works, Minister for Digital Technology and Minister for Sport”) –

- (a) under the heading “*Principal Ministerial Responsibilities*” immediately following the words “ICT Modernisation”

insert

“One-Stop Shop Strategy and Implementation Office”

- (b) under the heading “*Principal Ministerial Responsibilities*” immediately following the words “Sport and Recreation”

insert

“Government Information and Communication Technology Policy and Planning including –

- Cross-jurisdictional Liaison and Coordination
- Cyber Security Policy and Coordination
- ICT Enabled Transformation
- ICT Governance, Accountability and Transparency
- ICT Investment Assurance
- ICT Policy and Standards (including Shared Services)
- ICT Workforce Development
- Information Systems and Information, Communication and Technology Strategy
- Profiling of Government’s ICT
- Queensland Government Enterprise Architecture”

- (c) under the heading “Responsible Head” following the words “Director-General”, and in line with the insertion at paragraph 3.(3)(b)

insert

“Queensland Government Chief Information Officer”

Commencement

4. This order commences on the day it is published in the Gazette.

ENDNOTES

1. Made by the Governor in Council on 8 February 2018.
2. Published in the Gazette on 9 February 2018.
3. The administering agency is the Department of the Premier and Cabinet.

*Public Service Act 2008***PUBLIC SERVICE DEPARTMENTAL ARRANGEMENTS
NOTICE (NO.1) 2018****Short Title**

1. This notice is made under the *Public Service Act 2008* and may be cited as the *Public Service Departmental Arrangements Notice (No. 1) 2018*.

Commencement

2. This notice commences on the day it is published in the Gazette.

Establishment and Declaration of Government Entity

3. Under sections 14(2) and 15(a) of the Act, that part of the Department of the Premier and Cabinet known as One-Stop Shop Strategy and Implementation Office is established as a government entity and declared to be part of the Department of the Premier and Cabinet.
4. Under sections 14(2) and 15(a) of the Act, that part of the Department of the Premier and Cabinet known as Digital Economy and Productivity is established as a government entity and declared to be part of the Department of the Premier and Cabinet.
5. Under sections 14(2) and 15(a) of the Act, that part of the Department of the Premier and Cabinet known as the Queensland Government Chief Information Office is established as a government entity and declared to be part of the Department of the Premier and Cabinet.
6. Under sections 14(2) and 15(a) of the Act, that part of the Department of the Premier and Cabinet responsible for providing corporate and executive services to One-Stop Shop Strategy and Implementation Office, Digital Economy and Productivity and Queensland Government Chief Information Office is established as a government entity and declared to be part of the Department of the Premier and Cabinet.

Amalgamation and Declaration

7. Under sections 14(2) and 15(b) of the Act, the government entities established under Parts 3, 4, 5 and 6 of this Notice are amalgamated with, and declared to be part of, the Department of Housing and Public Works.

1. Made by the Governor in Council on 8 February 2018.
2. Published in the Government Gazette on 9 February 2018.
3. Not required to be laid before the Legislative Assembly.
4. The administering agency is the Public Service Commission.

*Education (General Provisions) Act 2006***COMMUNITY CONSULTATION**

Given the following school has zero enrolments and there are no forecast enrolments for this year or beyond, under s.18 of the *Education (General Provisions) Act 2006*, the school is proposed for closure:

Winfield State School

1091 Winfield Road
WINFIELD QLD 4670

North Coast Region

Contact details:

Regional Director, North Coast Region
Department of Education
PO Box 248
KALLANGUR QLD 4503

Phone: (07) 3203 9000
email: northcoastregion@det.qld.gov.au

Under s.19 of the Act, community consultation will now commence and the local community is invited to make a submission regarding the proposed closure. Parties interested in making a submission should contact the relevant Regional Director at the above email for further information.

GRACE GRACE MP
Minister for Education and
Minister for Industrial Relations

*Mental Health Act 2016***DECLARATION OF AUTHORISED MENTAL HEALTH SERVICE**

Department of Health
Brisbane, February 2018

Under sections 329 and 236 of the *Mental Health Act 2016*, the following facility is declared an authorised mental health service for the purpose of performing electro convulsive therapy on a person who has given informed consent in accordance with the *Mental Health Act 2016*.

Dr John Reilly
Chief Psychiatrist

Authorised Mental Health Service	Address
Health Care Robina Private Hospital	1 Bayberry Lane, Robina, Queensland 4226

*Transport Infrastructure Act 1994***AMENDMENT OF COMMON AREA DECLARATION
OVER LOCAL GOVERNMENT ROAD**

The Schedule to the Common Area Declaration published in the Gazette of Friday 10 March 2017 [Vol. 374 No.49] at page 372 is amended as described in the Schedule.

Mark Bailey
Minister for Transport and Main Roads

SCHEDULE

Omit – County of Drake/Grosvenor, Parish of Gulum/Goonyella – Lot A on SP252930 (adjacent to Lot 101 on SP235906 and Lot 102 on SP235907), and Lot A on SP252931 (adjacent to Lot 102 on SP235907)

Insert – County of Drake/Grosvenor, Parish of Gulum/Goonyella – Lot C on SP252930 (adjacent to Lot 101 on SP235906 and Lot 102 on SP235907), and Lot B on SP252931 (adjacent to Lot 102 on SP235907)

ENDNOTES

1. Published in the Gazette on 9 February 2018.
2. Not required to be laid before the Legislative Assembly.
3. The administering agency is the Department of Transport and Main Roads.

Transport Operations (Marine Safety) Act 1994
Transport Operations (Marine Safety) Regulation 2016

NOTIFICATION OF EXEMPTION

Maritime Safety Queensland
Brisbane, 5 February 2018

I, James Huggett, Executive Director, Maritime Safety Queensland, pursuant to section 18A of the *Transport Operations (Marine Safety) Act 1994* exempt junior operators competing in Australian Power Boat Association (APBA) Formula Future J2, J3, Formula 4 and 25hp Open Hull events from the provisions of section 57 of the *Transport Operations (Marine Safety) Regulation 2016* (the Regulation) in relation to the licensing requirement for the operation of a Queensland regulated ship other than a personal watercraft, subject to the following conditions:

CONDITIONS

1. The APBA event must be authorised by an aquatic event authority granted to APBA under section 198 of the Regulation;
2. The APBA event must be conducted in accordance with the aquatic event authority including any conditions that are imposed;
3. The APBA event must be conducted in accordance with an APBA risk assessment plan, APBA site management plan and the APBA Racing and Safety Rules;
4. A junior operator who is:
 - (a) 10 to 15 years of age may operate an APBA Formula Future J2 Class vessel with a maximum propulsion power of 10hp in accordance with the APBA Racing and Safety Rules;
 - (b) 12 to 15 years of age may operate an APBA Formula Future J3 Class vessel with a maximum propulsion power of 15hp in accordance with the APBA Racing and Safety Rules;
5. A junior operator who:
 - (a) is 14 or 15 years of age; and
 - (b) has competed in the APBA Formula Future J3 Class for a minimum of 2 years; and
 - (c) meets all eligibility requirements under the APBA Racing and Safety Rules;
 may operate an APBA Formula 4 Class and 25hp Open Hull Class vessel in accordance with the APBA Racing and Safety Rules;
6. A junior operator must at all times comply with the requirements set out in the APBA Racing and Safety Rules (Group 800 Safety Rules);
7. Prior to operating a vessel in an APBA event, a junior operator must be trained and assessed, by a competent person appointed by APBA, as being competent in the safe operation of the vessel for the purpose of the APBA event. Records of such training and assessment must be kept;
8. A junior operator must receive a race briefing prior to each race in which the junior operator is entered.

This notice repeals the Notification of Exemption published in the Queensland Government Gazette No. 3, dated 2 September 2011, on page 40.

JAMES HUGGETT
Executive Director
Maritime Safety Queensland

*Disposal of Uncollected Goods Act 1967***NOTICE OF INTENT TO SELL VEHICLES**

Notice is hereby given that in accordance with the *Disposal of Uncollected Goods Act 1967*, Robo's Enterprises t/a Robo's Motorworks intends to sell the below listed goods to recoup costs of repair and storage. If the Vehicles remain uncollected, they will be sold after 28 days from gazettal of this notice.

Queries: Please contact Peter Robinson, Robo's Motorworks, Rockhampton, QLD (07) 49213998.

Vehicle Details: Jeep TJ Wrangler – (Black in colour)
Rego: 006 LLA
VIN: 1J4FY49SXVP454276 (Oct 2006) 6 cylinder

Vehicle Details: Holden Cruze (Blue in colour)
Rego: Unreg.
VIN: JSAGHY81S00114665 (Oct 2006) 1.5 ltr

Vehicle Details: Ford BA Falcon (Silver in colour)
Rego: 867 SYG
VIN: 6FPAAGJGSW3K43490 (Feb 2003) 4.0ltr

GAZ00072/18

*Public Trustee Act 1978 – Unclaimed Moneys***SUPPLEMENTARY REGISTER OF UNCLAIMED MONEYS HELD BY ENERGEX LIMITED, 26 REDDACLIF STREET, NEWSTEAD, QLD 4006, GPO BOX 1461, BRISBANE QLD 4001 ON 31 JANUARY 2018**

Cheque no./ Reference no.	Name	Address			Postcode	Date payable	Amount (\$)
81529	GOODMAN PROPERTY SERVICES (AUST)	LEVEL 2 32 HELEN STREET	NEW FARM	QLD	4006	21/04/2015	4,488.22
82351	BUILDING SERVICES INTEGRATION PL	36 FANFAE STREET	EIGHT MILE PLAINS	QLD	4113	19/05/2015	2,200.00
82418	BUILDING SERVICES INTEGRATION PL	36 FANFAE STREET	EIGHT MILE PLAINS	QLD	4113	21/05/2015	1,100.00
83127	SHANE J ROWE	257 COONOWRIN ROAD	GLASSHOUSE MOUNTAINS	QLD	4518	30/06/2015	511.27
83172	BCEG INTERNATIONAL (AUST) PL	SUITE 2301	1 MARKET STREET	QLD	2000	7/07/2015	1,002.67
83638	RAISE JV NO2 PTY. LTD.	PO BOX 154	PADDINGTON	QLD	4064	11/08/2015	2,200.00
83872	LIMES PROPERTIES PTY LTD	142 CONSTANCE STREET	FORTITUDE VALLEY	QLD	4006	3/09/2015	2,200.00
84146	TELSTRA CORPORATION LTD	UNITED SERVICES GROUP	GPO BOX 2698	QLD	2601	30/09/2015	6,994.90
85198	DAILY ASIAN SUPERMARKET	SHOP 1 AND 2 19 NERANG STREET	SOUTHPORT	QLD	4215	26/11/2015	4,446.37
85743	TTF 70-78 BAY TCE TRUST	PO BOX 26	CANNON HILL	QLD	4170	15/12/2015	2,200.00
85753	GAYTHORNE RESIDENTIAL INVESTMENT	112 PENINSULAR DRIVE	SURFERS PARADISE	QLD	4217	15/12/2015	2,200.00
91505	OBELIX PROJECTS CANNON HILL PL	SHOP 2 72 MERIVALE STREET	SOUTH BRISBANE	QLD	4101	5/02/2016	2,200.00
R0249652	UNKNOWN	UNKNOWN	UNKNOWN	-	-	19/11/2012	4,400.00
R0242123	G AND M BRENNAN	UNKNOWN	UNKNOWN	-	-	2/05/2012	2,643.25
R0253177	UNKNOWN	UNKNOWN	UNKNOWN	-	-	4/04/2013	2,528.13
R0281814	UNKNOWN	UNKNOWN	UNKNOWN	-	-	30/01/2015	1,988.71
R5010433	UNKNOWN	UNKNOWN	UNKNOWN	-	-	7/04/2014	1,646.83
R0248203	UGL	UNKNOWN	UNKNOWN	-	-	1/11/2012	1,485.00
R0248198	UNKNOWN	UNKNOWN	UNKNOWN	-	-	1/11/2012	1,150.58
R0244522	UNKNOWN	UNKNOWN	UNKNOWN	-	-	13/07/2012	825.00
R0246785	UNKNOWN	UNKNOWN	UNKNOWN	-	-	24/09/2012	825.00
R0268915	FRANCIS WHITE	UNKNOWN	UNKNOWN	-	-	18/06/2014	801.11

GAZ00031/18

Notification under Section 100 of the *Public Trustee Act 1978*

REGISTER OF UNCLAIMED MONIES

Annual Register of Unclaimed Monies held by ERGON ENERGY QUEENSLAND PTY LTD
(ACN: 121 177 802), 34-46 Dalrymple Road, Garbutt, Qld, 4814 on 14th February, 2018

Account Number	Name	Address	Suburb	State	Postcode	Date Unclaimed	Net Amount	Status
81097522	MRS R N MULLER	1 BISCHOF ST	WILSONTON HEIGHTS	QLD	4350	17/02/2015	2,276.75	Unpresented Cheques
22389296	MS K A BERTHUN	15 SUNDOWNER RD	CLINTON	QLD	4680	23/02/2015	600.00	Unclaimed Credits
95090649	MOBIL CALCIUM PTY LTD	4545 FLINDERS HWY	WOODSTOCK	QLD	4816	23/02/2015	964.54	Unpresented Cheques
92277560	MR M A HOFFRICHTER	102 PALMERSTON ST	GULLIVER	QLD	4812	25/02/2015	1,232.47	Unpresented Cheques
19337895	MR M BALAKRISHNA	24 CUTFIELD ST	GLENELLA	QLD	4740	28/02/2015	729.28	Unclaimed Credits
90748841	MRS M A GRAHAM & MR J T GRAHAM	132 HUME RD	BOONGARRY	QLD	4702	28/02/2015	1,400.00	Unclaimed Credits
92523021	MR S BAILEY	140 RUTHS RD	SOUTH KOLAN	QLD	4670	28/02/2015	1,062.25	Unclaimed Credits
17666082	MR S R E DAVIDSON	4 DAVIDSON CRT	CHINCHILLA	QLD	4413	6/03/2015	736.11	Unpresented Cheques
15934331	MS S NAWAKIE	65 BRADMAN DVE	GLENELLA	QLD	4740	9/03/2015	900.00	Unpresented Cheques
10972455	EST A N MONTGOMERY	60 LEVESLEY ST	BUNDBERG EAST	QLD	4670	11/03/2015	616.69	Unpresented Cheques
24548103	AARON & ANGELINA PTY LTD	LEVEL 7, 706/55 RIVER ST	MACKAY	QLD	4740	11/03/2015	596.37	Unpresented Cheques
99439646	MRS J H RYAN	37 DEMPSEY ST	WINSTON	QLD	4737	12/03/2015	707.17	Unpresented Cheques
13651951	MR P GASCOYNE	13 LESLIE ST	SARINA	QLD	4737	17/03/2015	516.07	Unpresented Cheques
24548120	AARON & ANGELINA PTY LTD	LEVEL 8, 805/55 RIVER ST	MACKAY	QLD	4740	23/03/2015	652.76	Unpresented Cheques
73475050	MR G W PRIZEMAN	11 VENUS ST	TELINA	QLD	4680	23/03/2015	3,722.33	Unpresented Cheques
68156821	EST J G WOOD	12 MACK CRES	HEALY	QLD	4825	26/03/2015	1,202.20	Unpresented Cheques
66072433	MRS R C HOLDSWORTH	11 TULLY ST	SOUTH TOWNSVILLE	QLD	4810	30/03/2015	580.21	Unpresented Cheques
79235859	MR M G YOUNG	24 BOCKS RD	BRANYAN	QLD	4670	1/04/2015	736.74	Unpresented Cheques
82723231	MRS J J HEMMING	54 PINE ST	THALLON	QLD	4497	8/04/2015	507.16	Unpresented Cheques
23089229	RELINING SOLUTIONS PTY LTD	32 WOODROSE DVE	MOUNT SHERIDAN	QLD	4868	9/04/2015	693.87	Unpresented Cheques
13425714	MR D J BERTRAM	953 YEPPON RD	NORTH ROCKHAMPTON	QLD	4701	13/04/2015	974.97	Unpresented Cheques
17864909	MR G C SCOTTON	75 GINGHAM ST	GLENELLA	QLD	4740	17/04/2015	968.85	Unpresented Cheques
14920492	MS M J KNIPERS	99 ABELL RD	CANNONVALE	QLD	4802	17/04/2015	830.02	Unpresented Cheques
13968912	MRS E D ZHANG	21 WAIKE DVE	URRAWEEN	QLD	4655	24/04/2015	660.31	Unpresented Cheques
24623113	CO VENTURES PTY LTD	SHOP 1 / 1 EAST ST	ROCKHAMPTON CITY	QLD	4700	4/05/2015	846.26	Unpresented Cheques
17974313	MR V AUSTIN	3 HOFFMAN ST	WANDOOAN	QLD	4419	5/05/2015	685.10	Unpresented Cheques
17660548	MR C J GROHN	295 PIONEER RD	MUNGAR	QLD	4650	13/05/2015	852.98	Unpresented Cheques
19166516	MR D G JONES	2/53 FLEMINGTON RD	BOWEN	QLD	4805	18/05/2015	1,841.41	Unpresented Cheques
82171092	MS B LOWE	27 SEPPELL ST	WILSONTON HEIGHTS	QLD	4350	18/05/2015	875.61	Unpresented Cheques
77871014	MR J H MCBRIDE	4 MCINTOSH AVE	RIVERVIEW	QLD	4670	20/05/2015	936.78	Unpresented Cheques
13424718	MR P C OLSEN	30 ELLINGTON ST	NEW AUCKLAND	QLD	4680	29/05/2015	1,727.45	Unpresented Cheques
82267430	MR A S MCMAHON	3 LANBAR CRT	GLENVALE	QLD	4350	5/06/2015	1,450.53	Unpresented Cheques
90188268	MRS F L STATHAM	9 WAKEFORD ST	AITKENVALE	QLD	4814	22/06/2015	561.00	Unpresented Cheques
92907679	MR P F REARDON	10 ALAMANDA CL	YUNGABURRA	QLD	4884	26/06/2015	615.93	Unpresented Cheques
73885479	MR L V EMERSON	36 ALLUNGA DVE	GLEN EDEN	QLD	4680	29/06/2015	669.90	Unpresented Cheques
94653780	THE GABRIELLI HOTEL GROUP P/L	500 FLINDERS ST	TOWNSVILLE CITY	QLD	4810	17/07/2015	2,035.10	Unpresented Cheques
22334297	MRS N J SCOPAS	1 ROBINDALE CT	DARLING HEIGHTS	QLD	4350	17/07/2015	1,212.77	Unpresented Cheques
91378681	MR D H BROOKS	78 DALRYMPLE ST	BOWEN	QLD	4805	17/07/2015	784.03	Unpresented Cheques
98834371	EST W M DRUMMOND	1/121 WALSH ST	MAREEBA	QLD	4880	21/07/2015	2,009.45	Unpresented Cheques
14895463	MRS K E CARLSSON	63 ORCHID CL	BIBOOHRA	QLD	4880	21/07/2015	614.81	Unpresented Cheques
23266708	PRIMEWEST FUNDS LTD	27/11 MACROSSAN ST	PORT DOUGLAS	QLD	4877	22/07/2015	932.32	Unpresented Cheques
17308721	MRS K M SCHUMACHER	LOT 2 WOODLANDS RD	GREENMOUNT	QLD	4751	27/07/2015	621.47	Unpresented Cheques
69931101	MR D P DELACEY	37 THIRD AVE	SCOTTVILLE	QLD	4804	7/08/2015	989.15	Unpresented Cheques
15451674	MS S M WILSON	27 DUNDAS CRT	KIRWAN	QLD	4817	11/08/2015	609.97	Unpresented Cheques
12865907	MR B PRESS	2 SILVERWING CRT	DEERAGUN	QLD	4818	12/08/2015	967.14	Unpresented Cheques
18977782	MRS H J SCOTT	45 DOUGLAS CRES	RURAL VIEW	QLD	4740	17/08/2015	556.44	Unpresented Cheques
18282598	MR J J GRECH	340 SILVERS RD	HABANA	QLD	4740	18/08/2015	1,045.51	Unpresented Cheques
73411981	MR G R CRAIGIE	2 HOSKYN CRT	CLINTON	QLD	4680	19/08/2015	1,466.34	Unpresented Cheques
16612531	MISS L M RAIKAKI	65 MAPLE ST	GOONDI	QLD	4860	20/08/2015	576.17	Unpresented Cheques
81109229	MRS M F LONG	7 MCFARLANE ST	WILSONTON	QLD	4350	20/08/2015	854.04	Unpresented Cheques
18837875	MR S R BUCHANAN	16 WONDAL RD	PROSTON	QLD	4613	24/08/2015	2,498.17	Unpresented Cheques

Account Number	Name	Address	Suburb	State	Postcode	Date Unclaimed	Net Amount	Status
15946860	MRS C A MOXHAM	75 BUNDESEN AVE	MIDGE POINT	QLD	4799	26/08/2015	1,963.21	Unpresented Cheques
11274239	MR K W DURRE	24/9 PACIFIC DVE	BLACKS BEACH	QLD	4740	27/08/2015	1,662.63	Unpresented Cheques
23059893	LATITUDE DEVELOPMENTS NO 1 P/L	LOT 132 SHUTE HARBOUR RD	CANNONVALE	QLD	4802	3/09/2015	2,900.52	Unpresented Cheques
22463127	MR M RIBOT-DE-BRESAC	44 OAKEY-BIDDESTON RD	AOKEY	QLD	4401	3/09/2015	615.70	Unpresented Cheques
21816301	MISS J C MCGUIRE	7 CAABEEN CRT	MOUNT LOW	QLD	4818	4/09/2015	578.98	Unpresented Cheques
74231332	MRS V M HYSLOP	203A AUCLAND ST	GLADSTONE	QLD	4680	8/09/2015	2,043.80	Unpresented Cheques
20563329	MONKEY BUSINESS WHITSUNDAY P/L	19/287 SHUTE HARBOUR RD	AIRIE BEACH	QLD	4802	24/09/2015	674.00	Unpresented Cheques
14577551	MISS A C MUIR	57 TRANTER ST	TOP CAMP	QLD	4350	29/09/2015	549.92	Unpresented Cheques
17362601	MISS S M FINLAY	11 VICKY CRT	ANDERGROVE	QLD	4740	30/09/2015	2,550.00	Unpresented Cheques
93164157	MRS E M TWADDLE	33/60 BECK DVE	CONDON	QLD	4815	2/10/2015	651.00	Unpresented Cheques
16701674	MR M G STEVENS	17 SKYLINE DVE	NORTH ROCKHAMPTON	QLD	4701	7/10/2015	897.41	Unpresented Cheques
15912108	MR R J BULSEY	4/19 MARY ST	WEST END	QLD	4810	8/10/2015	2,778.56	Unpresented Cheques
16680260	MR M B RODGERSON	8/77 LAKEVIEW DVE	GINDIE	QLD	4702	13/10/2015	833.10	Unpresented Cheques
95812661	MRS J D BILCOCK	35/11 TELFORD ST	EARLVILLE	QLD	4870	16/10/2015	552.17	Unpresented Cheques
97087483	MRS BJ GORDY	3 BAUHINIA ST	FORREST BEACH	QLD	4850	19/10/2015	625.44	Unpresented Cheques
68392401	MRS R J TAYLOR	37 GOWER ST	KELSO	QLD	4815	19/10/2015	575.40	Unpresented Cheques
21715963	MR R L FERRIS	179 BUNDA ST	PARRAMATTA PARK	QLD	4870	20/10/2015	558.34	Unpresented Cheques
93875991	MRS F M SPOONER	17 SOUTH CALLIOPE ST	SPRINGSURE	QLD	4722	23/10/2015	642.21	Unpresented Cheques
90537114	MR A J BRENNEN	47 BRENNAN RD	HAMPTON	QLD	4352	23/10/2015	567.77	Unpresented Cheques
13641972	DELAWARE NTH AUS PARKS RESORTS	11 ROOSEY ST	GLADSTONE CENTRAL	QLD	4680	23/10/2015	1,874.37	Unpresented Cheques
18922571	MRS M P KEATING	11 BEASLEY ST	CHINCHILLA	QLD	4413	3/11/2015	1,000.00	Unpresented Cheques
99202662	MR J A FERRIS	323/21 WALTERS ST	BUNDA BERG NORTH	QLD	4670	12/11/2015	832.80	Unpresented Cheques
16743784	BM ALLIANCE COAL OPERATIONS P/L	283 HAY POINT RD	ALLIGATOR CREEK	QLD	4740	13/11/2015	1,369.94	Unpresented Cheques
93773633	EST J R OWEN	5 PRICE ST	MARYBOROUGH	QLD	4650	13/11/2015	627.68	Unpresented Cheques
19933584	MISS E M SALMOND	27 CENTRAL AVE	THABEBAN	QLD	4670	16/11/2015	831.56	Unpresented Cheques
74129180	MRS T L FITZGERALD	235 FLANAGAN ST	FRENCHVILLE	QLD	4701	17/11/2015	500.00	Unpresented Cheques
12130044	MR G C ARNABOLDI	2 LANDSBOROUGH HWY	BARCALDINE	QLD	4725	17/11/2015	1,743.74	Unpresented Cheques
17473357	MR M J GILL	5 SATINASH CL	REDLYNCH	QLD	4870	20/11/2015	909.64	Unpresented Cheques
23083221	MISS T J HAYDEN	111 CAPRICORN ST	GRACEMERE	QLD	4702	24/11/2015	732.10	Unpresented Cheques
23232391	MR S J SHANG	7 KNOWLES RD	ATHERTON	QLD	4883	24/11/2015	700.00	Unpresented Cheques
12825310	MR C M DIPROSE	25 BOUNDARY CRT	GLENALE	QLD	4350	24/11/2015	4,255.76	Unpresented Cheques
13078259	MS N K RASHLEIGH	673 WEST ST	DARLING HEIGHTS	QLD	4350	26/11/2015	3,176.64	Unpresented Cheques
18231951	LIFESTYLE RESORTS HOLDING P/LTD	SCHUFFENHAUER ST	NORMAN GARDENS	QLD	4701	1/12/2015	3,371.89	Unpresented Cheques
23119624	MISS J M JERRETT	94 MCLAUGHLIN RD	BENTLEY PARK	QLD	4869	7/12/2015	878.75	Unpresented Cheques
25882902	START CONSTRUCTION & HIRE P/L	LOT 2/3 NORTHBRIDGE RD	KALKADOON	QLD	4825	9/12/2015	774.65	Unpresented Cheques
24370916	J R BULL BREWERY PTY LTD	7/281 MCCORMACK ST	MANUNDA	QLD	4870	11/12/2015	1,009.10	Unpresented Cheques
19414404	MS R A HERBERG	125 HERRIES ST	TOOWOOMBA CITY	QLD	4350	11/12/2015	2,598.06	Unpresented Cheques
17910731	MR M E HAMMELSWANG	16 THE GROVE	NELLY BAY	QLD	4819	15/12/2015	914.25	Unpresented Cheques
74778536	LIFESTYLE RESORTS HOLDING P/LTD	SCHUFFENHAUER ST	NORMAN GARDENS	QLD	4701	18/12/2015	18,791.86	Unpresented Cheques
18231951	MR S E ROWE	9 ASHTON ST	TELINA	QLD	4680	21/12/2015	517.74	Unpresented Cheques
11025352	MR D A CAFFIN	1/33 HOLLAND ST	WEST MACKAY	QLD	4740	22/12/2015	630.33	Unpresented Cheques
25798596	MR K W SPALECK	7 ANNE ST	CHARTERS TOWERS	QLD	4820	29/12/2015	1,229.14	Unpresented Cheques
17393248	MR D JOHN	13 DUNE CIRCLE	LAMMERMOOR	QLD	4703	29/12/2015	865.77	Unpresented Cheques
21562211	MISS A M ADDIS	15/3 CROKER CRT	MORANBAH	QLD	4744	13/01/2016	900.00	Unpresented Cheques
16938488	T/AS NEBO JUNCTION	COLLINSVILLE RD	NEBO	QLD	4742	20/01/2016	1,623.48	Unpresented Cheques
18255990	MR S C ILETT	299 LOWER WATERLOO RD	YANDARAN	QLD	4673	20/01/2016	739.49	Unpresented Cheques
19222033	MR G ZAHNER	1 ALEX CRT	ALICE RIVER	QLD	4817	22/01/2016	1,601.88	Unpresented Cheques
14932041	AUSTRALIA PACIFIC LNG P/L	93 ARTHUR ST	ROMA	QLD	4455	25/01/2016	1,792.45	Unpresented Cheques
68163606	MR G D HOSKIN	9 STUBBINGS AVE	HEALY	QLD	4825	28/01/2016	1,109.27	Unpresented Cheques
90365194	MR M J EGAN	8 HURLEY CRT	BUNDA BERG EAST	QLD	4670	5/02/2016	1,214.65	Unpresented Cheques
18885713	STRUCTURAL STEEL BUILDINGS PTY	487 WOOLCOCK ST	GARBUTT	QLD	4814	10/02/2016	576.20	Unpresented Cheques
12800074	MS V A PEARSON	41 MARSHALL ST	POZIERES	QLD	4352	11/02/2016	732.02	Unpresented Cheques
81097522	MRS R N MULLER	1 BISCHOF SY	WILSONTON HEIGHTS	QLD	4350	12/02/2016	1,995.16	Unpresented Cheques
							137,343.48	

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Appendix C

2023 AADT Data

TRAFFIC_YEAR	COLLECTION_YEAR	ROAD_SECTION_ID	ROAD_NAME	SITE_ID	SITE_TYPE
2023	2023	2023	841 TOWNSVILLE PORT ROAD	92206	P
2023	2023	2023	841 TOWNSVILLE PORT ROAD	92206	P
2023	2023	2023	841 TOWNSVILLE PORT ROAD	92206	P

DESCRIPTION	SITE_THROUGH_DISTANCE	SEG_START_THROUGH_DISTANCE	SEG_END_THROUGH_DISTANCE	SPEED_LIMIT
WiM Site Townsville Port	5.43	0	7.336	100
WiM Site Townsville Port	5.43	0	7.336	100
WiM Site Townsville Port	5.43	0	7.336	100

SITE_LATITUDE	SITE_LONGITUDE	SEG_LONGITUDE_START	SEG_LATITUDE_START	SEG_LONGITUDE_END	
-19.28216883	146.841238	146.844396	-19.330155	146.83494	
-19.28216883	146.841238	146.844396	-19.330155	146.83494	
-19.28216883	146.841238	146.844396	-19.330155	146.83494	

SEG_LATITUDE_END	DISTRICT_ID	DISTRICT_NAME	REGION_ID	REGION_NAME	LGA_ID	LGA_NAME
-19.267349	408	Northern	315	North Queensland	7010	Townsville City
-19.267349	408	Northern	315	North Queensland	7010	Townsville City
-19.267349	408	Northern	315	North Queensland	7010	Townsville City

TRAVEL_DIRECTION	AADT	AADT_CLASS_0A	GROWTH_PC_1YR	GROWTH_PC_5YR	GROWTH_PC_10YR
AGAINST GAZETTAL	1311	967.6491	2.58	0.48	2.77
BOTH DIRECTIONS	2747	2141.5612	2.27	0.23	2.44
WITH GAZETTAL	1436	1173.3556	1.99	0	2.14

Appendix D

2023 Background Hourly
Peak Data

SITE_ID	DESCRIPTION	SITE_DISTANCE	LONGITUDE	LATITUDE	RSECT_ID	ROAD_NAME	TDIST_START	TDIST_END	GAZETTAL_DIRECTION	HOURS	MON	TUE	WED	THU	FRI	SAT	SUN	WEEKDAY_AVERAGE	WEEKEND_AVERAGE
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	0 to 1	3	12	8	4	6	17	11	7	14
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	1 to 2	4	11	9	4	3	14	7	6	11
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	2 to 3	6	9	6	10	3	15	5	7	10
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	3 to 4	15	8	6	29	8	11	9	13	10
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	4 to 5	18	25	25	34	25	20	15	25	18
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	5 to 6	70	77	74	77	63	46	28	72	37
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	6 to 7	102	106	127	101	100	51	30	106	40
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	7 to 8	155	173	150	166	124	61	61	153	61
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	8 to 9	122	113	119	121	113	73	61	117	67
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	9 to 10	104	98	93	107	99	76	75	100	76
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	10 to 11	92	99	101	98	113	72	94	101	83
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	11 to 12	79	83	92	81	102	79	66	87	73
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	12 to 13	83	80	94	86	97	69	64	88	67
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	13 to 14	90	80	91	83	100	69	75	89	72
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	14 to 15	104	105	99	94	92	66	89	99	78
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	15 to 16	144	151	145	149	161	63	65	150	64
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	16 to 17	161	155	164	143	149	68	57	155	63
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	17 to 18	136	132	129	124	113	54	62	127	58
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	18 to 19	47	66	50	69	65	45	47	59	46
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	19 to 20	37	23	26	33	45	62	31	33	46
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	20 to 21	30	30	30	42	44	53	24	35	39
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	21 to 22	18	23	30	27	48	51	13	29	32
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	22 to 23	14	19	17	21	36	40	13	22	27
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	AGAINST GAZETTAL	23 to 24	17	12	8	11	21	20	3	14	12
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	0 to 1	4	13	8	4	5	13	14	7	13
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	1 to 2	4	6	8	3	4	12	6	5	9
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	2 to 3	6	7	4	9	4	16	5	6	11
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	3 to 4	15	13	10	30	11	7	8	15	8
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	4 to 5	22	27	31	37	28	24	17	28	21
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	5 to 6	59	59	74	71	63	33	24	64	29
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	6 to 7	123	129	126	133	123	44	34	127	39
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	7 to 8	225	223	220	230	200	59	40	218	50
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	8 to 9	184	178	175	180	166	80	66	176	73
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	9 to 10	107	91	94	107	104	81	73	100	77
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	10 to 11	86	88	80	94	100	85	75	90	80
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	11 to 12	104	99	103	100	127	106	84	107	95
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	12 to 13	93	96	118	102	122	96	90	106	93
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	13 to 14	102	98	111	111	98	89	76	103	82
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	14 to 15	104	123	108	112	129	85	83	116	84
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	15 to 16	112	130	110	118	120	81	77	118	79
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	16 to 17	125	128	137	145	146	103	72	135	88
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	17 to 18	130	139	133	161	136	88	68	138	78
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	18 to 19	50	60	78	76	94	65	52	71	58
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	19 to 20	24	24	23	27	49	55	25	30	40
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	20 to 21	21	21	21	28	31	27	11	25	19
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	21 to 22	17	19	20	17	30	22	15	21	19
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	22 to 23	8	18	14	13	20	19	10	15	15
92206	"WiM Site Townsville Port"	5.43	146.841238	-19.2821688	841	"TOWNSVILLE PORT ROAD"	0	7.336	GAZETTAL	23 to 24	13	14	6	9	10	16	3	11	10

BOTH DIRECTIONS

Row Labels	Sum of MON	Sum of TUE	Sum of WED	Sum of THU	Sum of FRI	Sum of SAT	Sum of SUN	Sum of WEEKDAY_AVERAGE	Sum of WEEKEND_AVERAGE
0 to 1	7	25	16	8	11	30	25	14	27
1 to 2	8	17	17	7	7	26	13	11	20
2 to 3	12	16	10	19	7	31	10	13	21
3 to 4	30	21	16	59	19	18	17	28	18
4 to 5	40	52	56	71	53	44	32	53	39
5 to 6	129	136	148	148	126	79	52	136	66
6 to 7	225	235	253	234	223	95	64	233	79
7 to 8	380	396	370	396	324	120	101	371	111
8 to 9	306	291	294	301	279	153	127	293	140
9 to 10	211	189	187	214	203	157	148	200	153
10 to 11	178	187	181	192	213	157	169	191	163
11 to 12	183	182	195	181	229	185	150	194	168
12 to 13	176	176	212	188	219	165	154	194	160
13 to 14	192	178	202	194	198	158	151	192	154
14 to 15	208	228	207	206	221	151	172	215	162
15 to 16	256	281	255	267	281	144	142	268	143
16 to 17	286	283	301	288	295	171	129	290	151
17 to 18	266	271	262	285	249	142	130	265	136
18 to 19	97	126	128	145	159	110	99	130	104
19 to 20	61	47	49	60	94	117	56	63	86
20 to 21	51	51	51	70	75	80	35	60	58
21 to 22	35	42	50	44	78	73	28	50	51
22 to 23	22	37	31	34	56	59	23	37	42
23 to 24	30	26	14	20	31	36	6	25	22

GAZETTAL

Row Labels	Sum of MON	Sum of TUE	Sum of WED	Sum of THU	Sum of FRI	Sum of SAT	Sum of SUN	Sum of WEEKDAY_AVERAGE	Sum of WEEKEND_AVERAGE
0 to 1	4	13	8	4	5	13	14	7	13
1 to 2	4	6	8	3	4	12	6	5	9
2 to 3	6	7	4	9	4	16	5	6	11
3 to 4	15	13	10	30	11	7	8	15	8
4 to 5	22	27	31	37	28	24	17	28	21
5 to 6	59	59	74	71	63	33	24	64	29
6 to 7	123	129	126	133	123	44	34	127	39
7 to 8	225	223	220	230	200	59	40	218	50
8 to 9	184	178	175	180	166	80	66	176	73
9 to 10	107	91	94	107	104	81	73	100	77
10 to 11	86	88	80	94	100	85	75	90	80
11 to 12	104	99	103	100	127	106	84	107	95
12 to 13	93	96	118	102	122	96	90	106	93
13 to 14	102	98	111	111	98	89	76	103	82
14 to 15	104	123	108	112	129	85	83	116	84
15 to 16	112	130	110	118	120	81	77	118	79
16 to 17	125	128	137	145	146	103	72	135	88
17 to 18	130	139	133	161	136	88	68	138	78
18 to 19	50	60	78	76	94	65	52	71	58
19 to 20	24	24	23	27	49	55	25	30	40
20 to 21	21	21	21	28	31	27	11	25	19
21 to 22	17	19	20	17	30	22	15	21	19
22 to 23	8	18	14	13	20	19	10	15	15
23 to 24	13	14	6	9	10	16	3	11	10

ANTI-GAZETTAL

Row Labels	Sum of MON	Sum of TUE	Sum of WED	Sum of THU	Sum of FRI	Sum of SAT	Sum of SUN	Sum of WEEKDAY_AVERAGE	Sum of WEEKEND_AVERAGE
0 to 1	3	12	8	4	6	17	11	7	14
1 to 2	4	11	9	4	3	14	7	6	11
2 to 3	6	9	6	10	3	15	5	7	10
3 to 4	15	8	6	29	8	11	9	13	10
4 to 5	18	25	25	34	25	20	15	25	18
5 to 6	70	77	74	77	63	46	28	72	37
6 to 7	102	106	127	101	100	51	30	106	40
7 to 8	155	173	150	166	124	61	61	153	61
8 to 9	122	113	119	121	113	73	61	117	67
9 to 10	104	98	93	107	99	76	75	100	76
10 to 11	92	99	101	98	113	72	94	101	83
11 to 12	79	83	92	81	102	79	66	87	73
12 to 13	83	80	94	86	97	69	64	88	67
13 to 14	90	80	91	83	100	69	75	89	72
14 to 15	104	105	99	94	92	66	89	99	78
15 to 16	144	151	145	149	161	63	65	150	64
16 to 17	161	155	164	143	149	68	57	155	63
17 to 18	136	132	129	124	113	54	62	127	58
18 to 19	47	66	50	69	65	45	47	59	46
19 to 20	37	23	26	33	45	62	31	33	46
20 to 21	30	30	30	42	44	53	24	35	39
21 to 22	18	23	30	27	48	51	13	29	32
22 to 23	14	19	17	21	36	40	13	22	27
23 to 24	17	12	8	11	21	20	3	14	12

Appendix E

Development Traffic Calculations

Note: This spreadsheet represents ROUND TRIPS

Timeline		6-Apr-26		20-Apr-26		23-Apr-26		4-May-26		11-May-26		18-May-26		25-May-26		1-Jun-26		15-Jun-26		22-Jun-26		29-Jun-26		6-Jul-26		13-Jul-26		20-Jul-26		27-Jul-26		3-Aug-26		10-Aug-26		17-Aug-26		24-Aug-26		31-Aug-26		7-Sep-26		14-Sep-26		21-Sep-26		28-Sep-26		5-Oct-26		12-Oct-26		19-Oct-26		26-Oct-26		2-Nov-26		9-Nov-26		16-Nov-26		23-Nov-26		30-Nov-26		7-Dec-26		14-Dec-26		21-Dec-26		28-Dec-26		4-Jan-27		11-Jan-27		18-Jan-27		25-Jan-27		1-Feb-27		8-Feb-27		15-Feb-27		22-Feb-27		1-Mar-27		8-Mar-27							
Round Trips		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50	

Access 1 Activities

Access 1 Activities		Establishment				
Timeline		1	2	3	4	5
Deliveries:	Direction:					
Road base	North	6	6	6	6	2
Pipe	North					
Sand	South					
Spill removal	South					
Scenario 2a & Scenario 3a						
		North				
Total Daily HV Volume		1.2	1.2	1.2	1.2	0.4
	Rounded	2	2	2	2	1
		South				
Total Daily HV Volume						
	Rounded					

LEGEND

	Scenario Selected for Hourly Volumes
	Truck & Dog
	Semi-Trailer

North Vehicles travelling from the North
Place of origin is North

[illegible]

Access 2 Activities

Access 2 Activities		Establishment					Open trench construction												
Timeline		1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	13
Deliveries																			
Road base	North	8	8	8	8	5													
Pipe + HDD	North						2	2	2	2	2	2	2	2	2	2	2	2	1
Pipe - open trench	North						3	3	3	3	3	3	3	3	3	3	2	2	2
Sand	North						5	5	5	5	5	5	5	5	5	5	6	6	6
Spot removal	South																		
Scenario 2a & Scenario 3a																			
North										Scenario 2b									
Total Daily HV Volume		1.6	1.6	1.6	1.6	1	1	1.6	1	1	1	1	1	1	1	1	0.8	0.8	0.6
	Rounded	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
South																			
Total Daily HV Volume							1	1	1	1	1	1	1	1	1	1	1.2	1.2	1.2
	Rounded						1	1	1	1	1	1	1	1	1	1	2	2	2

HDD - Salt pans							
1	2	3	4	5	6	7	8

3	3	3	3	2	2	2	2
---	---	---	---	---	---	---	---

North							
0.6	0.6	0.6	0.6	0.4	0.4	0.4	0.4
1	1	1	1	1	1	1	1
South							

Access 3 Activities

[illegible]

Additional HV Per Week

[illegible]

Total Weekly HV Breakdown

HV per week:	26	26	26	26	16	17	17	17	17	17	17	17	17	17	17	17	17	16	6	3	14	17	17	17	17	16	16	16	11	14	14	14	13	14	14	14	14	15	15		14	14	13	11	
Truck & Dog	25	25	25	25	15	11	11	11	11	11	11	11	11	11	11	11	11	11	3	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	12	12		11	11	10	9		
Semi-Trailer	1	1	1	1	1	6	6	6	6	6	6	6	6	6	6	6	6	6	5	3	3	6	6	6	6	5	5	5	5	5	3	3	3	2	3	3	3	3	3	3		3	3	3	2
NETWORK - PEAK USE					ACCESS 2 - PEAK USE																		ACCESS 3 - PEAK USE										ACCESS 1 - PEAK USE												

Vehicles Per Day

[illegible]

Description

Background Traffic - Forecast

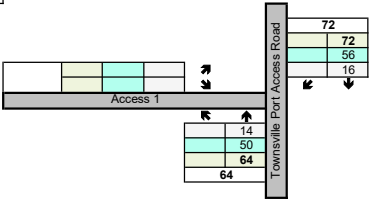
Year:	2023
HV%:	22.04%
Growth rate	2.44% compound p.a.

* Note: The AM and PM peaks assessed in these scenarios are not the peak periods identified along the network. They align with the peak construction traffic expected at the intersection (1 hour before start of work, 1 hour after finish)

Scenario: 2023 AM Peak Background Traffic (Worker Period)
Access: Access 1, TMR CH. 4.37 km

AM Peak	05:00 to 06:00
Total Vehicles	
LV's	
HV's	
Approach Total	

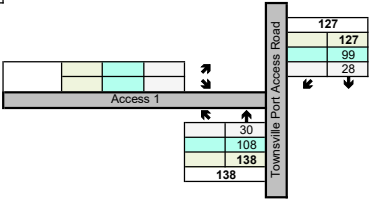
Intersection Total:	136
Total Northbound:	64
Total Southbound:	72
Total Westbound:	0



Scenario: 2023 PM Peak Background Traffic (Worker Period)
Access: Access 1, TMR CH. 4.37 km

PM Peak	17:00 to 18:00
Total Vehicles	
LV's	
HV's	
Approach Total	

Intersection Total:	265
Total Northbound:	138
Total Southbound:	127
Total Westbound:	0



Description

Construction Traffic - Forecast

Year:	2026
HV%:	22.04%
Growth rate:	2.44% compound p.a.
Assumed Split	50
Coming From	
/ Going To	North : South

* Note: The AM and PM peaks assessed in these scenarios are not the peak periods identified along the network. They align with the peak construction traffic expected at the intersection (1 hour before start of work, 1 hour after finish)
Workers park is off Access 1 only

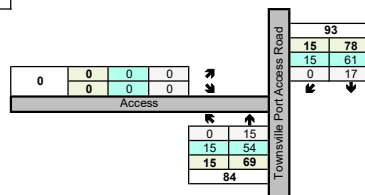
Scenario: 2026 AM Peak with Construction Traffic (Worker Period)
Access: Access 1, TMR CH. 4.37 km

AM Peak
Total Vehicles
LV's
HV's
Approach Total

05:00 to 06:00
Background Growth Rate 2.44%

Intersection Total:	177
----------------------------	------------

Total Northbound:	69
Total Southbound:	78
Total Westbound:	30



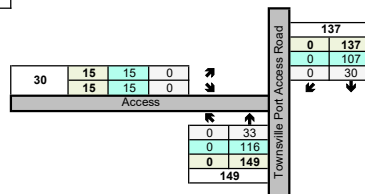
Scenario: 2026 PM Peak with Construction Traffic (Worker Period)
Access: Access 1, TMR CH. 4.37 km

PM Peak
Total Vehicles
LV's
HV's
Approach Total

17:00 to 18:00
Background Growth Rate 2.44%

Intersection Total:	316
----------------------------	------------

Total Northbound:	164
Total Southbound:	152
Total Westbound:	0



Description

Background Traffic - Forecast

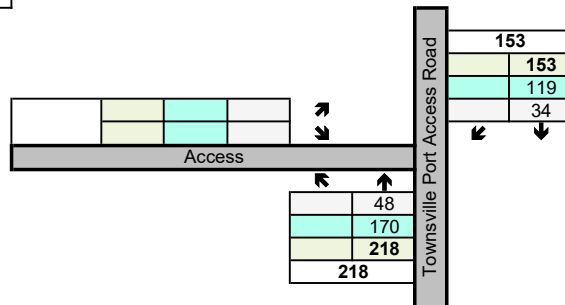
Year: 2023
 HV%: 22.04%
 Growth rate 2.44% compound p.a.

Scenario: 2023 AM Peak Background Traffic (HV Assessment)
 Access: All

AM Peak	
Total Vehicles	
LV's	
HV's	
Approach Total	

07:00 to 08:00

Intersection Total:	371
Total Northbound:	218
Total Southbound:	153
Total Westbound:	0

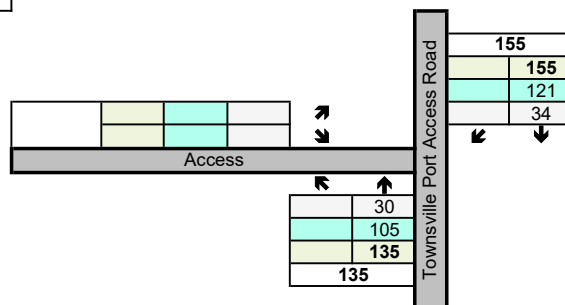


Scenario: 2023 PM Peak Background Traffic (HV Assessment)
 Access: All

AM Peak	
Total Vehicles	
LV's	
HV's	
Approach Total	

16:00 to 17:00

Intersection Total:	290
Total Northbound:	135
Total Southbound:	155
Total Westbound:	0



Description

Background Traffic - 2026

Year:	2026
HV%:	22.04%
Growth rate:	2.44% compound p.a.

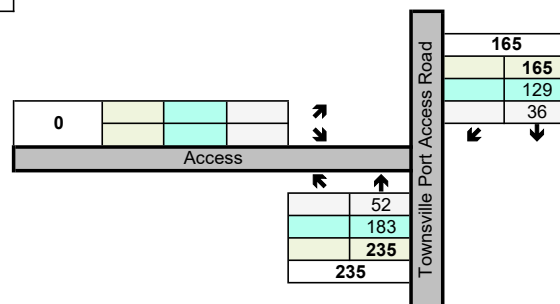
Scenario: 2026 Background Traffic (HV Assessment)
Access: All

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00
Background Growth Rate 2.44%

Intersection Total:	400
----------------------------	------------

Total Northbound:	235
Total Southbound:	165
Total Westbound:	0



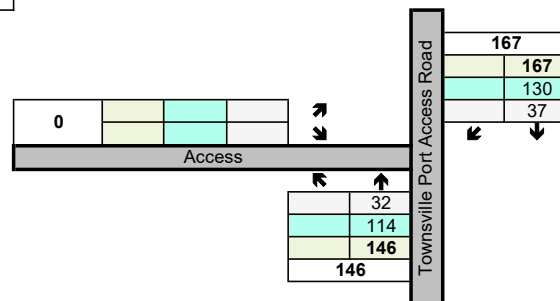
Scenario: 2026 Background Traffic (HV Assessment)
Access: Access 1, TMR CH. 4.37 km

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00
Background Growth Rate 2.44%

Intersection Total:	313
----------------------------	------------

Total Northbound:	146
Total Southbound:	167
Total Westbound:	0



Description

Construction Traffic - 2026

Year:	2026
HV%:	22.04%
Growth rate:	2.44% compound p.a.

Access Three - Establishment Traffic - Scenario 3a

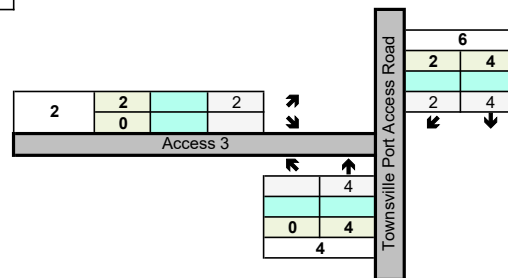
Scenario: 2026 AM Establishment Traffic (HV Assessment)
 Access: Access 3, TMR CH. 5.78 km
 Phase: Mobilisation

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00

Intersection Total:	12
----------------------------	-----------

Total Northbound:	6
Total Southbound:	4
Total Westbound:	2



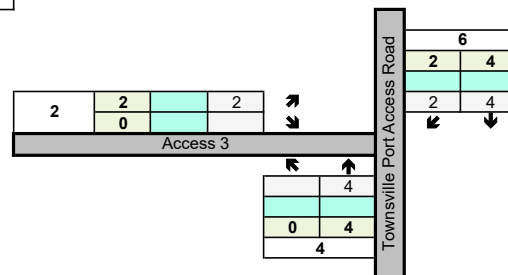
Scenario: 2026 PM Establishment Traffic (HV Assessment)
 Access: Access 3, TMR CH. 5.78 km
 Phase: Mobilisation

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00

Intersection Total:	12
----------------------------	-----------

Total Northbound:	6
Total Southbound:	4
Total Westbound:	2



Description

Access Three - Construction Traffic - Scenario 3b

Scenario: 2026 AM Construction Traffic (HV Assessment)

Access: Access 3, TMR CH. 5.78 km

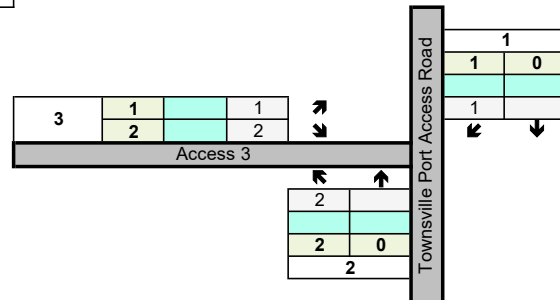
Phase: Open trench construction at Access 3

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00

Intersection Total:	6
----------------------------	----------

Total Northbound:	1
Total Southbound:	2
Total Westbound:	3



Scenario: 2026 PM Construction Traffic (HV Assessment)

Access: Access 3, TMR CH. 5.78 km

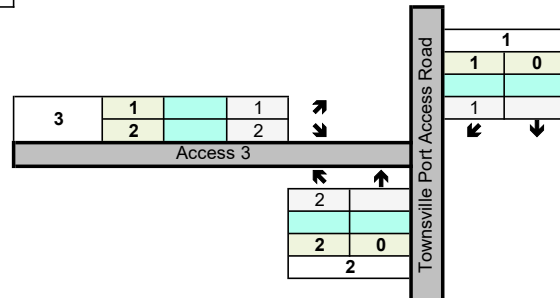
Phase: Open trench construction at Access 3

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00

Intersection Total:	6
----------------------------	----------

Total Northbound:	1
Total Southbound:	2
Total Westbound:	3



Description

Access Two - Establishment Traffic - Scenario 2a

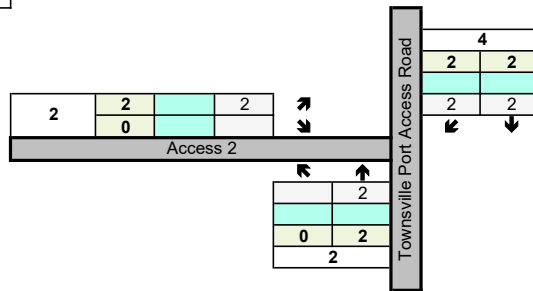
Scenario: 2026 AM Establishment Traffic (HV Assessment)
Access: Access 2, TMR CH. 5.09 km
Phase: Mobilisation

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00

Intersection Total:	8
----------------------------	----------

Total Northbound:	4
Total Southbound:	2
Total Westbound:	2



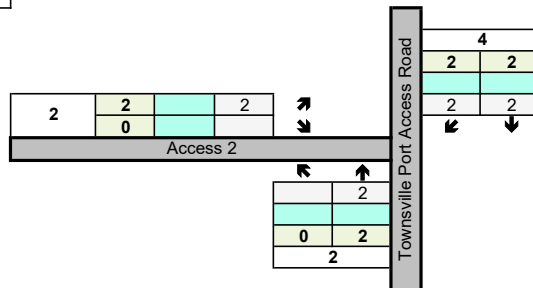
Scenario: 2026 PM Establishment Traffic (HV Assessment)
Access: Access 2, TMR CH. 5.09 km
Phase: Mobilisation

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00

Intersection Total:	8
----------------------------	----------

Total Northbound:	4
Total Southbound:	2
Total Westbound:	2



Description

Access Two - Construction Traffic - Scenario 2b

Scenario: 2026 AM Construction Traffic (HV Assessment)

Access: Access 2, TMR CH. 5.09 km

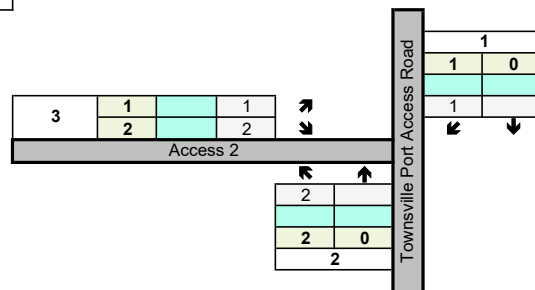
Phase: Concurrent Open Trench Construction Works (Access 2) and HDD Ross River Works (Access 3)

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00

Intersection Total:	6
----------------------------	----------

Total Northbound:	1
Total Southbound:	2
Total Westbound:	3



Scenario: 2026 PM Construction Traffic (HV Assessment)

Access: Access 2, TMR CH. 5.09 km

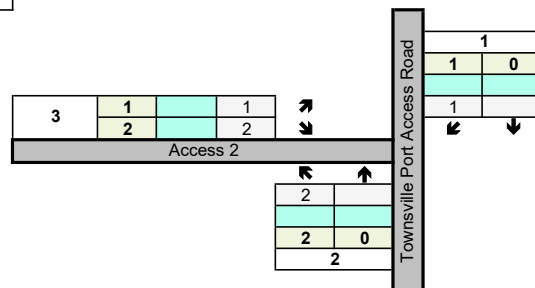
Phase: Concurrent Open Trench Construction Works (Access 2) and HDD Ross River Works (Access 3)

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00

Intersection Total:	6
----------------------------	----------

Total Northbound:	1
Total Southbound:	2
Total Westbound:	3



Description

Access One - Construction Traffic - Scenario 1a

Scenario: 2026 AM Construction Traffic (HV Assessment)

Access: Access 1, TMR CH. 4.37 km

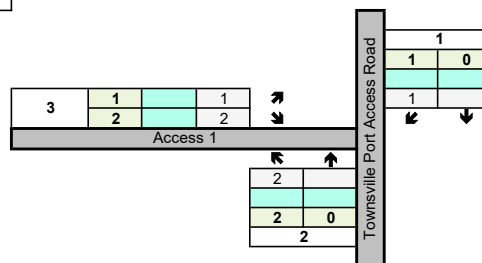
Phase: Open trench construction at Access 1

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00

Intersection Total: 6

Total Northbound:	1
Total Southbound:	2
Total Westbound:	3



Scenario: 2026 PM Construction Traffic (HV Assessment)

Access: Access 1, TMR CH. 4.37 km

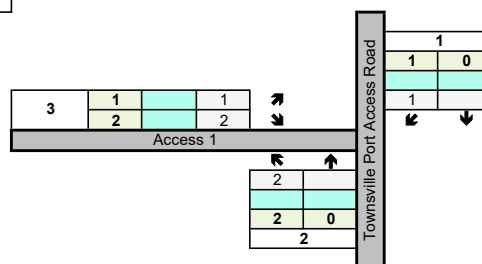
Phase: Open trench construction at Access 1

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00

Intersection Total: 6

Total Northbound:	1
Total Southbound:	2
Total Westbound:	3



Description

Total Construction Traffic - 2026

Year:	2026
HV%:	22.04%
Growth rate:	2.44% compound p.a.

Access Three - Establishment Traffic - Scenario 3a

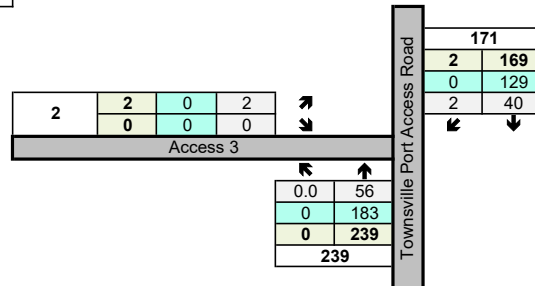
Scenario: Total 2026 AM Establishment Traffic (HV Assessment)
 Access: Access 3, TMR CH. 5.78 km

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00

Intersection Total:	412
----------------------------	------------

Total Northbound:	241
Total Southbound:	169
Total Westbound:	2



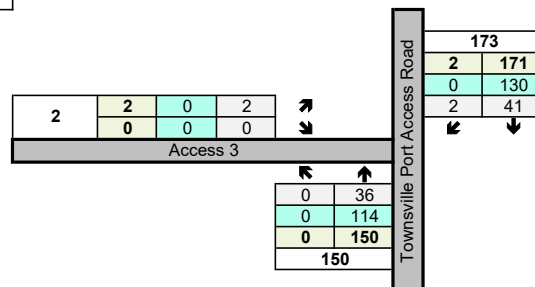
Scenario: Total 2026 PM Establishment Traffic (HV Assessment)
 Access: Access 3, TMR CH. 5.78 km

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00

Intersection Total:	325
----------------------------	------------

Total Northbound:	152
Total Southbound:	171
Total Westbound:	2

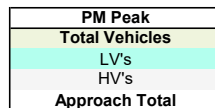


Access Three - Construction Traffic - Scenario 3b

AM Peak
Total Vehicles
LV's
HV's
Approach Total

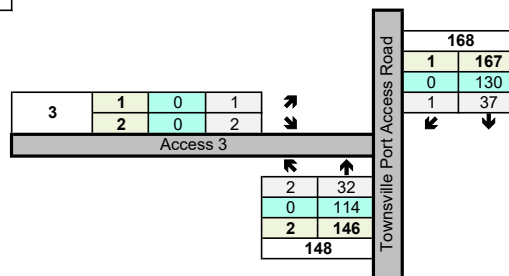
Intersection Total:	406
---------------------	-----

Total Northbound:	236
Total Southbound:	167
Total Westbound:	3



Intersection Total:	319
----------------------------	------------

Total Northbound:	147
Total Southbound:	169
Total Westbound:	3



Description

Access Two - Establishment Traffic - Scenario 2a

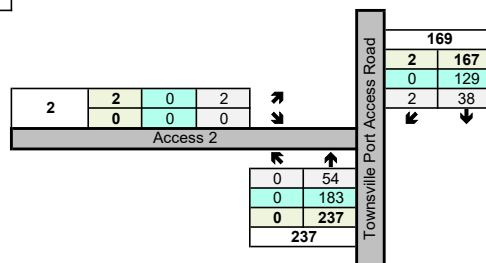
Scenario: Total 2026 AM Establishment Traffic (HV Assessment)
 Access: Access 2, TMR CH. 5.09 km

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00

Intersection Total:	408
---------------------	-----

Total Northbound:	239
Total Southbound:	167
Total Westbound:	2



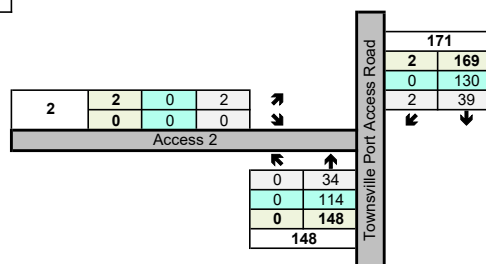
Scenario: Total 2026 PM Establishment Traffic (HV Assessment)
 Access: Access 2, TMR CH. 5.09 km

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00

Intersection Total:	321
---------------------	-----

Total Northbound:	150
Total Southbound:	169
Total Westbound:	2



Description

Access Two - Construction Traffic - Scenario 2b

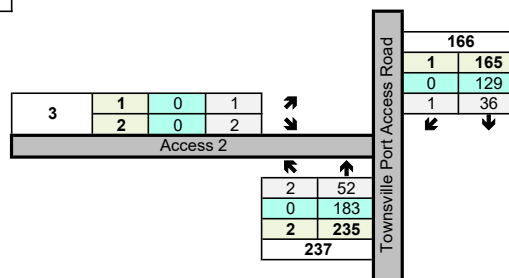
Scenario: Total 2026 AM Construction Traffic (HV Assessment)
 Access: Access 2, TMR CH. 5.09 km

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00

Intersection Total:	406
----------------------------	------------

Total Northbound:	236
Total Southbound:	167
Total Westbound:	3



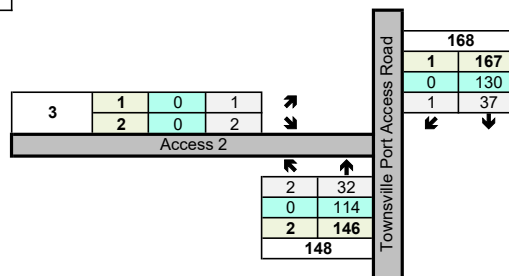
Scenario: Total 2026 PM Construction Traffic (HV Assessment)
 Access: Access 2, TMR CH. 5.09 km

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00

Intersection Total:	319
----------------------------	------------

Total Northbound:	147
Total Southbound:	169
Total Westbound:	3



Description

Access One - Construction Traffic - Scenario 1a

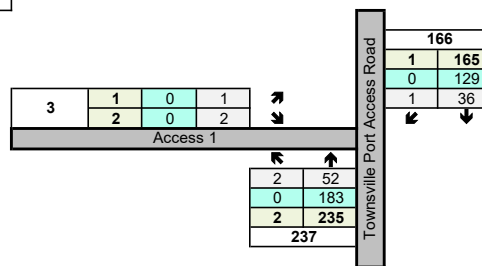
Scenario: Total 2026 AM Construction Traffic (HV Assessment)
 Access: Access 1, TMR CH. 4.37 km

AM Peak
Total Vehicles
LV's
HV's
Approach Total

07:00 to 08:00

Intersection Total:	406
---------------------	-----

Total Northbound:	236
Total Southbound:	167
Total Westbound:	3



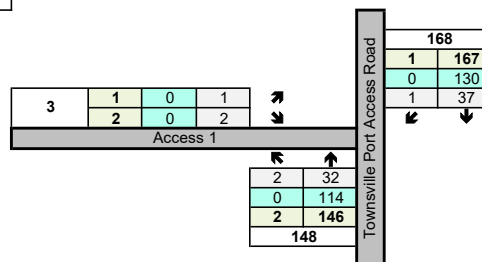
Scenario: Total 2026 PM Construction Traffic (HV Assessment)
 Access: Access 1, TMR CH. 4.37 km

PM Peak
Total Vehicles
LV's
HV's
Approach Total

16:00 to 17:00

Intersection Total:	319
---------------------	-----

Total Northbound:	147
Total Southbound:	169
Total Westbound:	3



Appendix F

Road Link Assessment

Road Network Assessment (Peak Period - Establishment 6-Apr-26)

		Background AADT (2026)	Workforce (LV)	HV (Establishment)	HV Extra	LV Extra	Development AADT (2026)	%
		2948	30	12	2	20	64	2.17%
Access Three								
		2948	30	8	2	40	80	2.71%
Access Two								
		2948	30	4	2	40	76	2.58%
Access One								
		2948	30	0	0	20	50	1.70%

Appendix G

SIDRA Intersection Results

MOVEMENT SUMMARY

▼ Site: 101 [Access One / Townsville Port Road
Intersection_AM_Worker (Site Folder: Access One
Scenario_2026 Worker Traffic)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Worker Peak Hour (AM): 05:00 to 06:00
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
South: Townsville Port Road															
1	L2	All MCs	16	0.0	16	0.0	0.052	7.8	LOS A	0.0	0.0	0.00	0.12	0.00	46.5
2	T1	All MCs	73	21.7	73	21.7	0.052	0.0	LOS A	0.0	0.0	0.00	0.12	0.00	95.5
Approach			88	17.9	88	17.9	0.052	1.4	NA	0.0	0.0	0.00	0.12	0.00	85.8
North: Townsville Port Road															
8	T1	All MCs	82	21.8	82	21.8	0.058	0.0	LOS A	0.1	0.8	0.07	0.12	0.07	95.3
9	R2	All MCs	16	0.0	16	0.0	0.058	8.0	LOS A	0.1	0.8	0.07	0.12	0.07	77.2
Approach			98	18.3	98	18.3	0.058	1.3	NA	0.1	0.8	0.07	0.12	0.07	93.2
West: Access One															
10	L2	All MCs	1	0.0	1	0.0	0.002	3.6	LOS A	0.0	0.0	0.19	0.45	0.19	62.1
12	R2	All MCs	1	0.0	1	0.0	0.002	4.2	LOS A	0.0	0.0	0.19	0.45	0.19	61.8
Approach			2	0.0	2	0.0	0.002	3.9	LOS A	0.0	0.0	0.19	0.45	0.19	61.9
All Vehicles			188	17.9	188	17.9	0.058	1.4	NA	0.1	0.8	0.04	0.13	0.04	89.3

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 [Access One / Townsville Port Road
Intersection_PM_Worker (Site Folder: Access One
Scenario_2026 Worker Traffic)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Worker Peak Hour (PM): 17:00 to 18:00
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
South: Townsville Port Road															
1	L2	All MCs	1	0.0	1	0.0	0.094	7.8	LOS A	0.0	0.0	0.00	0.00	0.00	48.2
2	T1	All MCs	157	22.1	157	22.1	0.094	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach			158	22.0	158	22.0	0.094	0.1	NA	0.0	0.0	0.00	0.00	0.00	99.4
North: Townsville Port Road															
8	T1	All MCs	144	21.9	144	21.9	0.086	0.0	LOS A	0.0	0.1	0.00	0.01	0.00	99.7
9	R2	All MCs	1	0.0	1	0.0	0.086	7.6	LOS A	0.0	0.1	0.00	0.01	0.00	82.6
Approach			145	21.7	145	21.7	0.086	0.1	NA	0.0	0.1	0.00	0.01	0.00	99.7
West: Access One															
10	L2	All MCs	16	0.0	16	0.0	0.028	3.9	LOS A	0.1	0.7	0.30	0.50	0.30	61.4
12	R2	All MCs	16	0.0	16	0.0	0.028	4.9	LOS A	0.1	0.7	0.30	0.50	0.30	61.1
Approach			32	0.0	32	0.0	0.028	4.4	LOS A	0.1	0.7	0.30	0.50	0.30	61.2
All Vehicles			335	19.8	335	19.8	0.094	0.5	NA	0.1	0.7	0.03	0.05	0.03	96.2

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 [Access One / Townsville Port Road
Intersection_AM_HV (Site Folder: Access One Scenario_2026
Construction Traffic (HV Assessment))]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Peak Hour (AM): 07:00 to 08:00
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
South: Townsville Port Road															
1	L2	All MCs	2 100.0		2 100.0		0.149	10.4	LOS B	0.0	0.0	0.00	0.01	0.00	46.0
2	T1	All MCs	247 22.1		247 22.1		0.149	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.6
Approach			249 22.8		249 22.8		0.149	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.1
North: Townsville Port Road															
8	T1	All MCs	174 21.8		174 21.8		0.105	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	99.6
9	R2	All MCs	1 100.0		1 100.0		0.105	12.2	LOS B	0.0	0.1	0.01	0.01	0.01	46.4
Approach			175 22.3		175 22.3		0.105	0.1	NA	0.0	0.1	0.01	0.01	0.01	99.3
West: Access One															
10	L2	All MCs	1 100.0		1 100.0		0.006	5.6	LOS A	0.0	0.3	0.47	0.57	0.47	37.5
12	R2	All MCs	2 100.0		2 100.0		0.006	8.6	LOS A	0.0	0.3	0.47	0.57	0.47	36.1
Approach			3 100.0		3 100.0		0.006	7.6	LOS A	0.0	0.3	0.47	0.57	0.47	36.6
All Vehicles			427 23.2		427 23.2		0.149	0.1	NA	0.0	0.3	0.01	0.01	0.01	98.5

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 (Akcelik 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 [Access One / Townsville Port Road
Intersection_PM_HV (Site Folder: Access One Scenario_2026
Construction Traffic (HV Assessment))]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Peak Hour (PM): 16:00 to 17:00
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
South: Townsville Port Road															
1	L2	All MCs	2	100.0	2	100.0	0.093	10.4	LOS B	0.0	0.0	0.00	0.01	0.00	45.9
2	T1	All MCs	154	21.9	154	21.9	0.093	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.5
Approach			156	23.0	156	23.0	0.093	0.1	NA	0.0	0.0	0.00	0.01	0.00	98.6
North: Townsville Port Road															
8	T1	All MCs	176	22.2	176	22.2	0.106	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	99.7
9	R2	All MCs	1	100.0	1	100.0	0.106	10.8	LOS B	0.0	0.1	0.01	0.00	0.01	46.4
Approach			177	22.6	177	22.6	0.106	0.1	NA	0.0	0.1	0.01	0.00	0.01	99.3
West: Access One															
10	L2	All MCs	1	100.0	1	100.0	0.005	4.7	LOS A	0.0	0.2	0.40	0.52	0.40	38.3
12	R2	All MCs	2	100.0	2	100.0	0.005	7.2	LOS A	0.0	0.2	0.40	0.52	0.40	36.9
Approach			3	100.0	3	100.0	0.005	6.4	LOS A	0.0	0.2	0.40	0.52	0.40	37.4
All Vehicles			336	23.5	336	23.5	0.106	0.2	NA	0.0	0.2	0.01	0.01	0.01	98.1

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 (Akcelik 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 [Access Two / Townsville Port Road
Intersection_AM_HV_2a (Site Folder: Access Two Scenario
2a_2026 Establishment Traffic (HV Assessment))]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Peak Hour (AM): 07:00 to 08:00
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
South: Townsville Port Road															
1	L2	All MCs	1	0.0	1	0.0	0.150	7.8	LOS A	0.0	0.0	0.00	0.00	0.00	48.3
2	T1	All MCs	249	22.8	249	22.8	0.150	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach			251	22.7	251	22.7	0.150	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.6
North: Townsville Port Road															
8	T1	All MCs	176	22.8	176	22.8	0.108	0.0	LOS A	0.0	0.3	0.02	0.02	0.02	99.3
9	R2	All MCs	2	100.0	2	100.0	0.108	14.1	LOS B	0.0	0.3	0.02	0.02	0.02	46.3
Approach			178	23.7	178	23.7	0.108	0.2	NA	0.0	0.3	0.02	0.02	0.02	98.6
West: Access Two															
10	L2	All MCs	2	100.0	2	100.0	0.004	5.6	LOS A	0.0	0.2	0.41	0.50	0.41	34.0
12	R2	All MCs	1	0.0	1	0.0	0.004	5.5	LOS A	0.0	0.2	0.41	0.50	0.41	58.6
Approach			3	66.7	3	66.7	0.004	5.6	LOS A	0.0	0.2	0.41	0.50	0.41	39.6
All Vehicles			432	23.4	432	23.4	0.150	0.1	NA	0.0	0.3	0.01	0.01	0.01	98.5

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 [Access Two / Townsville Port Road
Intersection_PM_HV_2a (Site Folder: Access Two Scenario
2a_2026 Establishment Traffic (HV Assessment))]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Peak Hour (PM): 16:00 to 17:00
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
South: Townsville Port Road															
1	L2	All MCs	1	0.0	1	0.0	0.094	7.8	LOS A	0.0	0.0	0.00	0.00	0.00	48.2
2	T1	All MCs	156	23.0	156	23.0	0.094	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach			157	22.8	157	22.8	0.094	0.1	NA	0.0	0.0	0.00	0.00	0.00	99.4
North: Townsville Port Road															
8	T1	All MCs	178	23.1	178	23.1	0.109	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	99.4
9	R2	All MCs	2	100.0	2	100.0	0.109	11.4	LOS B	0.0	0.2	0.01	0.01	0.01	46.3
Approach			180	24.0	180	24.0	0.109	0.1	NA	0.0	0.2	0.01	0.01	0.01	98.6
West: Access Two															
10	L2	All MCs	2	100.0	2	100.0	0.004	4.8	LOS A	0.0	0.1	0.33	0.46	0.33	34.3
12	R2	All MCs	1	0.0	1	0.0	0.004	5.0	LOS A	0.0	0.1	0.33	0.46	0.33	59.5
Approach			3	66.7	3	66.7	0.004	4.8	LOS A	0.0	0.1	0.33	0.46	0.33	40.0
All Vehicles			340	23.8	340	23.8	0.109	0.1	NA	0.0	0.2	0.01	0.01	0.01	98.2

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 [Access Two / Townsville Port Road
Intersection_AM_HV_2b (Site Folder: Access Two Scenario
2b_2026 Construction Traffic (HV Assessment))]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Peak Hour (AM): 07:00 to 08:00
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
South: Townsville Port Road															
1	L2	All MCs	2 100.0		2 100.0		0.149	10.4	LOS B	0.0	0.0	0.00	0.01	0.00	46.0
2	T1	All MCs	247 22.1		247 22.1		0.149	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.6
Approach			249 22.8		249 22.8		0.149	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.1
North: Townsville Port Road															
8	T1	All MCs	174 21.8		174 21.8		0.105	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	99.6
9	R2	All MCs	1 100.0		1 100.0		0.105	12.2	LOS B	0.0	0.1	0.01	0.01	0.01	46.4
Approach			175 22.3		175 22.3		0.105	0.1	NA	0.0	0.1	0.01	0.01	0.01	99.3
West: Access Two															
10	L2	All MCs	1 100.0		1 100.0		0.006	5.6	LOS A	0.0	0.3	0.47	0.57	0.47	37.5
12	R2	All MCs	2 100.0		2 100.0		0.006	8.6	LOS A	0.0	0.3	0.47	0.57	0.47	36.1
Approach			3 100.0		3 100.0		0.006	7.6	LOS A	0.0	0.3	0.47	0.57	0.47	36.6
All Vehicles			427 23.2		427 23.2		0.149	0.1	NA	0.0	0.3	0.01	0.01	0.01	98.5

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 (Akcelik 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 [Access Two / Townsville Port Road
Intersection_PM_HV_2b (Site Folder: Access Two Scenario
2b_2026 Construction Traffic (HV Assessment))]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Peak Hour (PM): 16:00 to 17:00
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
South: Townsville Port Road															
1	L2	All MCs	2	100.0	2	100.0	0.093	10.4	LOS B	0.0	0.0	0.00	0.01	0.00	45.9
2	T1	All MCs	154	21.9	154	21.9	0.093	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.5
Approach			156	23.0	156	23.0	0.093	0.1	NA	0.0	0.0	0.00	0.01	0.00	98.6
North: Townsville Port Road															
8	T1	All MCs	176	22.2	176	22.2	0.106	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	99.7
9	R2	All MCs	1	100.0	1	100.0	0.106	10.8	LOS B	0.0	0.1	0.01	0.00	0.01	46.4
Approach			177	22.6	177	22.6	0.106	0.1	NA	0.0	0.1	0.01	0.00	0.01	99.3
West: Access Two															
10	L2	All MCs	1	100.0	1	100.0	0.005	4.7	LOS A	0.0	0.2	0.40	0.52	0.40	38.3
12	R2	All MCs	2	100.0	2	100.0	0.005	7.2	LOS A	0.0	0.2	0.40	0.52	0.40	36.9
Approach			3	100.0	3	100.0	0.005	6.4	LOS A	0.0	0.2	0.40	0.52	0.40	37.4
All Vehicles			336	23.5	336	23.5	0.106	0.2	NA	0.0	0.2	0.01	0.01	0.01	98.1

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 (Akcelik 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 [Access Three / Townsville Port Road
Intersection_AM_HV_3a (Site Folder: Access Three Scenario
3a_2026 Establishment Traffic (HV Assessment))]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Peak Hour (AM): 07:00 to 08:00
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
South: Townsville Port Road															
1	L2	All MCs	1	0.0	1	0.0	0.152	7.8	LOS A	0.0	0.0	0.00	0.00	0.00	48.3
2	T1	All MCs	252	23.4	252	23.4	0.152	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach			253	23.3	253	23.3	0.152	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.6
North: Townsville Port Road															
8	T1	All MCs	178	23.7	178	23.7	0.110	0.0	LOS A	0.0	0.3	0.02	0.02	0.02	99.3
9	R2	All MCs	2	100.0	2	100.0	0.110	14.1	LOS B	0.0	0.3	0.02	0.02	0.02	46.3
Approach			180	24.6	180	24.6	0.110	0.2	NA	0.0	0.3	0.02	0.02	0.02	98.6
West: Access Three															
10	L2	All MCs	2	100.0	2	100.0	0.004	5.7	LOS A	0.0	0.2	0.42	0.50	0.42	34.0
12	R2	All MCs	1	0.0	1	0.0	0.004	5.5	LOS A	0.0	0.2	0.42	0.50	0.42	58.6
Approach			3	66.7	3	66.7	0.004	5.6	LOS A	0.0	0.2	0.42	0.50	0.42	39.5
All Vehicles			436	24.2	436	24.2	0.152	0.1	NA	0.0	0.3	0.01	0.01	0.01	98.5

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 [Access Three / Townsville Port Road
Intersection_PM_HV_3a (Site Folder: Access Three Scenario
3a_2026 Establishment Traffic (HV Assessment))]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Peak Hour (PM): 16:00 to 17:00
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
South: Townsville Port Road															
1	L2	All MCs	1	0.0	1	0.0	0.096	7.8	LOS A	0.0	0.0	0.00	0.00	0.00	48.2
2	T1	All MCs	158	24.0	158	24.0	0.096	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
Approach			159	23.8	159	23.8	0.096	0.1	NA	0.0	0.0	0.00	0.00	0.00	99.4
North: Townsville Port Road															
8	T1	All MCs	180	24.0	180	24.0	0.111	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	99.4
9	R2	All MCs	2	100.0	2	100.0	0.111	11.5	LOS B	0.0	0.2	0.01	0.01	0.01	46.3
Approach			182	24.9	182	24.9	0.111	0.1	NA	0.0	0.2	0.01	0.01	0.01	98.7
West: Access Three															
10	L2	All MCs	2	100.0	2	100.0	0.004	4.8	LOS A	0.0	0.1	0.33	0.46	0.33	34.3
12	R2	All MCs	1	0.0	1	0.0	0.004	5.0	LOS A	0.0	0.1	0.33	0.46	0.33	59.5
Approach			3	66.7	3	66.7	0.004	4.9	LOS A	0.0	0.1	0.33	0.46	0.33	39.9
All Vehicles			344	24.8	344	24.8	0.111	0.1	NA	0.0	0.2	0.01	0.01	0.01	98.2

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 [Access Three / Townsville Port Road
Intersection_PM_HV_3b (Site Folder: Access Three Scenario
3b_2026 Establishment Traffic (HV Assessment))]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Peak Hour (PM): 16:00 to 17:00
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]											
			veh/h	%	veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Townsville Port Road															
1	L2	All MCs	2 100.0		2 100.0		0.093	10.4	LOS B	0.0	0.0	0.00	0.01	0.00	45.9
2	T1	All MCs	154 21.9		154 21.9		0.093	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.5
Approach			156 23.0		156 23.0		0.093	0.1	NA	0.0	0.0	0.00	0.01	0.00	98.6
North: Townsville Port Road															
8	T1	All MCs	176 22.2		176 22.2		0.106	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	99.7
9	R2	All MCs	1 100.0		1 100.0		0.106	10.8	LOS B	0.0	0.1	0.01	0.00	0.01	46.4
Approach			177 22.6		177 22.6		0.106	0.1	NA	0.0	0.1	0.01	0.00	0.01	99.3
West: Access Three															
10	L2	All MCs	1 100.0		1 100.0		0.005	4.7	LOS A	0.0	0.2	0.40	0.52	0.40	38.3
12	R2	All MCs	2 100.0		2 100.0		0.005	7.2	LOS A	0.0	0.2	0.40	0.52	0.40	36.9
Approach			3 100.0		3 100.0		0.005	6.4	LOS A	0.0	0.2	0.40	0.52	0.40	37.4
All Vehicles			336 23.5		336 23.5		0.106	0.2	NA	0.0	0.2	0.01	0.01	0.01	98.1

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 (Akcelik 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 [Access Three / Townsville Port Road
Intersection_AM_HV_3b (Site Folder: Access Three Scenario
3b_2026 Establishment Traffic (HV Assessment))]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Peak Hour (AM): 07:00 to 08:00
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: Townsville Port Road															
1	L2	All MCs	2 100.0	2 100.0	0.149	10.4	LOS B	0.0	0.0	0.00	0.01	0.00	0.00	46.0	
2	T1	All MCs	247 22.1	247 22.1	0.149	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	0.00	99.6	
Approach			249 22.8	249 22.8	0.149	0.1	NA	0.0	0.0	0.00	0.01	0.00	0.00	99.1	
North: Townsville Port Road															
8	T1	All MCs	174 21.8	174 21.8	0.105	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	0.01	99.6	
9	R2	All MCs	1 100.0	1 100.0	0.105	12.2	LOS B	0.0	0.1	0.01	0.01	0.01	0.01	46.4	
Approach			175 22.3	175 22.3	0.105	0.1	NA	0.0	0.1	0.01	0.01	0.01	0.01	99.3	
West: Access Three															
10	L2	All MCs	1 100.0	1 100.0	0.006	5.6	LOS A	0.0	0.3	0.47	0.57	0.47	0.47	37.5	
12	R2	All MCs	2 100.0	2 100.0	0.006	8.6	LOS A	0.0	0.3	0.47	0.57	0.47	0.47	36.1	
Approach			3 100.0	3 100.0	0.006	7.6	LOS A	0.0	0.3	0.47	0.57	0.47	0.47	36.6	
All Vehicles			427 23.2	427 23.2	0.149	0.1	NA	0.0	0.3	0.01	0.01	0.01	0.01	98.5	

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 (Akcelik 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.

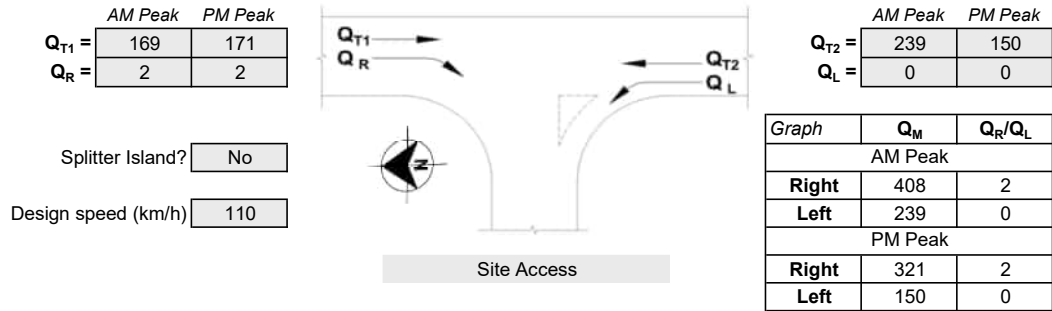
Appendix H

Turn Warrant Assessment

Turn Warrant Assessment

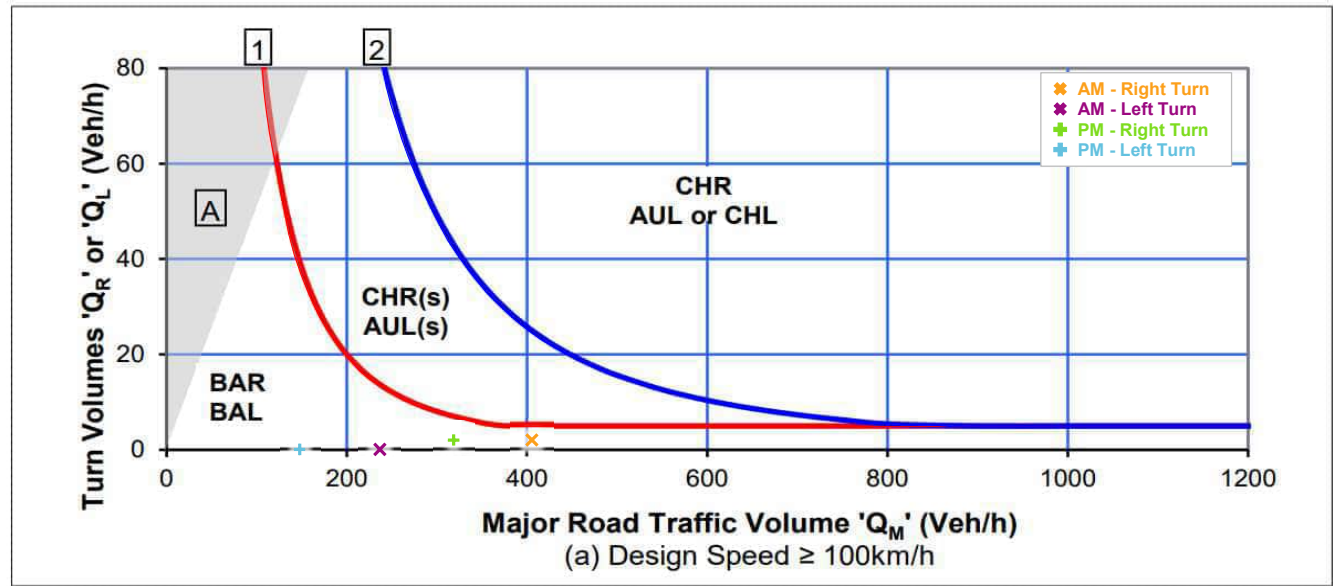
Intersection: **Townsville Port Road / Site Access (Major Road / Minor Road)**
Year / Peak: **2026 AM & PM Background Peak Hours** Scenarios: **Construction**

Assessment based on TMR Supplement, Traffic and Road Use Management, Volume 1 - Guide to Traffic Management, Part 6: Intersections, Interchanges and Crossings (November 2024). This warrant assessment applies only to turning movements from the major road only.



Graph	Q_M	Q_R/Q_L
AM Peak		
Right	408	2
Left	239	0
PM Peak		
Right	321	2
Left	150	0

Figure 3.25: Warrants for turn treatments on major roads at unsignalised intersections



Recommended treatments:

Right Turn	-
Left Turn	-

Legend

BAR	Basic Right Turn	BAL	Basic Left Turn
CHR(S)	Channelised Right Turn (short)	AUL(S)	Auxiliary Left Turn (short)
CHR	Channelised Right Turn	AUL	Auxiliary Left Turn
		CHL	Channelised Left Turn

Comments:

Prepared by:	C. Coombe
Reviewed by:	H.Dingley
Date:	28-Jul-25

Turn Warrant Assessment

Intersection: **Townsville Port Road / Site Access** (Major Road / Minor Road)
Year / Peak: **2026 AM & PM Worker Peak Hours** Scenarios: **Construction**

Assessment based on TMR Supplement, Traffic and Road Use Management, Volume 1 - Guide to Traffic Management, Part 6: Intersections, Interchanges and Crossings (November 2024). This warrant assessment applies only to turning movements from the major road only.

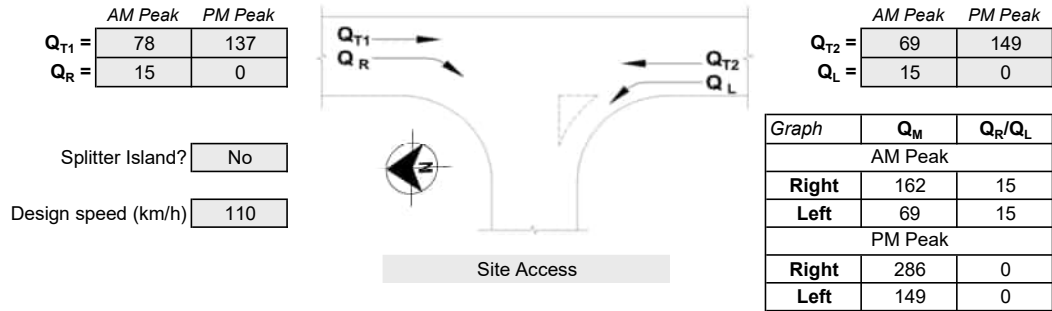
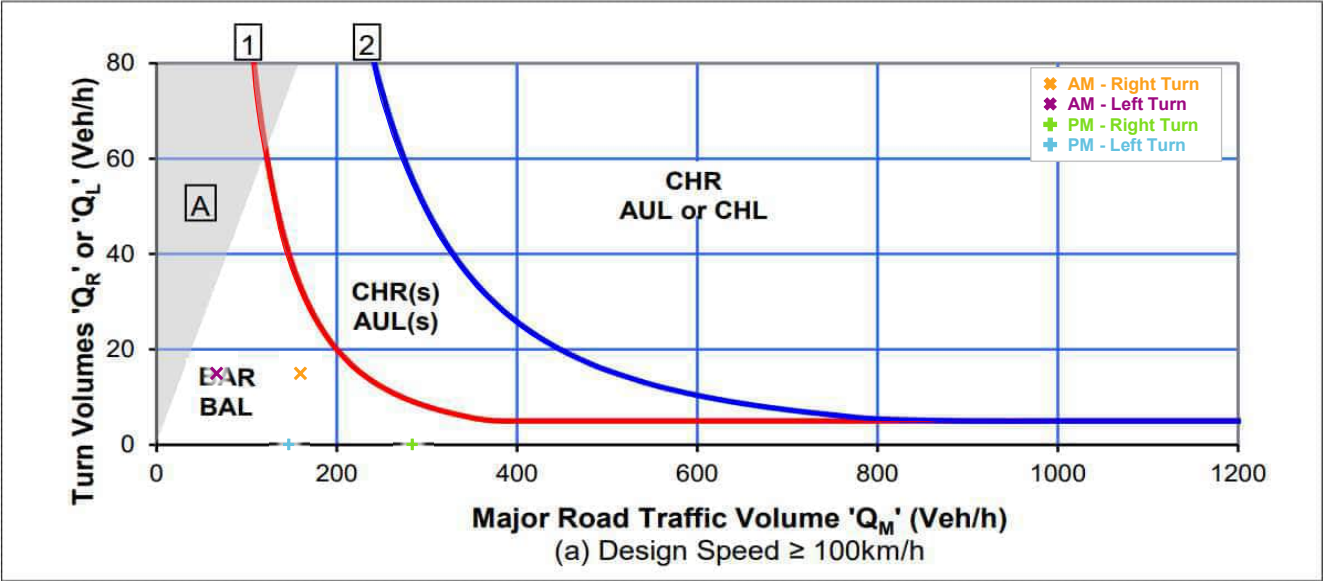


Figure 3.25: Warrants for turn treatments on major roads at unsignalised intersections



Recommended treatments:

Right Turn	-
Left Turn	-

Legend

BAR	Basic Right Turn	BAL	Basic Left Turn
CHR(S)	Channelised Right Turn (short)	AUL(S)	Auxiliary Left Turn (short)
CHR	Channelised Right Turn	AUL	Auxiliary Left Turn
		CHL	Channelised Left Turn

Comments:

Prepared by:	C. Coombe
Reviewed by:	H.Dingley
Date:	28-Jul-25

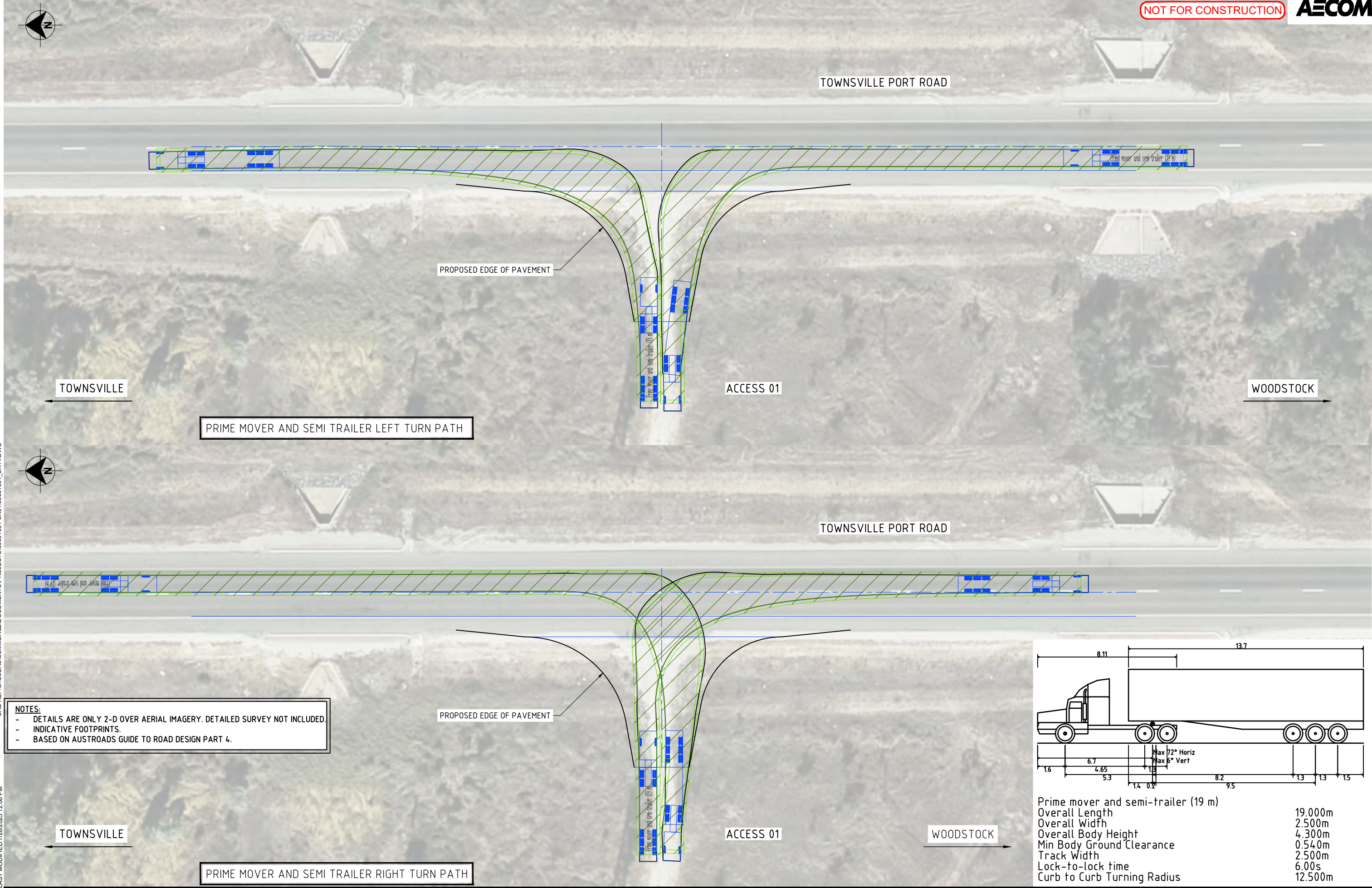
Appendix I

Swept Path Assessment



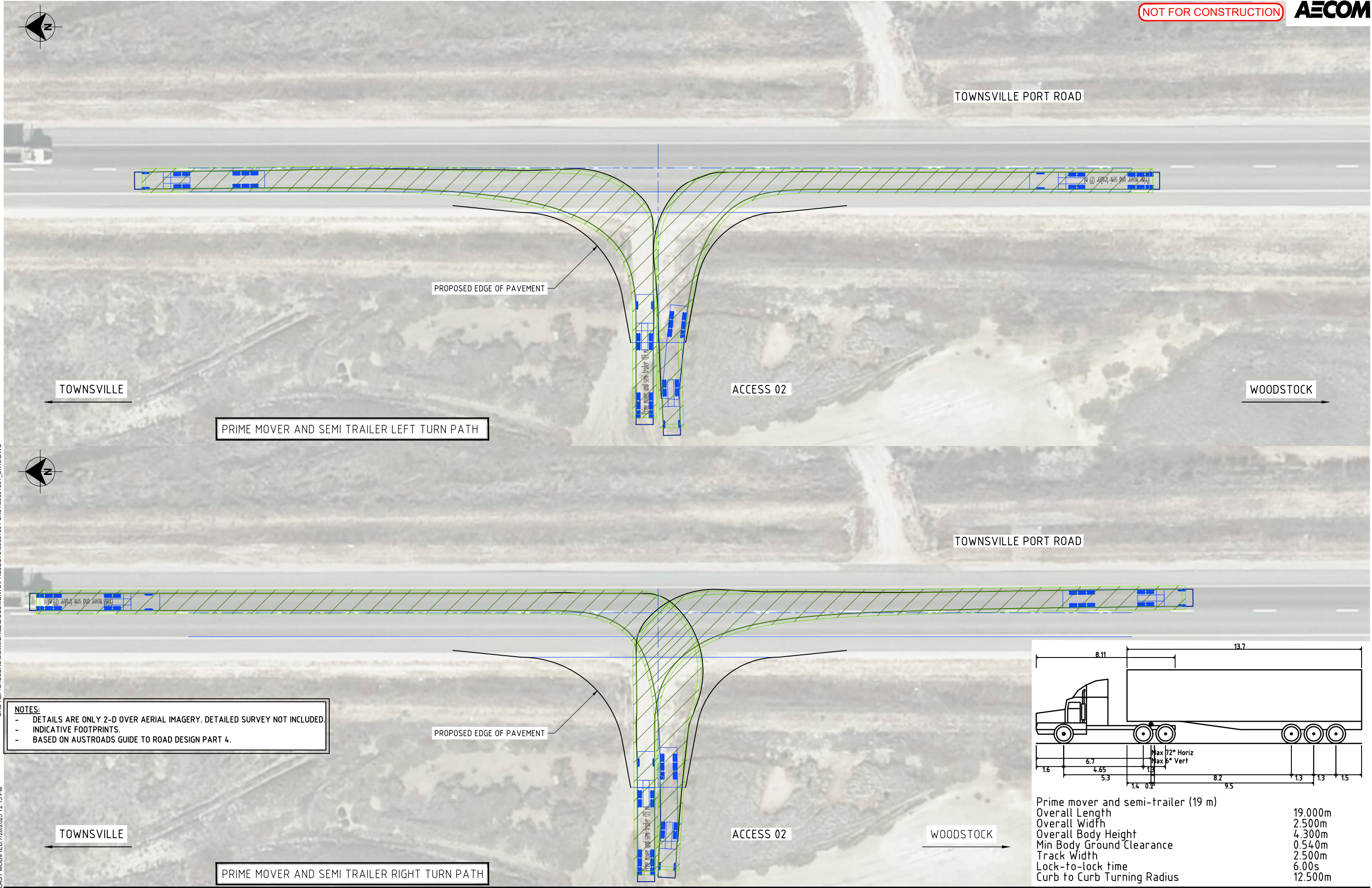
NOT FOR CONSTRUCTION

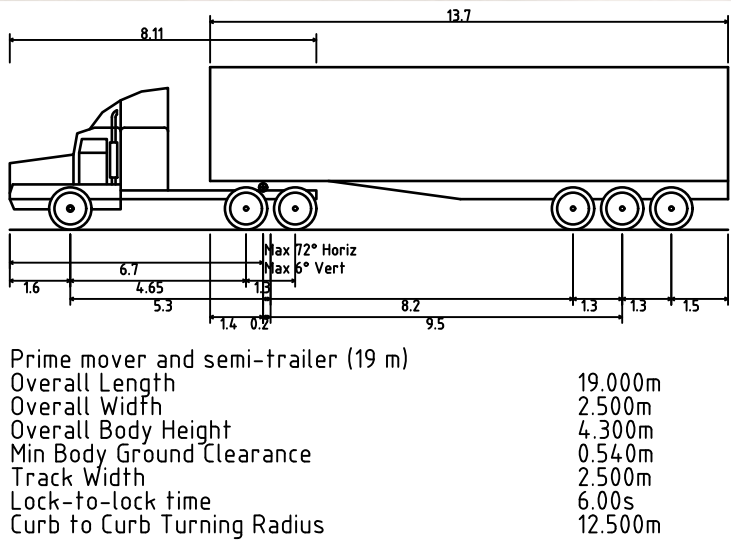
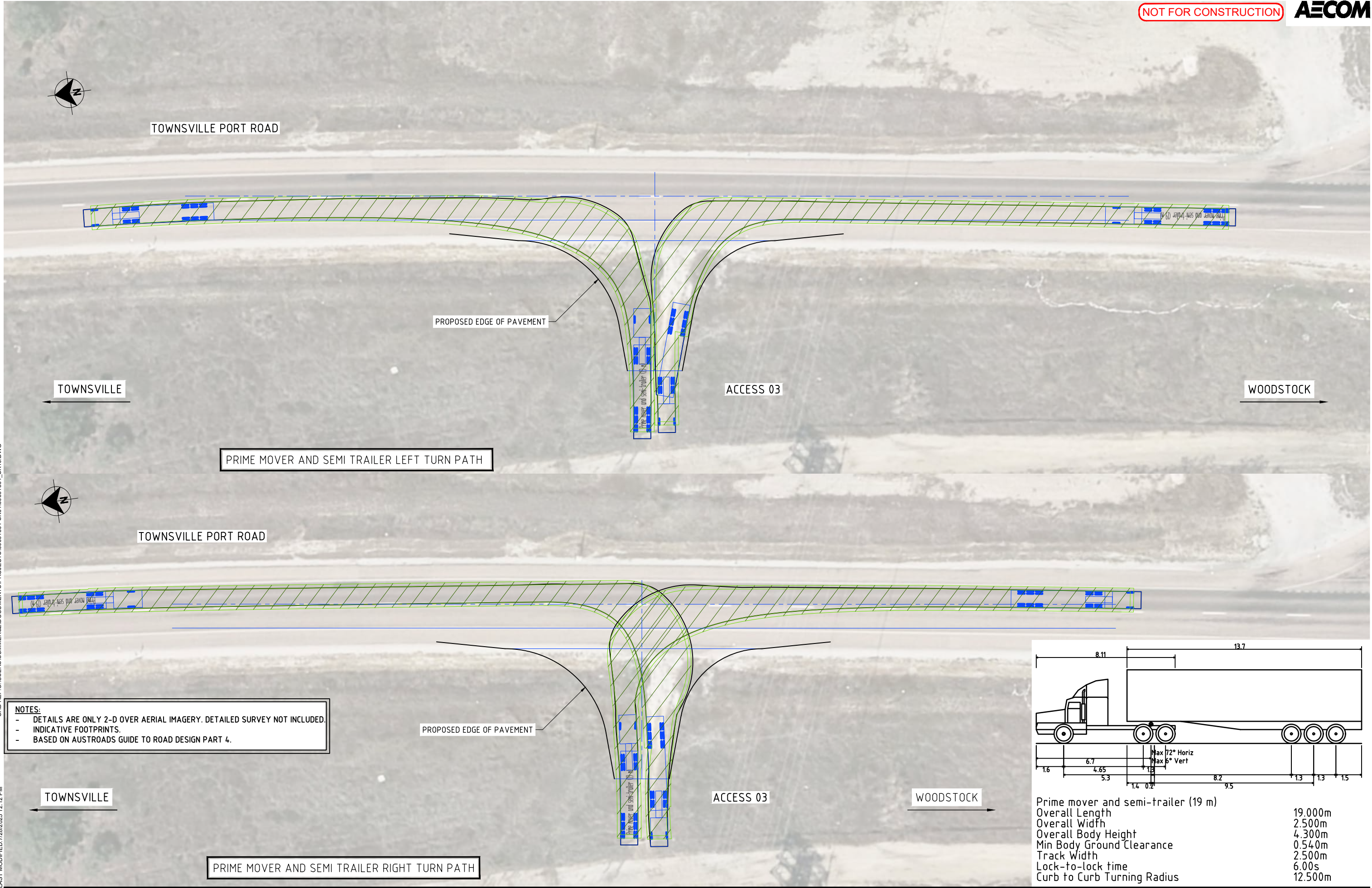
AECOM



NOTES:
- DETAILS ARE ONLY 2-D OVER AERIAL IMAGERY. DETAILED SURVEY NOT INCLUDED.
- INDICATIVE FOOTPRINTS.
- BASED ON AUSTRROADS GUIDE TO ROAD DESIGN PART 4.





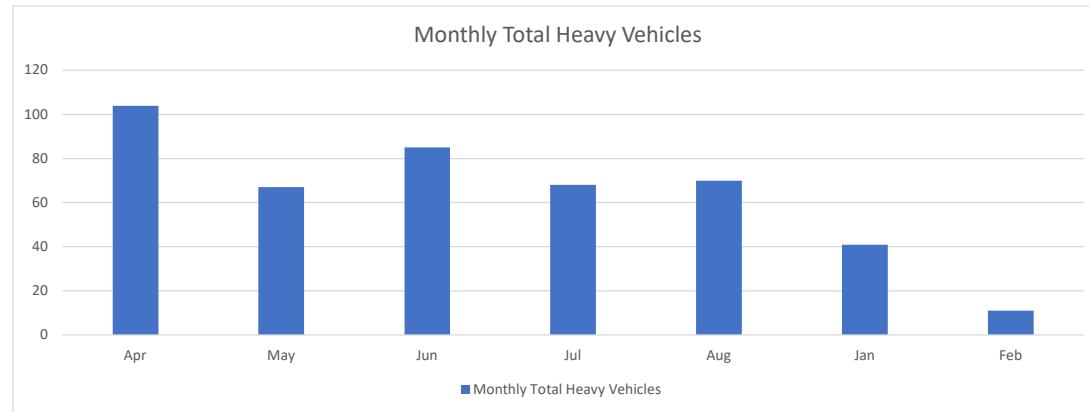


Appendix J

Pavement Impact Assessment

Note: This spreadsheet represents ROUND TRIPS

[illegible]



*This is the volumes for the gazettal / anti-gazettal direction (note, these will have the same development volumes since we are considering the full 7km section) (note, 19 round trips = 19 in G direction + 19 in A direction)

Vehicle Type	Month Weeks	Apr 4	May 4	Jun 5	Jul 4	Aug 5	Sep 4	Oct 4	Nov 5	Dec 3	2026	Jan 3	Feb 1	2027
Small Truck		0	0	0	0	0	0	0	0	0	0	0	0	0
Semi-Trailer/Heavy Haulage trucks		4	19	30	24	23	22	16	14	9	161	9	2	11
SPMT's		0	0	0	0	0	0	0	0	0	0	0	0	0
20-ton Delivery Vehicles		0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Rigid Trucks and Franna Cranes		0	0	0	0	0	0	0	0	0	0	0	0	0
Concrete Trucks		0	0	0	0	0	0	0	0	0	0	0	0	0
Truck and Dog		100	48	55	44	47	44	44	55	35	472	32	9	41
Total		104	67	85	68	70	66	60	69	44	633	41	11	52

Austrroads vehicle class	3	4	5	6	7	8	9	10	11	12
Legal Loading (t)	15	22.5	27.5	24	31.5	39	42.5	62.5	79	115.5
Base Load per SAR4	13.6	19.2	23	21.8	27.4	33	37.7	56.2	70	102.3
Unloaded Axle Group Load (t)	8.5	9.5	12.5	12.5	13.5	14.5	16	22.5	27.5	39
Unloaded SAR4	0.54	0.5	0.46	0.6	0.56	0.52	0.51	0.53	0.55	0.58
Unloaded SAR5	0.43	0.41	0.37	0.46	0.44	0.41	0.41	0.42	0.43	0.44
Unloaded SAR12	0.11	0.11	0.09	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Loaded Axle Group Load (t)	15	22.5	27.5	24	31.5	39	42.5	62.5	79	115.5
Loaded SAR4	2.98	3.57	4.09	4.43	5.02	5.61	4.93	6.3	8.34	11.75
Loaded SAR5	3.29	4.14	4.89	4.88	5.73	6.58	5.61	7.09	9.53	13.45
Loaded SAR12	6.6	12.08	17.07	9.65	15.13	20.61	14.63	17.17	25.71	36.79
Payload (t)	6.5	13	15	11.5	18	24.5	26.5	40	51.5	76.5

Vehicle Type	Small Truck	Semi-Trailer/Heavy Haulage trucks	SPMT's	20-ton Delivery Vehicles	Heavy Rigid Trucks and Franna Cranes	Concrete Trucks	Truck and Dog
Class	3	6	8	4	5	5	8
Unloaded SAR 4/HV	0.54	0.6	0.52	0.5	0.46	0.46	0.52
Unloaded SAR 5/HV	0.43	0.46	0.41	0.41	0.37	0.37	0.41
Unloaded SAR 12/HV	0.11	0.11	0.11	0.11	0.09	0.09	0.11
Loaded SAR 4/HV	2.98	4.43	5.61	3.57	4.09	4.09	5.61
Loaded SAR 5/HV	3.29	4.88	6.58	4.14	4.89	4.89	6.58
Loaded SAR 12/HV	6.6	9.65	20.61	12.08	17.07	17.07	20.61

Key Assumptions

- All vehicles travelling in the gazettal direction are unloaded (note, spoil removal from the south will arrive at site unloaded)
- All vehicles travelling in the anti-gazettal direction are loaded

N/A for this assessment

Section	Unloaded Split	Loaded Split	Vehicle Type	2026		Unloaded			Loaded			2027		Unloaded			Loaded		
				Unloaded Volumes	Loaded Volumes	SAR 4	SAR 5	SAR 12	SAR 4	SAR 5	SAR 12	Unloaded Volumes	Loaded Volumes	SAR 4	SAR 5	SAR 12	SAR 4	SAR 5	SAR 12
Gazettal	100%	0%	Small Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Semi-Trailer/Heavy Haulage trucks	161.00	0.00	96.60	74.06	17.71	0.00	0.00	0.00	11.00	0.00	6.60	5.06	1.21	0.00	0.00	0.00
			SPMT's	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			20-ton Delivery Vehicles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Heavy Rigid Trucks and Franna Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Concrete Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Truck and Dog	472.00	0.00	245.44	193.52	51.92	0.00	0.00	0.00	41.00	0.00	21.32	16.81	4.51	0.00	0.00	0.00
Anti-Gazettal	0%	100%	Small Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Semi-Trailer/Heavy Haulage trucks	0.00	161.00	0.00	0.00	0.00	713.23	785.68	1553.65	0.00	11.00	0.00	0.00	0.00	48.73	53.68	106.15
			SPMT's	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			20-ton Delivery Vehicles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Heavy Rigid Trucks and Franna Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Concrete Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Truck and Dog	0.00	472.00	0.00	0.00	0.00	2647.92	3105.76	9727.92	0.00	41.00	0.00	0.00	0.00	230.01	269.78	845.01

AADT Year2023

Assessment Year2026

2027

RoadName	ROAD_SECTION_ID	SUPERSET_CWAY	DIRECTION	TdistStart	TdistEnd	SURFACE_TYPE_LABEL	AADT	AADT_YEAR	GROWTH_PC_10YR
TOWNSVILLE PORT ROAD	841	1	A	0	7.336	SEALED	1311	2023	2.77
TOWNSVILLE PORT ROAD	841	1	G	0	7.336	SEALED	1436	2023	2.14

AADT_NONHV	PERCENT_NONHV	AADT_HV	PERCENT_HV	ExistingSAR	Directionality	Assumed Growth Rate	2026 Background Daily SAR	2026 Background Yearly SAR
968	73.77	344	26.23	1100.8	From	2.77%	1192	435181
1174	81.69	263	18.31	841.6	To	2.14%	896	326905

2026 Development Yearly SAR	2026 5% Comparison	2027 Background Daily SAR	2027 Background Yearly SAR	2027 Development Yearly SAR	2027 5% Comparison
3361.15	0.8%	1223	446311	278.74	0.1%
587.48	0.2%	914	333479	27.92	0.0%

Appendix J

Acid Sulfate Soil Management Considerations

Appendix J Acid Sulfate Soil Management Considerations

Prepared for
Townsville City Council
ABN: 44 741 992 072

AECOM

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Acid Sulfate Soils Management Considerations

04-Aug-2025
EOPM Replacement Pipeline

DRAFT

Acid Sulfate Soils Management Considerations

Client: Townsville City Council

ABN: 44 741 992 072

Prepared by

AECOM Australia Pty Ltd

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04-Aug-2025

Job No.: 60691504

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Document Acid Sulfate Soils Management Considerations
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Date 04-Aug-2025
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Checker/s Ona Kanas
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			Name/Position	Signature
A	04-Aug-2025	Draft for Client Review	Paul Lemcke Technical Director	

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1.0 Project Context

The Townsville City Council (TCC) is replacing a section of the existing Eastern Outfall Pressure Main (EOPM or the Project). The proposed alignment of the EOPM is from Sixth Street in South Townsville, across the Ross River south of the Southern Port Road bridge, to the intersection of Racecourse Road where it will connect to the Southern Suburbs Rising Main.

The Project footprint is presented in **Figure 1, Appendix A** and some portions of the alignment are mapped as likely Acid Sulfate Soil (ASS) as shown in **Figure 2, Appendix A**. The EOPM project layout plan intersects with Ak(p4), Aa(p4), Ab(p3), Ac(p3)h, and Ad(p3)o soils which are classified as high probability of ASS occurrence (>70%). According to the Queensland Globe, no necessary analytical data are available, however confidence is fair, based on a knowledge of similar soils in similar environments. A further investigation on ASS was conducted by Douglas Partners in 2023 and reported potential acid sulfate soil (PASS) is present within the maximum investigation depths. Summary of ASS investigation is presented in Table 1.

As part of the State Assessment and Referral Agency (SARA) pre-lodgement advice (SARA reference number: 2501-44467 SPL), ASS will require consideration during design and construction to avoid acid generation through soil and/or groundwater disturbance. It is noted that the EOPM passes through sensitive ecological receptors such as surface water features and groundwater dependent ecosystems (GDEs), which will require protection under the *Environmental Protection Act 1994*.

AECOM has delivered the detailed design for the EOPM, and as the Project moves toward construction tendering and execution, this ASS technical briefing note has been prepared for consideration by the Construction Contractor. This document aims to provide the Construction Contractor a summary of their obligations for the assessment and management of ASS, surface water and groundwater during all phases of construction, and mitigation of adverse effects on sensitive environmental values during the planning and delivery of this Project.

This document does not replace the Construction Contractor's requirements to develop and implement management plans for ASS, surface water and groundwater.

2.0 Existing Background Data

A detailed summary of the existing knowledge base specific to ASS and groundwater quality is included in Table 1 below. It is expected that the Contractor will complete infill sampling based on works completed to date to inform the ASSMP and construction schedule.

Table 1 Technical Report Summary & Data Gap Analysis

Report Title & Version	Project Ref, Author & Date	Objectives & Scope of Work	Findings & Conclusions
Limited Stage 1 Preliminary Site Investigation	60691504 AECOM Australia Pty Ltd. 28 March 2023	The objective of the Limited Stage 1 PSI was to understand the risk of encountering existing contamination and ASS during construction and the likely management requirements and implications for design and construction methodology. Scope of works: - Desktop review publicly available information including ASS mapping. - Identification of contaminants of potential concern (COPC) and areas requiring further investigation following completion of the desktop study and review of available information. - Completion of a site walkover and inspection following the desktop study - Tabulate a preliminary conceptual site model (CSM)	- Topography: Predominantly flat, ranging between 8.0 metres Australian Height Datum (mAHD) at the northern end of the alignment and 2.0 mAHD at the southern section of the alignment. - ASS: The ASRIS map indicates that the majority of the alignment has a high probability (with low confidence) of the occurrence of acid sulfate soils. The Ross River is mapped as high probability of occurrence (with confidence unknown). The southern portion has low probability (with low confidence) of the occurrence of acid sulfate soils. - Hydrology: Ross River is located at the Project footprint. - Hydrogeology: One groundwater bore (listed for domestic use and is potable quality) is identified approximately 240m west-northwest of the EOPM alignment. - Groundwater Dependant Ecosystems: The alignment is intersected by a known high potential aquatic GDE associated with the Ross River and a separate low potential aquatic GDE further to the south-east within wetlands. The majority of the central portion of the alignment intersects high potential terrestrial GDE.
Report on Limited Site Investigation (Contamination) Eastern Outfall Pressure Main Replacement. R.002.rev0.	221217.00 Douglas Partners 27 June 2023	- Combined geotechnical and environmental investigations associated with the proposed EOPM replacement spread along an alignment of approximately 3km. - Soil investigation for contamination assessment purposes from two soil bores and seven pits to a maximum depth of 2.5m below ground. - Samples for assessment of ASS were collected at 0.25 m depth intervals for the full depth of every second investigation location to a maximum depth of 3.5 m (TS01, TS03, TS05, TS07 and TS09). In addition, one sample of suspected monosulfidic black ooze (MBO)	- Groundwater levels ranged from 0.6 (TS03) to 2.5 (TS08). - All pH_F test results were equal to or greater than pH 4.5 and, therefore, that actual acid sulfate soil (AASS) is unlikely to be present. - A pH_{FOX} condition less than or equal to pH 3 was observed in 23 of the samples tested, with nine of them also exhibiting more than one pH unit below pH_F, and a strong or extreme reaction with hydrogen peroxide (ie reaction rate 3 or 4). These results provide a preliminary indication that potential acid

Report Title & Version	Project Ref, Author & Date	Objectives & Scope of Work	Findings & Conclusions
		was collected from the vicinity of TS05. The MBO sample was tested for; - Chromium suite ASS test; - Particle size analysis; - 15 metals (1M HCl extractable); - Nutrient content (NH₃, NO_x, phosphate); - Water extractable (major) anions (e.g. sulfate and chloride); - Disulfide content (part of the Cr Suite results); and - Elemental sulfur content.	sulfate soil (PASS) is present within the investigation depths. • 21 samples were selected for the 'existing plus potential' acidity calculation. The results reported 10 samples were above the adopted threshold of 0.03%S for chromium suite testing. All of the observed exceedances were in samples collected from the southern side of Ross River. No ASS/PASS was observed in the samples tested from the northern side of Ross River. • It was recommended by Douglas Partners that an ASSMP be prepared for any excavations extending approximately 1 m below ground level (bgl) on the southern side of Ross River. Based on a neutralising value (NV) of 95% the suggested liming rate ranges from approximately 1.5 kg/tonne of soil to 100 kg/tonne of soil.
SARA Pre-Lodgement Advice (SARA reference: 2501-44467 SPL)	Queensland Government. 14 April 2025.	Provide pre-lodgement advice for the development of the DA for the Project	• Elevation data along the alignment indicates the majority of the project occurs on land that is at or below an elevation of 5 m AHD. Vegetation in the project area (e.g. mangrove communities, samphire flats, etc.) are strongly correlated to the presence of ASS. Large portions of the alignment are mapped as 'high probability of occurrence of ASS' under the National ASS mapping program. • Prior to any works, an additional ASS investigation must be undertaken to identify the extent and severity of any ASS on site. The investigation must be carried out as per the current 'National ASS Guidance material'. • For details on relevant references for ASS investigations and management plans and dewatering mitigation measures refer to Section 3.0.

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3.0 Relevant Guidelines

In Queensland, all works with the potential to impact the receiving environment must be undertaken in accordance with the *Environmental Protection Act 1994*. This includes where construction works have the potential to disturb ASS. In addition, the following State and Federal legislation must be considered when working with ASS:

- *Planning Act 2016* (including the Qld State Planning Policy 2017, State interest – emissions and hazardous activities);
- *Vegetation Management Act 1999*;
- *Fisheries Act 1994*;
- *State Development and Public Works Organisation Act 1971*; and
- *Environment Protection and Biodiversity Conservation Act 1999*.

Relevant references for ASS investigations (sampling and laboratory methods) include:

- Sullivan L, Ward N, Toppler N and Lancaster G (2018a). National Acid Sulfate Soils Guidance: National acid sulfate soils sampling and identification methods manual. Department of Agriculture and Water Resources, Canberra ACT.
- Ward N, Toppler N and Lancaster G (2018b). National Acid Sulfate Soils Guidance: National Acid Sulfate Soils Identification and Laboratory Methods Manual, Department of Agriculture and Water Resources, Canberra OR the Australian Standard 4969;
- Dear SE, Williams KM, McElnea AE, Ahern CR, Dobos SK, Moore NG and O'Brien LE (2024). Queensland Acid Sulfate Soil Technical Manual, Soil Management Guidelines, Version 5.1. Department of Resources and Department of Environment, Science and Innovation, Queensland.

If any dewatering is proposed during trenching, this must be managed in accordance with:

- Shand, P, Appleyard, S, Simpson, SL, Degens, B, Mosley, LM (2018a), National Acid Sulfate Soils Guidance: Guidance for the dewatering of acid sulfate soils in shallow groundwater environments, Department of Agriculture and Water Resources, Canberra, ACT.
- Simpson, SL, Mosley, L, Batley, GE and Shand, P (2018b). National Acid sulfate soils guidance: Guidelines for the dredging of acid sulfate soil sediments and associated dredge spoil management, Department of Agriculture and Water Resources, Canberra, ACT

For advice on MBOs (where encountered):

- Sullivan, LA, Ward, NJ, Bush, RT, Toppler, NR, Choppala, G (2018), National Acid Sulfate Soils Guidance: Overview and management of monosulfidic black ooze (MBO) accumulations in waterways and wetlands, Department of Agriculture and Water Resources, Canberra, ACT.

4.0 Management and Mitigation Measures Incorporated into Design

4.1 Horizontal Directional Drilling

The design and construction methodology has incorporated avoidance strategies wherever practical. In areas identified as having a higher probability of encountering ASS, particularly those within or adjacent to tidally influenced or low-lying coastal environments, horizontal directional drilling (HDD) has been adopted. This methodology is proposed in order to:

- Significantly reduce direct soil disturbance within high-risk ASS zones, thereby minimising oxidation of sulfidic materials.
- Significantly reduce dewatering requirements, which can otherwise lower the water table and expose potential ASS to air, triggering acidification.

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- Reduce volume of excavated material requiring treatment, stockpiling, or disposal.
- Minimise disturbance to hydrologically and ecologically sensitive receptors, such as mangroves, estuarine zones, and tidal wetlands.

4.2 Nominated Laydown Areas

AECOM has proposed two laydown areas which may be used for stockpiling/treatment of ASS materials and may also be used for mobile water treatment facilities (if required). These areas are strategically located along the southern alignment of the Project footprint. The selection of these laydown sites was based on their logistical accessibility, reduced proximity to environmentally sensitive receptors (e.g. waterways, wetlands), and geotechnical suitability for temporary stockpiling operations. The proposed laydown areas are presented in **Figures 60691504-06 and 60691504-07 in Appendix A.**

5.0 Further Considerations for Construction

In preparing the ASSMP, the Construction Contractor will need to consider the design aspects presented in Section 4, as well as additional management measures specific to constructability and schedule, based on its construction methodology and program.

It is noted that the level of ASS investigation completed to date will need to be supplemented to enable characterisation at a level sufficient to develop the ASSMP.

5.1 ASS Supplementary Investigation

As part of the preparation of the ASSMP, the Construction Contractor will be required to complete a supplementary ASS Investigation, to collect sufficient data to inform construction risk and management. This review should infill data gaps remaining from the initial ASS investigations, in accordance with sample densities outlined in the National Acid Sulfate Soils Guidance: National acid sulfate soils sampling and identification methods manual (2018a).

5.2 Dewatering and Tidal Influence

Douglas Partners (2023) intersected shallow groundwater levels ranging from approximately 0.6 m to 2.5 m bgl. These shallow ranging conditions suggest that tidal groundwater influence may be present, especially in zones closer to the river and estuarine areas. Tidal groundwater ingress (if occurring) poses several potential risks during trench excavation, including:

- Mobilisation and oxidation of sulfidic materials due to fluctuating water levels and oxygen exposure.
- Increased requirement for dewatering, leading to greater volumes of water requiring treatment.
- Potential for acidified water generation and movement within or beyond the Project footprint.

To minimise the risks associated with tidal groundwater intrusion into excavation zones, the following measures can be put into considerations:

- Timing of excavation activities
 - Where practicable, trench excavation will be scheduled to occur during low tide periods and dry weather windows to reduce groundwater inflow.
 - Shorter open-trench lengths and rapid backfilling to limit the exposure duration of potential ASS to air and water fluctuation.
- Controlled dewatering and treatment (where required). Samples to be collected at intervals in line with the ASSMP during the dewatering operation. If analytical monitoring confirms water is suitable for discharge without treatment, this can be undertaken in accordance with the ASSMP. A mobile water treatment facility could also be considered for construction, groundwater ingress and incidental waters. Subject to meeting required discharge water quality, it is expected that treated

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water will be able to be discharged to environment provided that localised discharge impacts are managed.

- Rapid reinstatement and backfilling
- Excavated trenches could be backfilled promptly with either treated material or inert suitable fill to minimise the exposure of ASS.
- Reinstatement materials should be backfilled sequentially to reduce permeability and recreate post construction groundwater conditions regarding tidal water infiltration post-construction.

The design of the dewatering capture process, transport paths and staged treatment requirements and monitoring should be detailed in a Dewatering Management Plan (DMP).

5.3 Stockpile Management and Treatment of ASS

The Contractor will be responsible for assessing whether onsite reuse or offsite disposal is the most appropriate option for excavated ASS material and water, considering project logistics, environmental constraints, regulatory approvals, and cost-effectiveness.

It will be the responsibility of the Construction Contractor to assess the final liming rates based on completion of suitable soil testing to infill analytical data gaps.

Onsite treatment of ASS should be undertaken in accordance with industry standards, including a suitably designed and hydraulically isolated treatment pad, adoption of a mixing strategy appropriate for soil texture, staged works to limit open trenches, validation sampling and appropriate backfilling process. The design of the treatment pad, including stormwater/ construction water capture process, transport paths and staged treatment areas should be detailed in the ASSMP.

5.4 Onsite Reuse/ Offsite Disposal

It will be the responsibility of the Construction Contractor to determine whether spoil is suitable for reuse (either due to the absence of ASS, via strategic reburial and/or via validation of treatment with lime).

The strategic reburial aims to place the PASS in anoxic, preferably anaerobic (reducing) conditions at the base of a void. This environment will eliminate the sulfide oxidation and preclude the acid generation.

Voids for strategic reburial may be created through the excavation of areas containing non-ASS material or soils that can be effectively treated by alternative means. These voids can be located at depth, such as within the base of a excavations, and subsequently inundated with low or no-flow surface water. Alternatively, reburial voids may be placed at a depth safely below the seasonally lowest groundwater table, and encapsulated beneath compacted non-ASS or appropriately neutralised material to minimise oxygen ingress and prevent acid generation.

In the application of strategic reburial, it is critical to recognise that oxygen can be introduced into the soil profile via both atmospheric diffusion and oxygenated water. Oxygen ingress may occur through several pathways, including:

- Physical disturbance of the soil during excavation, handling, or transport, which exposes it to atmospheric oxygen.
- Stockpiling, which enhances drainage and creates pore spaces within the soil, facilitating both advective and diffusive oxygen movement.
- Burial below the water table where groundwater flow, particularly in permeable or uncompacted soils, may continuously deliver oxygenated water. This risk is elevated in sloped terrain or areas with preferential groundwater pathways, such as palaeochannels.

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A verification testing protocol must be implemented to confirm that materials containing Actual and/or Retained Acidity are not being reburied. Throughout the reburial process, regular monitoring of water pH should be undertaken to detect any potential oxidation of PASS or dissolution of acid salts. A drop in pH below 6.5 should trigger the immediate suspension of excavation and reburial activities, as it may indicate the presence of untreated acidity. In such cases, representative soil samples should be collected for laboratory analysis to quantify Actual and/or Retained Acidity. If the material repeatedly fails to meet performance criteria, it may require re-excavation and further treatment, and the site may ultimately be deemed unsuitable for strategic reburial.

Regardless of the strategy adopted, there a portion of the excavated material that will need to be disposed offsite due to the trench volume taken up by the new pipe and imported embedment material.

On that basis, it is considered unlikely that an reburial procedure will be able to be implemented on this project.

If considered more practicable given space or other logistical considerations, the Construction Contractor may choose to liaise with both Townsville City Council and a suitably licenced landfill to develop a program to accept material (either treated or untreated). If landfill disposal for some material is required, pre-treatment of material prior to disposal may prove a more cost effective and streamlined option. Off-site disposal of materials confirmed as contaminated from land parcels recorded on the QLD Environmental Management Register (EMR) will require a DETSI approved Soil Disposal Permit (SDP).

Some landfills are able to accept and treat ASS, this would need to be agreed to in advance as part of the material acceptance process and would incur a higher disposal cost. This option does not negate the need for the Construction Contractor to prepare the ASSMP as this would form part of the disposal acceptance documentation.

Depending on the nature of the waste requiring disposal, certain management, transport and tracking obligations may be applicable and will be required to be complied with.

5.5 Environmental Monitoring

The ASSMP prepared by the Construction Contractor will include provision for environmental monitoring during and for a period immediately post construction to confirm that no impact to the surrounding environment has occurred. Performance criteria and verification testing requirements will vary based on the specific management strategies adopted. Monitoring should be undertaken in accordance with the technical ASS guidance provided in Section 3.0.

5.6 Emergency Management and Unexpected Finds

The ASSMP is to also address incidental releases or erosion associated with unexpected events such as inclement weather or other unforeseen circumstances. This should be completed in conjunction with the Project CEMP.

6.0 Limitations

The information provided in this document is considered as guidance only for design and construct considerations related to ASS as part of the EOPM Project. It is provided in the interests of fostering project success and protection of sensitive environmental values within and adjacent to the Project disturbance footprint. The Construction Contractor will be responsible for management of all environmental risk during construction.

The information and advice contained within this guidance document should be considered preliminary in nature and has been prepared with consideration to the technical reports listed in this Report only. As

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such, other relevant technical ground investigation reports may exist which are the subject of the land in which the Project footprint is situated. Should other relevant data or documentation be available, this should also be considered in line with the advice in this guidance document and, where appropriate and scientifically robust, be incorporated into future design and construct considerations, in the context of ASS occurrence, anticipated extent of disturbance and groundwater vulnerability to acidification.

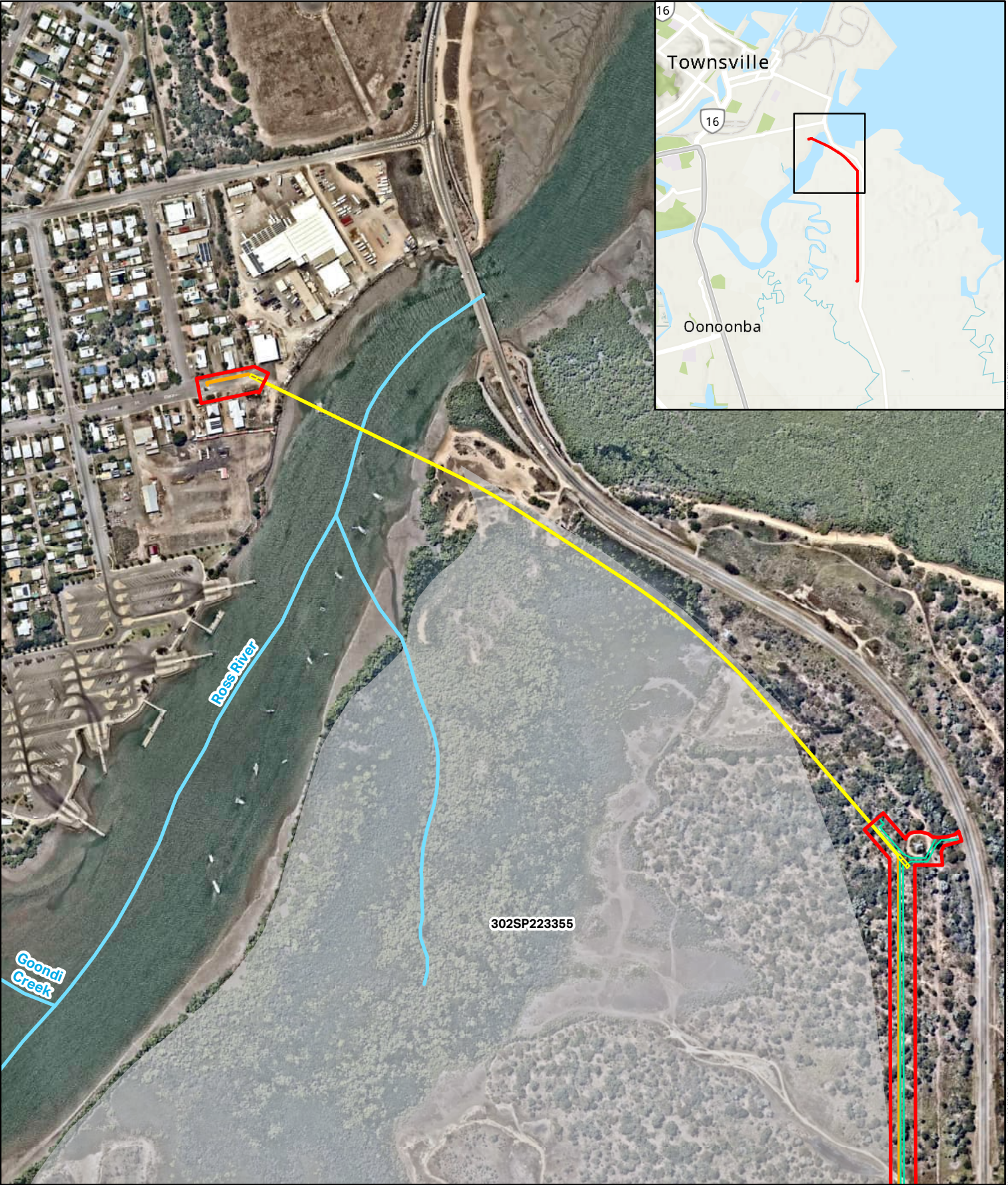
This report does not consider the presence of potential or actual contamination.

Where any additional relevant ground investigation reports are, or become, available and which encompass some, or all, of the recommended scopes of work to be undertaken in this document, the scope, methodologies, data validity, and findings of these additional reports should be assessed against existing data. Any residual knowledge or data gaps which remain, should be addressed in accordance with the advice in this guidance document.

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Appendix A

Figures



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0 100 200
metres

**Eastern Outfall Pressure Main
Figure 1-1**

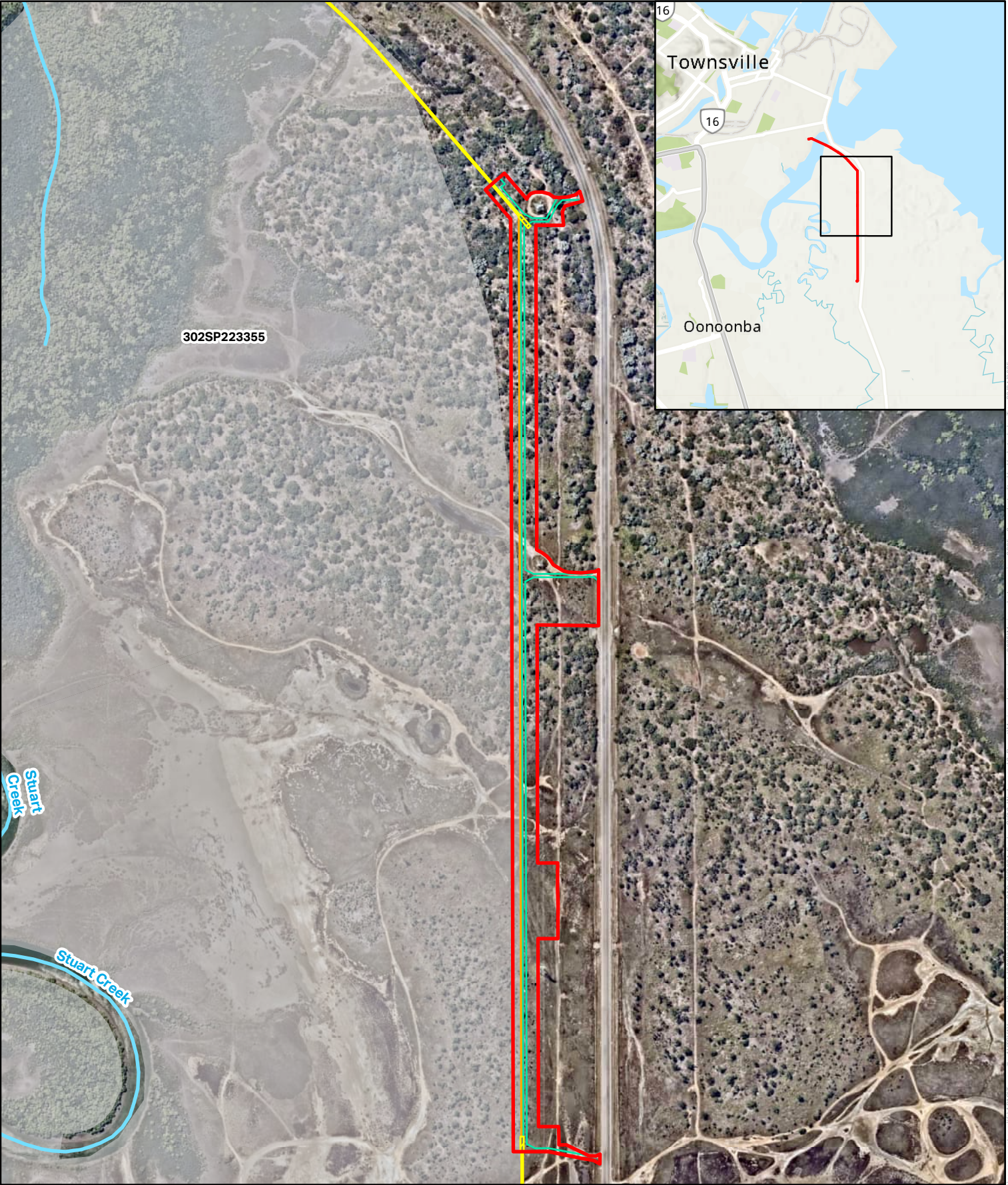
Project Area

Legend

- Project area
- Permanent access tracks
- Entry and exit pits
- Under-boring
- Pipeline alignment
- Watercourses
- Lot 302 SP223355

Project: 60691504
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0 100 200
metres

**Eastern Outfall Pressure Main
Figure 1-2**

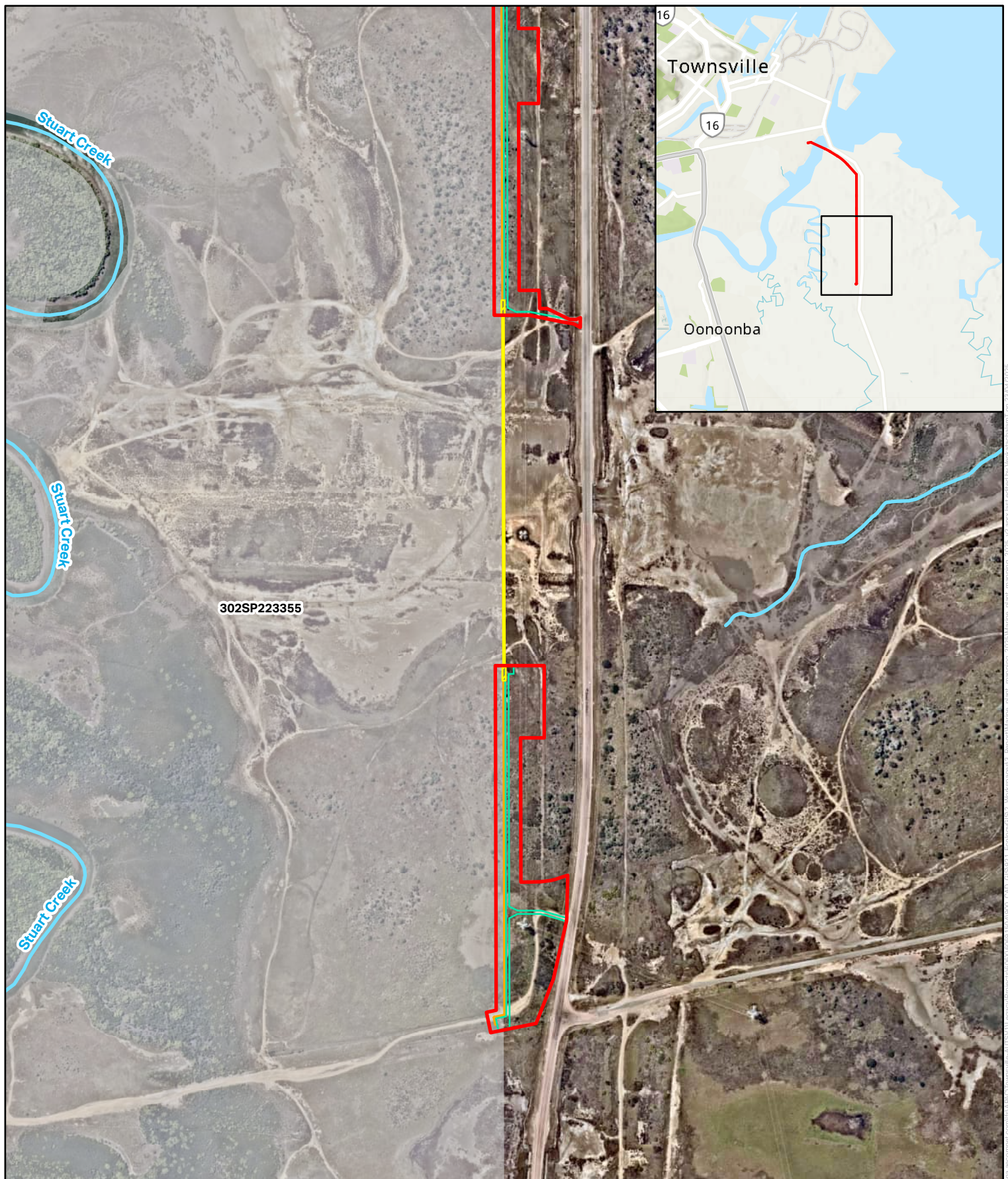
Project Area

Legend

- Project area
- Permanent access tracks
- Entry and exit pits
- Under-boring
- Pipeline alignment
- Watercourses
- Lot 302 SP223355

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0 100 200
metres

**Eastern Outfall Pressure Main
Figure 1-3**

Project Area

Legend

- Project area
- Permanent access tracks
- Entry and exit pits
- Under-boring
- Pipeline alignment
- Watercourses
- Lot 302 SP223355

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Figure 2

EOPM Project Layout Plan Overlaying with ASS Map

19°15'31"S 146°48'55"E

19°15'31"S 146°51'27"E

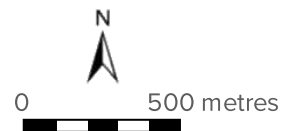
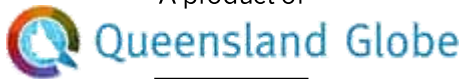


19°17'55"S 146°48'55"E

19°17'55"S 146°51'27"E

A product of

Legend located on next page



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Print date: 5/8/2025

Not suitable for accurate measurement.
Projection: Web Mercator EPSG 102100 (3857)

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Department of Natural Resources and Mines,
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Figure 2

EOPM Project Layout Plan Overlaying with ASS Map

Legend

Attribution

Project boundaries acid sulfate soils - 1:25 000 scale



Project boundaries acid sulfate soils - 1:50 000 scale



Project boundaries acid sulfate soils - 1:100 000 scale



Project polygons acid sulfate soils - 1:100 000 scale

- LP Land <=5m AHD with low probability of ASS
- LP5 Land above 5m AHD with low probability of ASS
- S ASS present in soil profile, type and depth to ASS not defined
- SP ASS of Pleistocene-age present in soil profile, type and depth to ASS not defined
- SW ASS present in soil profile, type and depth to ASS not defined, Melaleuca or Casuarina wetland
- SDL Disturbed land with probability of ASS
- SLA Limited field assessment with probability of ASS
- SLAW Limited field assessment with probability of ASS, Melaleuca or Casuarina wetland

Project polygons acid sulfate soils - 1:25 000 scale

- A0 Depth to actual ASS 0-0.5m
- A0W Depth to actual ASS 0-0.5m, Melaleuca or Casuarina wetland
- A1 Depth to actual ASS 0.5-1m
- A1W Depth to actual ASS 0.5-1m, Melaleuca or Casuarina wetland
- A2 Depth to actual ASS 1-2m
- A3 Depth to actual ASS 2-3m
- A4 Depth to actual ASS 3-4m
- S0 Depth to potential ASS 0-0.5m
- S0N Depth to potential ASS 0-0.5m with self-neutralising capacity
- S0W Depth to potential ASS 0-0.5m, Melaleuca or Casuarina wetland
- S1 Depth to potential ASS 0.5-1m
- S1N Depth to potential ASS 0.5-1m with self-neutralising capacity
- S1W Depth to potential ASS 0.5-1m, Melaleuca or Casuarina wetland
- S2 Depth to potential ASS 1-2m
- S2N Depth to potential ASS 1-2m with self-neutralising capacity
- S2W Depth to potential ASS 1-2m, Melaleuca or Casuarina wetland
- S3 Depth to potential ASS 2-3m

Maxar

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Project polygons acid sulfate soils - 1:25 000 scale (cont)

-  S3N Depth to potential ASS 2-3m with self-neutralising capacity
-  S4 Depth to potential ASS 3-4m
-  SP4 Depth to Pleistocene-age potential ASS 3-4m
-  S4N Depth to potential ASS 3-4m with self-neutralising capacity
-  S5 Depth to potential ASS 4-5m
-  SP5 Depth to Pleistocene-age potential ASS 4-5m
-  S5N Depth to potential ASS 4-5m with self-neutralising capacity
-  S5+ Depth to potential ASS >5m
-  SP5+ Depth to Pleistocene-age potential ASS >5m
-  S5+N Depth to potential ASS >5m with self-neutralising capacity
-  S ASS present in soil profile, type and depth to ASS not defined
-  SW ASS present in soil profile, type and depth to ASS not defined, Melaleuca or Casuarina wetland
-  SDL Disturbed land with probability of ASS
-  SLA Limited field assessment with probability of ASS
-  SLAW Limited field assessment with probability of ASS, Melaleuca or Casuarina wetland

Project polygons acid sulfate soils - 1:25 000 scale (cont)

-  LP Land <=5m AHD with low probability of ASS
-  LP5 Land above 5m AHD with low probability of ASS
-  Water
-  Not assessed

Project polygons acid sulfate soils - National scale

-  High probability of occurrence (>70%)
-  Low probability of occurrence (6-70%)
-  Extremely low probability of occurrence (1-5%)

Railway stations



Railways



Green bridges



Bridges



Tunnels



Project polygons acid sulfate soils - 1:50 000 scale

	A0 Depth to actual ASS 0-0.5m
	A0W Depth to actual ASS 0-0.5m, Melaleuca or Casuarina wetland
	A1 Depth to actual ASS 0.5-1m
	A1W Depth to actual ASS 0.5-1m, Melaleuca or Casuarina wetland
	A2 Depth to actual ASS 1-2m
	A3 Depth to actual ASS 2-3m
	A4 Depth to actual ASS 3-4m
	A5 Depth to actual ASS 4-5m
	S0 Depth to potential ASS 0-0.5m
	S0N Depth to potential ASS 0-0.5m with self-neutralising capacity
	S1 Depth to potential ASS 0.5-1m
	S1N Depth to potential ASS 0.5-1m with self-neutralising capacity
	S2 Depth to potential ASS 1-2m
	S2N Depth to potential ASS 1-2m with self-neutralising capacity
	S2W Depth to potential ASS 1-2m, Melaleuca or Casuarina wetland
	S3 Depth to potential ASS 2-3m
	SP3 Depth to Pleistocene-age potential ASS 2-3m
	S3N Depth to potential ASS 2-3m with self-neutralising capacity

Project polygons acid sulfate soils - 1:50 000 scale (cont)

	S3W Depth to potential ASS 2-3m, Melaleuca or Casuarina wetland
	S4 Depth to potential ASS 3-4m
	SP4 Depth to Pleistocene-age potential ASS 3-4m
	S4N Depth to potential ASS 3-4m with self-neutralising capacity
	S5 Depth to potential ASS 4-5m
	SP5 Depth to Pleistocene-age potential ASS 4-5m
	S5N Depth to potential ASS 4-5m with self-neutralising capacity
	S5+ Depth to potential ASS >5m
	SP5+ Depth to Pleistocene-age potential ASS >5m
	S ASS present in soil profile, type and depth to ASS not defined
	SW ASS present in soil profile, type and depth to ASS not defined, Melaleuca or Casuarina wetland
	SDL Disturbed land with probability of ASS
	SLA Limited field assessment with probability of ASS
	SLAN Limited field assessment with probability of ASS with self-neutralising capacity
	SLAW Limited field assessment with probability of ASS, Melaleuca or Casuarina wetland

Figure 2

Legend

Project polygons acid sulfate soils - 1:50 000 scale (cont)

-  LP Land <=5m AHD with low probability of ASS
-  LP5 Land above 5m AHD with low probability of ASS
-  LPW Land <=5m AHD with low probability of ASS, Melaleuca or Casuarina wetland
-  Not assessed

Roads and tracks

-  Motorway
-  Highway
-  Secondary
-  Connector
-  Local
-  Restricted Access Road
-  Mall
-  Busway
-  Bikeway
-  Restricted Access Bikeway
-  Walkway
-  Restricted Access Walkway
-  Non-vehicular Track
-  Track
-  Restricted Access Track
-  Ferry
-  Proposed Thoroughfare