Decision Notice

Planning Act 2016

Address all communications to
The Chief Executive Officer

PO Box 974, Ayr Qld 4807
T (07) 4783 9800
E planning@burdekin.qld.gov.au
www.burdekin.qld.gov.au

Enquiries to: Planning and Development
Our Reference: RAL19/0034.03
Your Reference: M1519

26 August 2026

Burdekin Shire Council
C/- Milford Planning
PO Box 5463
Townsville QLD 4810
Via email: *info@milfordplanning.com.au*

Attention: George Milford, Director

Dear George,

Development Application: RAL19/0034.03

Decision Notice – Change Application (Other Change) to a Preliminary Approval (Variation Approval) for a Material Change of Use (Ayr Industrial Estate Expansion) and Development Permit for Reconfiguring a Lot (3 Lots into 48 Lots) on land located at 31-87 Craig & 23-25 McCathie Street, Ayr (Lots 1-7, 9-11 and 82 on SP358254)

I refer to your development application made on behalf of Burdekin Shire Council, seeking a Change Application (Other Change) to a Preliminary Approval (Variation Approval) for a Material Change of Use (Ayr Industrial Estate Expansion) and Development Permit for Reconfiguring a Lot (3 Lots into 48 Lots), on land as described above.

Your development application was assessed by relevant officers and Council approved the proposed development on **25 August 2026**, subject to reasonable and relevant conditions. Council's Decision Notice is **enclosed**.

This notice outlines the development's conditions of approval, currency period, approved plans, and includes relevant extracts from the *Planning Act 2016*. These extracts contain information relating to the making of representations regarding conditions, the suspension of the appeal period, negotiated decisions, and the lodgement of an appeal, should you wish to do so.

Yours sincerely,

James Stewart
Director Infrastructure, Planning and Environmental Services

Encl: **Attachment A – Amended Conditions of Approval**
Attachment B – Approved Documentation
Attachment C – Referral Agency Response

Decision Notice

Section 63 of the Planning Act 2016

Application Details

This Decision Notice relates to the below Development Application:

Application Number:	RAL19/0034.03
Applicant Details:	Burdekin Shire Council C/- Milford Planning PO Box 5463 Townsville QLD 4810 Via email: *info@milfordplanning.com.au*
Owner Details:	Burdekin Shire Council
Street Address:	31-87 Craig Street & 23-25 McCathie Street, Ayr
Real Property Description:	Lots 1-7, 9-11 and 82 on SP358254
Proposal:	Change Application (Other Change) to a Preliminary Approval (Variation Approval) for a Material Change of Use (Ayr Industrial Estate Expansion) and Development Permit for Reconfiguring a Lot (3 Lots into 48 Lots)
Planning Scheme:	*Burdekin Shire Planning Scheme 2022*
Level of Assessment:	Impact

Decision Details

The information below outlines the specifics of any approval or refusal issued by the Assessment Manager resulting from development assessment as per the provision of the *Planning Act 2016*.

Type of Decision:	Approval with conditions
Date of Decision:	25 August 2026
Decision Type:	Development Permit
Deemed Approval:	The Development Permit is not a deemed approval under Section 64 of the *Planning Act 2016*
Submissions:	None received

Conditions of Approval

The Conditions of Approval are set out in **Attachment A** of this Decision Notice.

Approved Plans and Documents

The approved development must be completed and maintained generally in accordance with the approved plans and documents, except as amended by the conditions of this permit. The approved plans are included in **Attachment B** of this Decision Notice.

Referral Agencies

The development application was referred in accordance with the following provisions of the *Planning Regulation 2017*:

Status	Referral Agency and Address	Referral Trigger Planning Regulation 2017
Concurrence	NQSARA, PO Box 5666, Townsville, Q4810 Email: NQSARA@dsdilgp.qld.gov.au	Schedule 10, Part 9, Division 4, Subdivision 2, Table 4 - Premises near a State transport corridor or that is a future State transport corridor.

The Referral Agency Response is set out in **Attachment C** of this Decision Notice.

Further Approvals Required

As listed in the Advice section of the Conditions of Approval at **Attachment A**.

Infrastructure Charges

The proposal is not a development type that triggers infrastructure charges to be applied, as per Council's Charges Resolution.

Rights of Appeal

The rights of an Applicant to appeal to the Planning and Environment Court against a decision about a Development Application are set out in Chapter 6, Part 1 of the *Planning Act 2016*. There may also be the right to make an application for a declaration by Tribunal (refer Chapter 6, Part 2 of the *Planning Act 2016*).

An Applicant for a development application may appeal to the Planning and Environment Court against the following:

- the refusal of all or part of the development application
- a provision of the development approval
- the decision to give a preliminary approval when a development permit was applied for
- a deemed refusal of the development application.

The timeframes for starting an appeal in the Planning and Environment Court are set out in Section 229 of the *Planning Act 2016*. A copy of the relevant appeal provisions from the *Planning Act 2016* is **enclosed**.

Approval Currency Period

Pursuant to Section 85 of the *Planning Act 2016*, the Reconfiguring a Lot component of the Development Approval will lapse six (6) years after the approval starts to have effect, unless otherwise conditioned. The currency period can only be extended if the request is received before the approval lapses.

Notice About Decision – Statement of Reasons

This notice is prepared in accordance with Section 63(5) of the *Planning Act 2016* to inform the public about a decision that has been made in relation to a development application. The purpose of the notice is to enable a public understanding of the reasons for the planning decision, specifically having regard to:

- the relevant parts of the planning scheme and assessment benchmarks against which the application was assessed; and
- any other information, documents or material Council was either required, or able, to consider in its assessment.

All terms used in this notice have the meanings given them in the *Planning Act 2016*.

Assessment Benchmarks

The following assessment benchmarks applied to the proposed development:

- The whole of the planning scheme
- Strategic Framework and Strategic Intent
- Industry Zone Code
- Development Works Code
- Flood Hazard Overlay Code
- All Relevant Matters

Compliance with Assessment Benchmarks and Reasons for the Decision

The proposed development was assessed against all assessment benchmarks listed above and complies with the exception of the following listed. Reasons for approval despite non-compliance are listed below.

Assessment Benchmarks	Reason for approval despite non-compliance with Assessment Benchmark
Flood Hazard Overlay Code	The development site is mapped as being within the low and medium hazard areas, as identified in the Flood Hazard Overlay mapping. Condition 7.1 requires the finished level of all lots to be above the 1% AEP flood level. Condition 7.2 requires the new access road to have a finished level above the 2% AEP flood level. The proposed change will not change the finished level of the lots or road (which has largely been constructed). As such, the proposed change remains compliant with the relevant outcomes of the Flood Hazard Overlay Code.

Council exercises its discretion to approve the application even though the development may not strictly comply with an aspect of the assessment benchmarks, as the proposed development complies, or can be conditioned to comply with the outcomes sought by the relevant parts of the planning scheme/Strategic Framework and the intent of the relevant codes that apply including the Industry Zone Code, Flood Hazard Overlay Code, Development Works Code, and Reconfiguring a Lot Code.

Appeal Rights

Planning Act 2016 and Planning Regulation 2017

Chapter 6 Dispute resolution

Part 1 Appeal rights

229 Appeals to tribunal or P&E Court

(1) Schedule 1 of the *Planning Act 2016* states –
  (a) Matters that may be appealed to –
    (i) either a tribunal or the P&E Court; or
    (ii) only a tribunal; or
    (iii) only the P&E Court; and
  (b) The person-
    (i) who may appeal a matter (**the *appellant***); and
    (ii) who is a respondent in an appeal of the matter; and
    (iii) who is a co-respondent in an appeal of the matter; and
    (iv) who may elect to be a co-respondent in an appeal of the matter.

(Refer to Schedule 1 of the *Planning Act 2016*)

(2) An appellant may start an appeal within the appeal period.
(3) The ***appeal period*** is –
  (a) for an appeal by a building advisory agency—10 business days after a decision notice for the decision is given to the agency; or
  (b) for an appeal against a deemed refusal—at any time after the deemed refusal happens; or
  (c) for an appeal against a decision of the Minister, under chapter 7, part 4, to register premises or to renew the registration of premises—20 business days after a notice is published under section 269(3)(a) or (4); or
  (d) for an appeal against a decision of the Minister, under chapter 7, part 4, to amend the registration of premises to include additional land in the affected area for the premises—20 business days after the day a notice is published under section 269A(2)(a); or
  (e) for an appeal against an infrastructure charges notice—20 business days after the infrastructure charges notice is given to the person; or
  (f) for an appeal about a deemed approval of a development application for which a decision notice has not been given—30 business days after the applicant gives the deemed approval notice to the assessment manager; or
  (g) for an appeal relating to the *Plumbing and Drainage Act 2018*—
    a. for an appeal against an enforcement notice given because of a belief mentioned in the *Plumbing and Drainage Act 2018*, section 143(2)(a)(i), (b) or (c)—5 business days after the day the notice is given; or
    b. for an appeal against a decision of a local government or an inspector to give an action notice under the *Plumbing and Drainage Act 2018*—5 business days after the notice is given; or
    c. for an appeal against a failure to make a decision about an application or other matter under the *Plumbing and Drainage Act 2018*—at anytime after the period within which the application or matter was required to be decided ends; or
    d. otherwise—20 business days after the day the notice is given; or
  (h) for any other appeal—20 business days after a notice of the decision for the matter, including an enforcement notice, is given to the person.

Note –
See the P&E Court Act for the court's power to extend the appeal period.

(4) Each respondent and co-respondent for an appeal may be heard in the appeal.
(5) If an appeal is only about a referral agency's response, the assessment manager may apply to the tribunal or P&E Court to withdraw from the appeal.
(6) To remove any doubt. It is declared that an appeal against an infrastructure charges notice must not be about-
  (a) the adopted charge itself; or
  (b) for a decision about an offset or refund-
    (i) the establishment cost of trunk infrastructure identified in a LGIP; or
    (ii) the cost of infrastructure decided using the method included in the local government's charges resolution.

230 Notice of appeal

(1) An appellant starts an appeal by lodging, with the registrar of the tribunal or P&E Court, a notice of appeal that-
  (a) is in the approved form; and
  (b) succinctly states the grounds of the appeal.
(2) The notice of appeal must be accompanied by the required fee.
(3) The appellant or, for an appeal to a tribunal, the registrar, must, within the service period, give a copy of the notice of appeal to –
  (a) the respondent for the appeal; and
  (b) each co-respondent for the appeal; and

(c) for an appeal about a development application under schedule 1, section 1, table 1, item 1—each principal submitter for the application whose submission has not been withdrawn; and
(d) for an appeal about a change application under schedule 1, section 1, table 1, item 2—each principal submitter for the application whose submission has not been withdrawn; and
(e) each person who may elect to be a co-respondent for the appeal other than an eligible submitter for a development application or change application the subject of the appeal; and
(f) for an appeal to the P&E Court – the chief executive; and
(g) for an appeal to a tribunal under another Act – any other person who the registrar considers appropriate.

(4) The *service period* is –
(a) if a submitter or advice agency started the appeal in the P&E Court – 2 business days after the appeal has started; or
(b) otherwise – 10 business days after the appeal is started.

(5) A notice of appeal given to a person who may elect to be a co-respondent must state the effect of subsection (6).

(6) A person elects to be a co-respondent to an appeal by filing a notice of election in the approved form—
a. if a copy of the notice of appeal is given to the person—within 10 business days after the copy is given to the person; or
b. otherwise—within 15 business days after the notice of appeal is lodged with the registrar of the tribunal or the P&E Court.

(7) Despite any other Act or rules of court to the contrary, a copy of a notice of appeal may be given to the chief executive by emailing the copy to the chief executive at the email address stated on the department's website for this purpose.

231 Non-appealable decisions and matters

(1) Subject to this chapter, section 316(2), schedule 1 and the P&E Court Act, unless the Supreme Court decides a decision or other matter under this Act is affected by jurisdictional error, the decision or matter is non-appealable.

(2) The *Judicial Review Act 1991*, part 5 applies to the decision or matter to the extent it is affected by jurisdictional error.

(3) A person who, but for subsection (1) could have made an application under the *Judicial Review Act 1991* in relation to the decision or matter, may apply under part 4 of that Act for a statement of reasons in relation to the decision or matter.

(4) In this section –
decision includes-
(a) conduct engaged in for the purpose of making a decision; and
(b) other conduct that relates to the making of a decision; and
(c) the making of a decision or failure to make a decision; and
(d) a purported decision; and
(e) a deemed refusal.
non-appealable, for a decision or matter, means the decision or matter-
(a) is final and conclusive; and
(b) may not be challenged, appealed against, reviewed, quashed, set aside or called into question in any other way under the Judicial Review Act 1991 or otherwise, whether by the Supreme Court, another court, any tribunal or another entity; and
(c) is not subject to any declaratory, injunctive or other order of the Supreme Court, another court, any tribunal or another entity on any ground.

232 Rules of the P&E Court

(1) A person who is appealing to the P&E Court must comply with the rules of the court that apply to the appeal.

(2) However, the P&E Court may hear and decide an appeal even if the person has not complied with the rules of the P&E Court.

The nature of the changes to the conditions of approval are listed with ~~strikethrough~~ indicating removal and **bold** text indicating amendments and/or insertions.

General Conditions	Reason	Timing
1 General and Administration Compliance with Conditions 1.1 The Applicant (and any contractor, agent, employee or invitee of the applicant) is responsible for carrying out the approved development and ensuring compliance with this development approval, the conditions of the approval and the relevant requirements in accordance with: 1.1.1 The specifications, facts and circumstances as set out in the application submitted to Council, including recommendations and findings confirmed within the relevant technical reports. 1.1.2 The development must comply in full with all conditions of this approval, and is to be designed, constructed and maintained in accordance with relevant Planning Scheme requirements, Council policies, guidelines and standards (except as otherwise specified by any condition) to Council's satisfaction, and best practice engineering. 1.2 Where a discrepancy or conflict exists between the written condition(s) of the approval and the approved plans, the requirements of the written condition(s) of the development approval will prevail. 1.3 Where these conditions refer to 'Council' in relation to requiring Council to approve or be satisfied, the role of the Council may be fulfilled in whole or in part by an officer acting under appropriate delegation. Works – Applicant's Responsibility/Expense 1.4 The cost of all works associated with the development and construction of the development including services, facilities and/or public utility alterations required are met by the applicant, at no cost to the Council. 1.5 The applicant must repair any damage to existing infrastructure (e.g. kerb and channel, footpath or roadway) that may occur during any works undertaken as part of the development. Any damage that is deemed to create a hazard to the community must be repaired immediately. Infrastructure Conditions 1.6 All development conditions contained in this development approval relating to infrastructure under Chapter 4 of the *Planning Act 2016 (the Act)*, should be read as being non-trunk infrastructure conditioned under section 145 of the Act, unless otherwise stated.		At all times.

2. Approved Plans and Documents <u>Approved Plans & Documents</u> 2.1 The proposed development must be completed, comply with and maintained generally in accordance with the drawings/ documents identified in the above, except as otherwise specified and/or amended by any condition of this approval. 2.2 The development must be constructed in the position and at the levels identified on the approved plans or as stipulated by a condition of this approval, noting that all boundary setback measurements are taken from the real property boundary and not from such things as road bitumen or fence lines. 2.3 Where there is any conflict between the conditions of this approval and the details shown on the approved plans and documents, the conditions of approval must prevail.	The development must comply with all planning scheme requirements as approved and conditioned by this development permit.	At all times.

Approved Plans and Documents

Document	Plan Ref, Rev.	Prepared by	Date
Survey Plan 361405 (As Approved by Minor Change RAL19/0034.04)	Plan of Lots 4 –11 and 16 - 22 Cancelling Lots 5, 6, 7 & 9 on SP358254 and Easement K in Lot 11 on SP358254	Atkinson Surveys	19/03/2026
Schedule 1 – Structure Plan Area Ayr Industrial Estate Expansion Plan of Development	M1519–SK–01, Revision N/A	Milford Planning	02/12/2019
Ayr Industrial Estate Expansion Stage Development Detailed Layout Plan	M–1178–9, Revision A	Burdekin Shire Council	13/02/2020
Ayr Industrial Estate Expansion Stage Development Stage Blocks	M–1178–6, Revision A	Burdekin Shire Council	13/02/2020
Ayr Industrial Estate Expansion Stage Development Stage Road and Drainage Network	M–1178–7, Revision A	Burdekin Shire Council	13/02/2020
Ayr Industrial Estate Expansion Stage Development Stage Sewerage and Water Network	M–1178–8, Revision A	Burdekin Shire Council	13/02/2020
Ayr Industrial Estate Expansion Plan of Development	M1519, Revision 3	Milford Planning	20/04/2020
Ayr Industrial Estate Planning Stormwater Management Plan (as amended in red)	4220949, Revision A	GHD	01/08/2019
Ayr Industrial Estate Traffic Impact Assessment	4220434, Revision 0	GHD	01/05/2018
Stage 1A Traffic Impact Assessment Memorandum	4220434-MEM Revision B	GHD	06/02/2019
Ayr Industrial Estate Stage 1A Access Intersection Capacity Sensitivity Analysis Memorandum	4220434-MEM-B	GHD	22/11/2019
Proposed Lots 1-42	**M2634-SK-01 Issue B Sheet 1**	**Milford Planning**	**08/06/2026**
Staging Plan	**M2634-SK-02 Issue D Sheet 1**	**Milford Planning**	**08/06/2026**
Locality Plan	**BE250152-C1000 - Rev C**	**Burchills Engineering Solutions**	**10/10/2025**
General Notes, Legend and Typical Details	**BE250152-C1001 – Rev C**	**Burchills Engineering Solutions**	**10/10/2025**
Typical Sections and Details	**BE250152-C1002 – Rev C**	**Burchills Engineering Solutions**	**10/10/2025**
Key Layout Plan	**BE250152-C1003 – Rev C**	**Burchills Engineering**	**10/10/2025**

		Solutions	
Existing Features Plan – Sheet 1	BE250152-C1101 – Rev C	Burchills Engineering Solutions	10/10/2025
Existing Features Plan – Sheet 2	BE250152-C1102 – Rev C	Burchills Engineering Solutions	10/10/2025
Existing Features Plan – Sheet 3	BE250152-C1103 – Rev C	Burchills Engineering Solutions	10/10/2025
Existing Features Plan – Sheet 4	BE250152-C1104 – Rev C	Burchills Engineering Solutions	10/10/2025
Existing Features Plan – Sheet 5	BE250152-C1105 – Rev C	Burchills Engineering Solutions	10/10/2025
Existing Features Plan – Sheet 6	BE250152-C1106 – Rev A	Burchills Engineering Solutions	10/10/2025
Existing Features Plan – Sheet 7	BE250152-C1107 – Rev A	Burchills Engineering Solutions	10/10/2025
Bulk Earthworks Plan – Sheet 1	BE250152-C2201 – Rev C	Burchills Engineering Solutions	10/10/2025
Bulk Earthworks Plan – Sheet 2	BE250152-C2202 – Rev C	Burchills Engineering Solutions	10/10/2025
Bulk Earthworks Plan – Sheet 3	BE250152-C2203 – Rev C	Burchills Engineering Solutions	10/10/2025
Bulk Earthworks Plan – Sheet 4	BE250152-C2204 – Rev C	Burchills Engineering Solutions	10/10/2025
Bulk Earthworks Plan – Sheet 5	BE250152-C2205 – Rev C	Burchills Engineering Solutions	10/10/2025
Bulk Earthworks Plan – Sheet 6	BE250152-C2206 – Rev A	Burchills Engineering Solutions	10/10/2025
Bulk Earthworks Plan – Sheet 7	BE250152-C2207 – Rev A	Burchills Engineering Solutions	10/10/2025
General Arrangement Plan – Sheet 1	BE250152-C3101 – Rev C	Burchills Engineering Solutions	10/10/2025
General Arrangement Plan – Sheet 2	BE250152-C3102 – Rev C	Burchills Engineering Solutions	10/10/2025
General Arrangement Plan – Sheet 3	BE250152-C3103- Rev C	Burchills Engineering Solutions	10/10/2025
General Arrangement Plan – Sheet 4	BE250152-C3104 – Rev C	Burchills Engineering Solutions	10/10/2025
General Arrangement Plan – Sheet 5	BE250152-C3105 – Rev C	Burchills Engineering Solutions	10/10/2025

General Arrangement Plan – Sheet 6	BE250152-C3106 – Rev A	Burchills Engineering Solutions	10/10/2025
General Arrangement Plan – Sheet 7	BE250152-C3107 – Rev A	Burchills Engineering Solutions	10/10/2025
Control Line Setout Plan – Sheet 1	BE250152-C3108 – Rev B	Burchills Engineering Solutions	10/10/2025
Control Line Setout Plan – Sheet 2	BE250152-C3109 – Rev B	Burchills Engineering Solutions	10/10/2025
Control Line Setout Plan – Sheet 3	BE250152-C3110 – Rev B	Burchills Engineering Solutions	10/10/2025
Road Longitudinal Section - Sheet 1	BE250152-C3201 – Rev C	Burchills Engineering Solutions	10/10/2025
Road Longitudinal Section - Sheet 2	BE250152-C3202- Rev C	Burchills Engineering Solutions	10/10/2025
Road Longitudinal Section - Sheet 3	BE250152-C3203- Rev C	Burchills Engineering Solutions	10/10/2025
Channel Longitudinal Section	BE250152-C204 – Rev A	Burchills Engineering Solutions	10/10/2025
Road Cross Sections	BE250152-C3301- Rev C	Burchills Engineering Solutions	10/10/2025
Road Cross Sections – Sheet 2	BE250152-C3302 – Rev C	Burchills Engineering Solutions	10/10/2025
Road Cross Sections – Sheet 3	BE250152-C3303 – Rev C	Burchills Engineering Solutions	10/10/2025
Road Cross Sections – Sheet 4	BE250152-C3304 – Rev C	Burchills Engineering Solutions	10/10/2025
Road Cross Sections – Sheet 5	BE250152-C3305 – Rev C	Burchills Engineering Solutions	10/10/2025
Road Cross Sections – Sheet 6	BE250152-C3306 – Rev C	Burchills Engineering Solutions	10/10/2025
Road Cross Sections – Sheet 7	BE250152-C3307 – Rev C	Burchills Engineering Solutions	10/10/2025
Signs and Line Marking Plan – Sheet 1	BE250152-C3401 – Rev C	Burchills Engineering Solutions	10/10/2025
Signs and Line Marking Plan – Sheet 2	BE250152-C3402 – Rev C	Burchills Engineering Solutions	10/10/2025
Signs and Line Marking Plan – Sheet 3	BE250152-C3403 – Rev C	Burchills Engineering Solutions	10/10/2025
Signs and Line Marking Plan – Sheet 4	BE250152-C3404 – Rev C	Burchills Engineering	10/10/2025

		Solutions	
Signs and Line Marking Plan – Sheet 5	BE250152-C3405 – Rev C	Burchills Engineering Solutions	10/10/2025
Stormwater Layout Plan and Details – Sheet 1	BE250152-C4101 – Rev C	Burchills Engineering Solutions	10/10/2025
Stormwater Layout Plan and Details – Sheet 2	BE250152-C4102 – Rev C	Burchills Engineering Solutions	10/10/2025
Stormwater Layout Plan and Details – Sheet 3	BE250152-C4103 – Rev C	Burchills Engineering Solutions	10/10/2025
Stormwater Layout Plan and Details – Sheet 4	BE250152-C4104 – Rev C	Burchills Engineering Solutions	10/10/2025
Stormwater Layout Plan and Details – Sheet 5	BE250152-C4105 – Rev C	Burchills Engineering Solutions	10/10/2025
Design and Vehicle Turn Path Plan – Sheet 1	BE250152-SK0001 – Rev C	Burchills Engineering Solutions	10/10/2025
Design and Vehicle Turn Path Plan – Sheet 2	BE250152-SK0002 – Rev C	Burchills Engineering Solutions	10/10/2025
Design and Vehicle Turn Path Plan – Sheet 3	BE250152-SK0003 – Rev C	Burchills Engineering Solutions	10/10/2025
Design and Vehicle Turn Path Plan – Sheet 4	BE250152-SK0004 – Rev A	Burchills Engineering Solutions	10/10/2025
Design and Vehicle Turn Path Plan – Sheet 5	BE250152-SK0005 – Rev A	Burchills Engineering Solutions	10/10/2025
Design and Vehicle Turn Path Plan – Sheet 6	BE250152-SK0006 – Rev A	Burchills Engineering Solutions	07/6/2025
Design and Vehicle Turn Path Plan – Sheet 7	BE250152-SK0007 – Rev A	Burchills Engineering Solutions	07/6/2025
Traffic Impact Assessment – Stage 1: Access Design Feasibility Check (Craig Street)	12645670	GHD	06/12/2024
Traffic Impact Assessment – Stage 2 Final	12645670 CO1	GHD	06/12/2024

3.	**Payment of Rates, Charges and Expenses**	
3.1	Prior to signing the Plan of Survey, payment is required of any outstanding rates or charges levied by the Council or any expenses being a charge over the subject land.	Confirmation to be provided to Council prior to the release of the Plan of Survey.
3.2	Pay the sum calculated at the current charge per lot to be levied on the Council by the Department of Resources, for each new valuation.	
Conditions		
4.	**General**	
4.1	All rates and charges (including regulated infrastructure charges) in arrears in respect of the land the subject of the application are paid in full prior to the commencement of the proposed use or notation of the plan of subdivision, whichever comes first.	
5.	**Stormwater**	
5.1	A lawful point of stormwater discharge is achieved to the drainage easement locations identified on 'Ayr Industrial Estate Expansion Stage Development Stage Road and Drainage Network', Plan Reference M–1178–7, Revision A, prepared by Burdekin Shire Council, dated 13 February 2020.	
5.2	All lots are to achieve a 0.25% minimum site grade in accordance with the 'Ayr Industrial Estate Planning Stormwater Management Plan' (as amended in red), Document Reference 4220949, Revision A, prepared by GHD, dated 1 August 2019.	
5.3	The minor drainage shall consist of an underground system capable of conveying 50% AEP flows from the development and any external catchments currently flowing onto the land being developed in accordance with the 'Ayr Industrial Estate Planning Stormwater Management Plan' (as amended in red), Document Reference 4220949, Revision A, prepared by GHD, dated 1 August 2019.	
5.4	The major drainage system shall consist of overland flow paths or suitably sized underground drainage capable of discharging 1% AEP flows from the development under normal circumstances and any external catchments currently flowing onto the land being developed in accordance with the 'Ayr Industrial Estate Planning Stormwater Management Plan' (as amended in red), Document Reference 4220949, Revision A, prepared by GHD, dated 1 August 2019.	
5.5	The proposed drainage shall ensure that there is no worsening to upstream and downstream catchments.	

5.6 The approved development and use(s) must not interfere with the natural flow of stormwater in the locality or cause ponding or concentration of stormwater on adjoining land or roads.

5.7 All stormwater calculations and detailed design shall be certified by a Registered Professional Engineer of Queensland and included as part of the operational works application.

5.8 Any pipe and surface grading during construction is undertaken under the direct supervision of a Registered Professional Engineer of Queensland to ensure construction grade control and minimise the potential for ponding in accordance with the 'Ayr Industrial Estate Planning Stormwater Management Plan', Document Reference 4220949, Revision A, prepared by GHD, dated 1 August 2019.

5.9 Drainage reserves and easements shall be provided as required by the stormwater design. The developer must, at its own cost, grant and register all such easements on the title document.

5.10 On-going maintenance associated with existing open stormwater drains and any proposed changes to these drains as a result of this application, shall be the responsibility of the developer for a period of twelve (12) months or up until the developer achieves off-maintenance.

5.11 Any future activities involving water-borne pollutants include bunds to all sealed impervious surfaces with receptors for spills and are linked to an on-site drainage treatment system.

5.12 Any external catchments discharging to the premises must be accepted and accommodated within the development's stormwater drainage system.

5.13 Stormwater networks are to be designed in accordance with the current standards of the Queensland Urban Drainage Manual (QUDM) and Australian Rainfall and Runoff (AR&R).

6. Drainage Easements

6.1 Stormwater drains, where required, are to be constructed in accordance with the following design specifications:

(a) Open drains incorporated in the minor drainage system shall be located within drainage easements; and
(b) No drain invert is to be constructed lower than the existing standing water level.

6.2 Overland flow paths designed as part of the major drainage system shall be constructed within drainage easements to be dedicated to council.

6.3 Piped drains traversing allotments shall be located within drainage easements.

6.4 Construct drainage to be fully contained within drainage easements.

6.5 Temporary drainage constructed during the staging of the project shall be within easements. These easements may be relinquished at the completion of any future stages in the development which renders the easement unnecessary for the transportation of stormwater.

6.6 Solid, continual length fencing is not provided along the rear boundary of lots 3, 5 and 11. These lots retain a relationship to open space within Lot 16 on RP745329.

7. Lot and Road Levels

7.1 All new lots are to have finished levels above the 1% AEP flood level in accordance with the 'Ayr Industrial Estate Planning Stormwater Management Plan' (as amended in red), Document Reference 4220949, Revision A, prepared by GHD, dated 1 August 2019.

7.2 The new access road over Lot 16 on RP745329, Road E, has a finished level above the 2% AEP flood level in accordance with relevant council standards.

8. Erosion and Sediment Control

8.1 The development documents and implements erosion and sedimentation controls in a Construction Management Plan. These controls:

(a) Avoid extensive earthworks on slopes greater than 15% (1:5);
(b) Minimise disturbance on slopes greater than 10% (1:10);
(c) Maintain natural flow paths for surface drainage;
(d) Incorporate sediment traps to prevent the movement of sediment off-site;
(e) Avoid long-term stockpiling of soil; and
(f) Identify the progressive rehabilitation of disturbed areas.

8.2 The stormwater and water management systems include erosion and sediment control measures to maintain or improve the environmental values of surface and ground water during and after construction.

8.3 There must be no release of soil, sand, mud or other sediments and contaminants to roads during construction or future use of the site to which this approval relates. All material transported to and from the site must be covered to prevent dust and spillage.

9. Access and Roadworks

9.1 The applicant is to dedicate the road reserve area identified along the Bruce Highway frontage in 'Ayr Industrial Estate Expansion Stage Development Detailed Layout Plan', Plan Reference M–1178–9, Revision A, prepared by Burdekin Shire Council, dated 13 February 2020, to the Department of Transport and Main Roads. **Additionally, the applicant is to construct the left-turn lane on the Bruce Highway as detailed in 'General Arrangement Plan – Sheet 1 (BE250152-C3101 Rev C) prepared by Burchills Engineering Solutions, dated 10/10/2025'**

9.2 Access to the Ayr Industrial Estate Expansion is provided via a new road extension from McCathie **Street and Craig Street, including the left-turn lane on Craig Street, as detailed in 'General Arrangement Plan – Sheet 4 (BE250152-C3104 Rev C) prepared by Burchills Engineering Solutions, dated 10/10/2025'.** An unsignalised intersection is provided where Road E meets McCathie **Street and where Road D meets Craig Street.**

9.3 The developer must construct sealed roads along all road frontages to each property in accordance with the following and the 'Ayr Industrial Estate Traffic Impact Assessment', Document Reference 4220434, Revision 0, prepared by GHD, dated 1 May 2018:

(a) The proposed roads shall be 14m wide kerb-to-kerb;
(b) Provide stand-up kerbing and channelling on both sides of the road with a distance of 14m between the kerbs and a minimum 4m wide footpaths on each side;
(c) Provide gravel pavement for the full width between kerbing and channelling and 40mm minimum thickness asphaltic concrete surface;
(d) Pavement markings and signage shall be provided in accordance with the Department of Transport and Main Roads' Manual of Uniform Traffic Control Devices; and
(e) Achieve a 2% minimum crossfall.

9.4 Gravel pavements shall be designed in accordance with the Queensland Transport Pavement Design Manual and relevant Department of Transport and Main Roads' standard specifications.

9.5 An application for street names must be submitted to and approved by Council prior to the approval of Operational Works. Approved street names must be shown on all engineering drawings submitted with the operational works application.

9.6 Street nameplates must be erected at each intersection indicating the name of each street and the street numbers. The signs shall be in accordance with Council standard street nameplates and be erected in accordance with the Department of Transport and Main Roads' Manual of Uniform Traffic Control Devices.

9.7 Corner truncations are provided at the following intersections shown on the 'Ayr Industrial Estate Expansion Stage Development Detailed Layout Plan', Plan Reference M–1178–9, Revision A, prepared by Burdekin Shire Council, dated 13 February 2020:

(a) Road A and Road B;
(b) Road B and Road C;
(c) Road C and Road D;
(d) Road D and Road A;
(e) Road A and Road E; and
(f) Road E and McCathie Street (at the corner with Lot 12 on SP123414 and Lot 73 on SP102302).

9.8 Corner truncations are a minimum 5.5m x 3 equal chords, except at the corner of Road E and Lot 12 on SP123414 and Road E and Lot 73 on SP102302, which are single chords in accordance with relevant Council standards.

9.9 Corner truncations are kept clear of development and other obstructions such as fences, drainage and landscaping.

9.10 The existing perimeter fence around the sewage pump station on Lot 73 on SP102302 maintains access between the pump station and Road E for pedestrians.

9.11 Provide a gravel link road between the end of Road B and Road C when stages are delivered. The link road shall be sufficient to accommodate one way traffic movements for an A-Double vehicle configuration and shall be signed accordingly. The construction of the turnaround is to be in accordance with Council design guidelines. If the development of proposed Lot 11 on SP358254 has not commenced within two (2) years after the registration of SP358254, the applicant must seal the constructed link road with a minimum 50mm AC14MC320.

9.12 All road reserves ensure minimum sight distances and turning radii meet safety standards.

9.13 Any road signs are installed in accordance with the Department of Transport and Main Roads' Design Guide for Roadside Signs and SD1452.

9.14 The road network is designed and constructed in accordance with the Austroads' *Guide to Traffic Engineering Practice Manuals, Guide to Traffic Management* and *Guide to Road Design* standards and the current edition of the Department of Transport and Main Roads' *Road Planning and Design Manual*.

9.15 Development achieves no net worsening to the Bruce Highway/Bird Street/Jones Street intersection in accordance with the 'Stage 1A Traffic Impact Assessment Memorandum', Document Reference 42204340-MEM, Revision B, prepared by GHD, dated 6 February 2019.

10. Operational Works

10.1 Where operational works are required to be carried out, the developer must, within the timeframe required by the *Planning Act 2016* and prior to the commencement of any work, lodge with council an application for a development permit for operational works. As part of such an application, the developer must submit:

(a) Detailed and complete engineering drawings and specifications of the proposed works prepared by a civil engineer, who is both registered under the *Professional Engineer's Act 2002* and is a current Registered Professional Engineer of Queensland (RPEQ); and

(b) Certificate from the engineer who prepared the drawings stating that the design and specifications have been prepared in accordance with these conditions, relevant council codes and planning scheme policies and the relevant Australian Standard codes of practice.

10.2 No work commences prior to issue of a development permit for operational works.

10.3 Review background traffic trends and the operation of the Bruce Highway/Bird Street/Jones Street intersection and sections of the Bruce Highway south of Bird Street and south of Ayr prior to the commencement of future stages of development in accordance with the 'Ayr Industrial Estate Traffic Impact Assessment', Document Reference 4220434, Revision 0, prepared by GHD, dated 1 May 2018.

11. Street and Other Lighting

11.1 Provide Street lighting along all new streets in accordance with AS 1158.3.11 – Road Lighting (Lighting Category P4). The consent of Council's Chief Executive Officer will need to be gained before the final designs are adopted.

11.2 Street lighting is serviced by underground electricity service mains.

12. Sewerage Supply Works – Internal

12.1 The development must be serviced by Council's reticulated sewerage system. The developer shall bear the costs associated with such connections including any alterations or upgrades to Council's existing infrastructure to accommodate the proposed development. In particular:

(a) Each lot must be provided with a single property service to be connected directly and separately to Council's sewer prior to signing the survey plan.

12.2 Sewerage supply networks are to be designed in accordance with the current Water Services Association of Australia (WSAA) standards.

13. Water Supply Works – Internal

13.1 The water mains detailed on the approved plans to connect Burke Street main to the existing industrial estate main in Oakes Street has been identified as trunk infrastructure in Burdekin Shire Council's draft LGIP. Council will construct these mains as part of a trunk infrastructure upgrade with the applicant required to provide property service connections from the new mains to be constructed in Roads A, B, C and E. The water connection must be provided at a location approved by Council and at the full cost of the developer. Each of the proposed lots shall have separate water services:

(a) A water network analysis, prepared by an appropriately qualified and experienced Registered Professional Engineer of Queensland (RPEQ), must be provided to Council for approval as part of the development permit for operational works; and

(b) The water network analysis must demonstrate that for the entire development, a minimum pressure of 22m is available at the most disadvantaged allotment frontage/meter location upon completion of the stage, and detail stages at which trunk components of the network should be implemented.

13.2 Water supply networks are to be designed in accordance with the current Department of Natural Resources, Mines and Energy Planning Guidelines for Water Supply and Sewerage and relevant Water Services Association of Australia (WSAA) standards.

14. Electricity and Telecommunications Supply

14.1 The developer must, prior to the release of the plan of survey, submit a letter from Ergon Energy (or other suitable entity) stating that satisfactory arrangements have been made with it for the provision of an underground electricity supply to the expansion area and must provide at the developer's cost:

(a) A reticulated electricity supply to each lot in accordance with the requirements of the electricity service provider.

14.2 The developer must install electrical and telecommunications infrastructure to the satisfaction of the electricity and telecommunications service provider/s prior to the approval of the plan of survey.

15. Compaction Standards

15.1 Where fill is incorporated on allotments, details of compaction standards obtained are to be provided to council. Such standards are to comply with the minimum standard for building construction.

16. As–Constructed Plans

16.1 Prior to the release of the plan of survey, the developer shall provide council with a complete set of as-constructed plans for all works and an electronic copy which is to be compatible with council's system at the relevant time. Such plans are to be certified by a Registered Professional Engineer of Queensland.

Advice

1. Infrastructure Charges

No Infrastructure Charges are applicable for the Change Application (Other) – RAL19/0034.03.

2. Compliance with Conditions

Unless otherwise specified by these conditions, the conditions must be complied with prior to Council's endorsement of the Plan of Survey.

3. Limitation of Approval

3.1 The Council and its officers make no representations and provide no warranties as to the accuracy of the information contained in the application including its supporting material provided to it by the applicant.

3.2 The Council and its officers rely upon the applicant concerning the accuracy and completeness of the application and its supporting material and accepts the application and supporting material as constituting a representation by the applicant as to its accuracy and completeness. Insofar as the application and its supporting material may be incomplete and/or inaccurate giving rise to any claim by a third party, the applicant agrees to indemnity and save the council harmless in respect of any claim so arising.

4. Acid Sulfate Soils

Should the presence of acid sulfate soils or potential acid sulfate soils be detected, an Acid Sulfate Soils Management Plan may be required to be prepared and submitted to Council for approval.

5. Amenity Impacts

Use of the site is to be operated in a way that protects the values of the existing environment and will not cause unacceptable impacts on surrounding areas as a result of dust, odour, noise or lighting, in accordance with the *Environmental Protection Act 1994.*

6. Earthworks Earthworks are not approved as part of this Development Permit. If any earthworks are required and deemed assessable development, an operational works development application is to be lodged with Council for assessment in accordance with relevant code/s and policy direction.
7. Miscellaneous The Applicant is reminded of their obligations under the *Aboriginal Cultural Heritage Act 2003* and the *Torres Strait Islander Cultural Heritage Act 2003*. Further information and databases are available from the Department of Aboriginal and Torres Strait Islander Partnerships at: www.datsip.qld.gov.au. If any item of cultural heritage is identified during site works, all work must cease, and the relevant State Agency must be notified. Work can resume only after State Agency clearance is obtained.



MILFORD PLANNING

Drawing
Proposed Lots 1 to 42

Property
31-87 Craig Street, AYR
Lot 1 on RP733033

Drawing Number	Issue	Sheet
M2634-SK-01	D	1
Date	**Author**	**Reviewer**
8.6.26	HK	ED

Legend
- Cadastre
- Proposed Lots
- Drainage Lots
- Utility (SPS)

Scale (A3 Original)
1:2,500
0 10 20 30 40 50 m

Sources
Milford Planning GIS (2026)
DCDB extract – State of Queensland (2026)
Aerial imagery – Bing (2026)

Disclaimer
Areas and dimensions are approximate only and are subject to site survey.

Document Set ID: 1939472
Version: 1, Version Date: 09/06/2026

MILFORD PLANNING

Drawing
Staging Plan

Property
31-87 Craig Street, AYR
Lot 1 on RP733033

Drawing Number	Issue	Sheet
M2634-SK-02	B	1
Date	**Author**	**Reviewer**
8.6.26	HK	ED

Legend
- Cadastre
- Proposed Lots
- Drainage Lots
- Utility (SPS)
- Stage 1
- Stage 2

Scale (A3 Original)
1:2,500
0 10 20 30 40 50 m

Sources
Milford Planning GIS (2026)
DCDB extract – State of Queensland (2026)
Aerial imagery – Bing (2026)

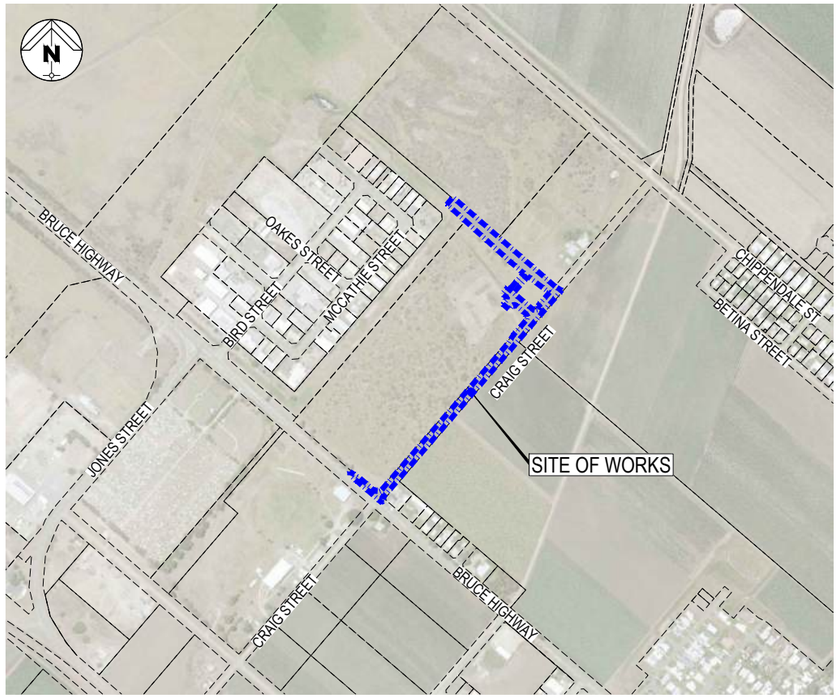
Disclaimer
Areas and dimensions are approximate only and are subject to site survey.

Document Set ID: 1939472
Version: 1, Version Date: 09/06/2026

AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

ROADWORKS & CIVIL SERVICES
CONTRACT BE250152

DRAWING INDEX	
DRG. No.	DESCRIPTION
C1000	COVER SHEET, LOCALITY PLAN & DRAWING INDEX
C1001	GENERAL NOTES, LEGEND AND TYPICAL DETAILS
C1002	TYPICAL SECTIONS
C1003	KEY LAYOUT PLAN
C1101	EXISTING FEATURES PLAN - SHEET 1
C1102	EXISTING FEATURES PLAN - SHEET 2
C1103	EXISTING FEATURES PLAN - SHEET 3
C1104	EXISTING FEATURES PLAN - SHEET 4
C1105	EXISTING FEATURES PLAN - SHEET 5
C1106	EXISTING FEATURES PLAN - SHEET 6
C1107	EXISTING FEATURES PLAN - SHEET 7
C2201	BULK EARTHWORKS PLAN - SHEET 1
C2202	BULK EARTHWORKS PLAN - SHEET 2
C2203	BULK EARTHWORKS PLAN - SHEET 3
C2204	BULK EARTHWORKS PLAN - SHEET 4
C2205	BULK EARTHWORKS PLAN - SHEET 5
C2206	BULK EARTHWORKS PLAN - SHEET 6
C2207	BULK EARTHWORKS PLAN - SHEET 7
C3101	GENERAL ARRANGEMENT PLAN - SHEET 1
C3102	GENERAL ARRANGEMENT PLAN - SHEET 2
C3103	GENERAL ARRANGEMENT PLAN - SHEET 3
C3104	GENERAL ARRANGEMENT PLAN - SHEET 4
C3105	GENERAL ARRANGEMENT PLAN - SHEET 5
C3106	GENERAL ARRANGEMENT PLAN - SHEET 6
C3107	GENERAL ARRANGEMENT PLAN - SHEET 7
C3108	CONTROL LINE SETOUT PLAN - SHEET 1
C3109	CONTROL LINE SETOUT PLAN - SHEET 2
C3110	CONTROL LINE SETOUT PLAN - SHEET 3
C3201	ROAD LONGITUDINAL SECTIONS - SHEET 1
C3202	ROAD LONGITUDINAL SECTIONS - SHEET 2
C3203	ROAD LONGITUDINAL SECTIONS - SHEET 3
C3204	CHANNEL LONGITUDINAL SECTION
C3301	ROAD CROSS SECTIONS - SHEET 1
C3302	ROAD CROSS SECTIONS - SHEET 2
C3303	ROAD CROSS SECTIONS - SHEET 3
C3304	ROAD CROSS SECTIONS - SHEET 4
C3305	ROAD CROSS SECTIONS - SHEET 5
C3306	ROAD CROSS SECTIONS - SHEET 6
C3307	ROAD CROSS SECTIONS - SHEET 7
C3401	SIGNS AND LINEMARKING PLAN - SHEET 1
C3402	SIGNS AND LINEMARKING PLAN - SHEET 2
C3403	SIGNS AND LINEMARKING PLAN - SHEET 3
C3404	SIGNS AND LINEMARKING PLAN - SHEET 4
C3405	SIGNS AND LINEMARKING PLAN - SHEET 5
C4101	STORMWATER LAYOUT PLAN AND DETAILS - SHEET 1
C4102	STORMWATER LAYOUT PLAN AND DETAILS - SHEET 2
C4103	STORMWATER LAYOUT PLAN AND DETAILS - SHEET 3
C4104	STORMWATER LAYOUT PLAN AND DETAILS - SHEET 4
C4105	STORMWATER LAYOUT PLAN AND DETAILS - SHEET 5
SK0001	DESIGN VEHICLE TURN PATH PLAN - SHEET 1
SK0002	DESIGN VEHICLE TURN PATH PLAN - SHEET 2
SK0003	DESIGN VEHICLE TURN PATH PLAN - SHEET 3
SK0004	CHECK VEHICLE TURN PATH PLAN - SHEET 4
SK0005	CHECK VEHICLE TURN PATH PLAN - SHEET 5
SK0006	CHECK VEHICLE TURN PATH PLAN - SHEET 6
SK0007	CHECK VEHICLE TURN PATH PLAN - SHEET 7



LOCALITY PLAN

N.T.S.

SURVEY 1	
PROVIDED BY:	BRAZIERMOTTI
DATE:	19-12-2019
SURVEY 2	
PROVIDED BY:	AME SURVEYS PTY LTD
DATF:	07-04-2025

PREPARED FOR

Burdekin Shire Council

PREPARED BY

BURCHILLS ENGINEERING SOLUTIONS
GOLD COAST | BRISBANE | TOOWOOMBA
IPSWICH | MORETON BAY
PHONE: +61 7 5509 6400
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:	DATE :
BE250152	C1000	C	10-10-25

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

GENERAL NOTES :

1. CONTRACT DOCUMENTATION
   ALL DRAWINGS UNDER THIS CONTRACT ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION.
2. SURVEY INFORMATION
   CONTROL SURVEY INFORMATION WILL BE ESTABLISHED ON SITE BY THE PRINCIPAL'S SURVEYOR. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.
3. DATUM
   ALL LEVELS SHOWN ON DRAWINGS ARE A.H.D. (DERIVED).
4. EXISTING SURVEY
   CONTROL STATIONS THE CONTRACTOR IS TO ENSURE THAT SURVEY CONTROL STATIONS ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY CONSTRUCTION ACTIVITIES.
5. EXISTING SERVICES
   EXISTING SERVICES LOCATIONS WHERE SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY. THE CONTRACTOR SHALL CONTACT THE RELEVANT AUTHORITIES AND UNDERTAKE A DIAL-BEFORE-YOU-DIG SEARCH TO ASCERTAIN THE EXACT LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING SERVICES.
6. SITE ACCESS
   THE CONTRACTOR SHALL GAIN ACCESS TO THE SITE AT LOCATIONS APPROVED BY THE SUPERINTENDENT. FREEDOM OF ACCESS TO OTHER WORK AREAS ON THE SITE SHALL BE MAINTAINED AT ALL TIMES.
7. PROVISION FOR TRAFFIC
   PROVISION FOR TRAFFIC ON EXISTING LOCAL ROADS IS TO BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND LOCAL AUTHORITY REQUIREMENTS. THE CONTRACTOR IS TO TAKE PARTICULAR CARE TO ENSURE THAT VEHICULAR AND PEDESTRIAN ACCESS TO EXISTING RESIDENCES IN LOCAL STREETS IS MAINTAINED AT ALL TIMES THROUGHOUT THE COURSE OF THE WORKS.
8. WORK BOUNDARIES
   THE CONTRACTOR IS TO RESTRICT ACTIVITIES TO THOSE AREAS DESIGNATED AS WORK AREAS UNDER THIS CONTRACT. AT NO TIME SHALL THE CONTRACTOR ENTER ADJOINING PROPERTIES OR CONTRACT WORK AREAS ON THE SITE WITHOUT WRITTEN AUTHORISATION FROM THE SUPERINTENDENT.
9. SITE CLEARING
   CLEARING AND GRUBBING SHALL BE CARRIED OUT TO ALL WORK AREAS AS SPECIFIED AND SHALL INCLUDE THE REMOVAL OF ALL REMAINING TREES (UNLESS NOMINATED TO BE PRESERVED), EXISTING VEGETATION, SURFACE MULCH, TIMBER, FENCES AND ANY OTHER DEBRIS.
10. TOPSOIL STRIPPING
    ALL TOPSOIL STRIPPED FROM WORK AREAS SHALL BE STOCKPILED FOR LATER RE-SPREADING TO ALL FOOTPATHS, BATTERS AND ALLOTMENTS.
11. EARTHWORKS (GENERAL)
    ALL FILL MATERIAL PLACED SHALL BE COMPACTED AND TRIMMED TO FINAL EARTHWORKS LEVELS AND PROFILES SHOWN ON THE CONTRACT DRAWINGS AND TESTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION.
12. COMPACTION
    STANDARDS ALL FILL MATERIAL PLACED UNDER THIS CONTRACT SHALL BE COMPACTED IN ACCORDANCE WITH THE L.V.R.C SPECIFICATION.
13. STORMWATER DRAINAGE
    LOCATION AND ALIGNMENT OF ALL STORMWATER DRAINLINES IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO EXCAVATION. THE DESIGN SURFACE LEVELS OF MANHOLES AND OTHER STRUCTURES ARE TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT. ALL DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH COUNCIL STANDARD DRAWINGS AND SPECIFICATION.
14. TESTING
    ALL TESTING SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. TESTING AUTHORITY IN ACCORDANCE WITH THE PROJECT SPECIFICATION.
15. "AS CONSTRUCTED" SURVEY
    "AS CONSTRUCTED" SURVEY SHALL BE CARRIED OUT BY THE PRINCIPAL'S SURVEYOR AS WORK PROCEEDS.
16. MAINTENANCE OF SITE CONDITION
    AT THE COMPLETION OF WORKS THE SITE IS TO BE LEFT IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE SUPERINTENDENT AND L.V.R.C.

SEDIMENT AND EROSION CONTROL NOTES:

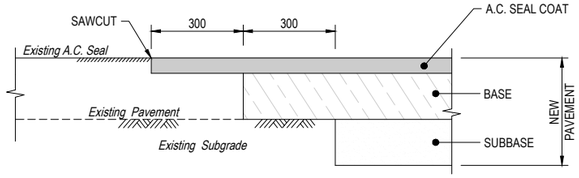
1. THIS DRAWING HAS BEEN PREPARED AS A GUIDE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MANAGE SITE SEDIMENT AND EROSION CONTROL MEASURES AND DURING THE CONSTRUCTION PERIOD INSTALL ADDITIONAL MEASURES WHERE SCOUR OR SEDIMENT TRANSPORT IS LIKELY TO OCCUR.
2. DELAY CLEARING, GRUBBING AND TOPSOIL STRIPPING UNTIL NECESSARY.
3. COMMENCE WORK ON SITE ONLY AFTER SEDIMENT AND EROSION CONTROL MEASURES ARE IN PLACE.
4. MANAGE SITE ENTRY/EXIT POINTS TO ENSURE SEDIMENT IS NOT TRACKED OFF SITE.
5. SHAKEDOWN AREA: PROVIDES FOR CONSTRUCTION, SERVICE AND STAFF VEHICLES ENTERING PUBLIC ROADS. CONTRACTOR SHALL LOCATE TO SUIT SITE ACTIVITIES. CONSTRUCTED AS 250mm THICK LAYER OF COARSE (150mm -200mm) RIVER GRAVEL OVER A SINGLE LAYER OF HIGH STRENGTH GEOTEXTILE (15m x 5m).
6. THE CONTRACTOR SHALL INSTALL EITHER STORMWATER INLET SEDIMENT TRAPS OR EXCAVATED INLET ARRANGEMENT AT ALL STORMWATER STRUCTURES DURING THE CONSTRUCTION.
7. FILTER ROLLS SHALL BE INSTALLED AT GULLY PITS IMMEDIATELY AFTER GULLY PIT CONSTRUCTION AND LEFT IN PLACE DURING THE MAINTENANCE PERIOD. OPERATION OF ROLLS DURING PERIODS OF HEAVY RAIN TO BE MONITORED TO PREVENT FLOODING AND EROSION DAMAGE ELSEWHERE.
8. ARRANGE FOR EROSION CONTROL MEASURES TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE SOURCE OF EROSION.
9. ENSURE STOCKPILED TOPSOIL AND EARTHWORKS ARE NOT ERODED BY WIND AND STORMWATER RUN-OFF AND ARE PROVIDED WITH A SEDIMENT FENCE AROUND THE LOW SIDE.
10. SEDIMENT FENCES HAVE BEEN ESTABLISHED UNDER BULK EARTHWORKS CONTRACT. ERECT SEDIMENT FENCES IF REQUIRED, GENERALLY ALONG THE LOW SIDE OF THE CONSTRUCTION SITE AND ALONG A LINE OF CONSTANT LEVEL. AS AN ALTERNATIVE TO BURYING THE SEDIMENT FENCE LOWER EDGE, THE CONTRACTOR MAY ELECT TO PLACE 200mm OF THE FABRIC ON THE GROUND UP-SLOPE OF THE FENCE AND COVER WITH 100mm MIN LAYER OF AGGREGATE.
11. TO PREVENT EROSION, TOPSOIL AND SEED IMMEDIATELY AFTER COMPLETION OF BULK EARTHWORKS TO FINISHED PROFILES.
12. PROVIDE TURF STRIP ADJACENT TO KERB FOR FULL LENGTH OF NEW KERB.
13. PRIOR TO COMPLETION OF CONSTRUCTION OF PAVEMENT AND SEALING, PLACE SANDBAGS AT 45° TO ARREST SCOUR AGAINST KERB AND CHANNEL AS FOLLOWS:
    ROAD GRADE 0.5% - 5% - 25m MAX CRS.
    5% - 10% - 10m MAX CRS.
    10% - 15% - 15m MAX CRS.
    15% - 20% - 5m MAX CRS.
14. SWEEP EXTERNAL ROADS WHERE SEDIMENT HAS BEEN DROPPED FROM CONSTRUCTION VEHICLES. DO NOT WASH SILT INTO THE STORMWATER SYSTEM.
15. ALL SEDIMENT AND EROSION CONTROL STRUCTURES, TRENCHES ETC. SHALL BE REGULARLY MAINTAINED AND INSPECTED FOR EFFECTIVENESS.
16. THE USE OF POTABLE WATER IS NOT PERMITTED IN SITE EARTHWORKS OPERATIONS, ROAD AND PAVEMENT CONSTRUCTION OR DUST SUPPRESSION. RECYCLED WATER IS REQUIRED TO BE USED AND IS TO BE IN ACCORDANCE WITH LCC GUIDELINES.

LINEMARKING AND SIGNAGE NOTES:

1. LINE-MARKING AND SIGNAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
2. ALL SIGNAGE TO BE SIZE "B" UNLESS NOTED.
3. EXTENT OF LINE-MARKING IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.
4. RETRO-REFLECTIVE RAISED PAVEMENT MARKERS RRPM's TO BE INSTALLED IN ACCORDANCE WITH MUTCD AS FOLLOWS :
   a) DIVIDING LINES
   b) EDGE LINES
   c) MEDIAN ISLANDS
   d) PAINTED MEDIAN ISLAND
5. ROAD EDGE GUIDEPOSTS TO BE INSTALLED IN ACCORDANCE WITH TMR STD DRG 1356 AND SPACED IN ACCORDANCE WITH MUTCD.
6. MAINTENANCE MARKER POSTS TO BE INSTALLED IN ACCORDANCE WITH TMR STD DRG 1358.
7. EXACT LOCATION OF ALL SIGNS IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.

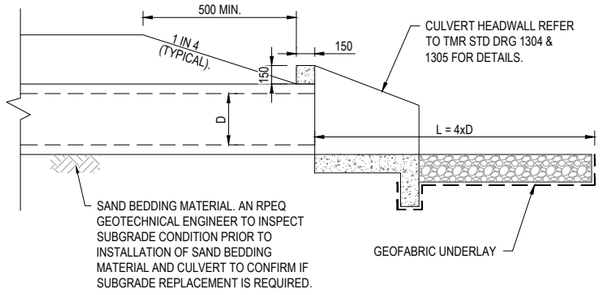
PAVEMENT AND KERB NOTES:

1. BATTER SLOPES AND PAVEMENT CROSSFALLS SHOWN ON THE DRAWINGS ARE TYPICAL ONLY. FOR VARIATION FROM THE STANDARD PROFILES REFER RELEVANT ROADWORKS DRAWINGS.
2. PAVEMENT DEPTHS SHOWN ON THE DRAWINGS ARE DESIGN DEPTHS ONLY AND MAY BE VARIED ONCE SUBGRADE TESTS ARE TAKEN. TURNOUTS ARE TO BE PAVED WITH THE SAME MATERIAL AND COMPACTED TO THE SAME STANDARD AS THE ROAD ADJACENT.
3. KERB AND CHANNEL, MEDIAN KERB AND OTHER EDGE SECTIONS SHALL BE CONCRETE CLASS S25, AND THE MIX DESIGNED SPECIFICALLY FOR EXTRUSION.
4. REFER IPWEAQ STD DRG RS-200 FOR TYPICAL KERB DETAILS AND NOTES.
5. SUBGRADE TESTS SHALL BE UNDERTAKEN TO CONFIRM EXISTING CBR VALUES AND THE PAVEMENT DESIGN.
6. PAVEMENT MATERIAL SHALL CONFORM TO THE CURRENT SPECIFICATIONS AND SUPPORTING MATERIAL SPECIFICATIONS
7. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING SERVICES. ANY DAMAGE TO EXISTING SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE RECTIFIED AT THEIR EXPENSE.
8. ALL WORKS COMPLETED SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND DRAWINGS.
9. THE CONTRACTOR SHALL HAVE AN APPROVED SET OF CONSTRUCTION PLANS. ALL RELEVANT CURRENT STANDARD SPECIFICATIONS AND DRAWINGS AND ALL PROJECT SPECIFICATIONS ON SITE AT ALL TIMES DURING THE CONSTRUCTION PHASE.
10. THE CONTRACTOR SHALL MAINTAIN MINIMUM VERTICAL CLEARANCE FROM ALL EXISTING UTILITIES WHERE CROSSINGS OCCUR.
11. THE CONTRACTOR'S CONSTRUCTION TRAFFIC MANAGEMENT PLAN IS TO MAINTAIN VEHICULAR ACCESS TO ALL EXISTING ALLOTMENTS DURING THE COURSE OF THE WORKS. ANY DISRUPTIONS TO NORMAL ACCESS TO BE MINIMISED AS MUCH AS POSSIBLE.



PAVEMENT TIE-IN DETAIL

0.1 0 0.1 0.2 0.3 0.4 0.5m
1 : 10 (FULL SIZE)

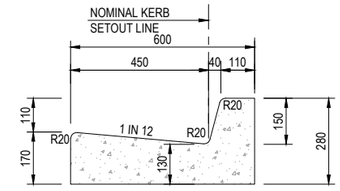


TYPICAL CULVERT SCOUR PROTECTION DETAIL

0.5 0 0.5 1m
1 : 25 (FULL SIZE)

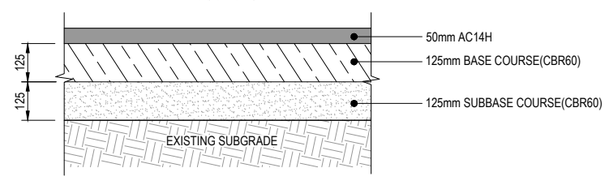
LEGEND

- EXISTING SURFACE CONTOURS (7.00)
- EXISTING BUILDING
- EXISTING LOT BOUNDARY
- EXISTING STORMWATER (SW)
- EXISTING OVERHEAD ELECTRIC (OH)
- EXISTING SEWER RISING MAIN (RM)
- EXISTING UNDERGROUND ELECTRIC (UE)
- EXISTING ROAD CONTROL LINE
- EXISTING EDGE OF BITUMEN
- EXISTING LINEMARKING
- EXISTING TOP OF BANK
- EXISTING BOTTOM OF BANK
- EXISTING SWALE
- EXISTING HEADWALL
- EXISTING LIGHT POLE
- EXISTING ELECTRICAL PIT
- EXISTING ELECTRICAL MARKER
- EXISTING TELSTRA PIT
- EXISTING SEWER STN
- EXISTING SEWER SEPTIC (ST)
- EXISTING WATER METER/ VALVE (WM)
- EXISTING GUIDE POST (GP)
- EXISTING ROAD SIGN (T)
- EXISTING TREE
- DESIGN SURFACE CONTOURS (7.00)
- PROPOSED ROAD CONTROL LINE
- PROPOSED ROAD EDGE OF BITUMEN
- PROPOSED TYPE B1 KERB AND CHANNEL (B1)
- PROPOSED BATTER
- PROPOSED STORMWATER
- PROPOSED SWALE
- PROPOSED ASPHALT PAVEMENT
- PROPOSED DRIVEWAY PAVEMENT (150mm THICK TYPE 2.1)



BARRIER KERB AND CHANNEL TYPE B1

0.1 0 0.1 0.2 0.3 0.4 0.5m
1 : 10 (FULL SIZE)



ASPHALT PAVEMENT DETAIL

0.1 0 0.1 0.2 0.3 0.4 0.5m
1 : 10 (FULL SIZE)

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C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : GENERAL NOTES, LEGEND AND TYPICAL DETAILS

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

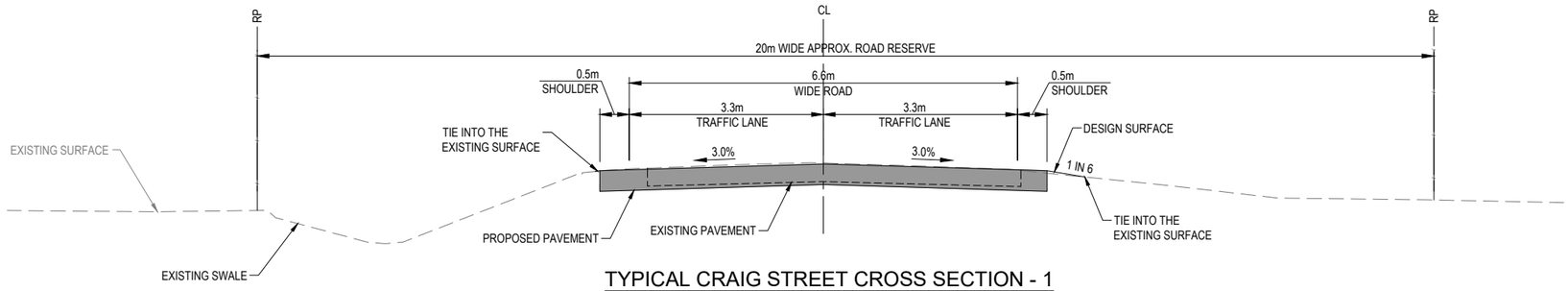
PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
0.1 0 0.1 0.2 0.3 0.4 0.5m
1 : 10 (FULL SIZE)

DEVEL. APPLIC. No. : | DATE : 10-10-25
PROJECT LEADER : D.WALTON | DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN | CHECKED : L.FAULKNER
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

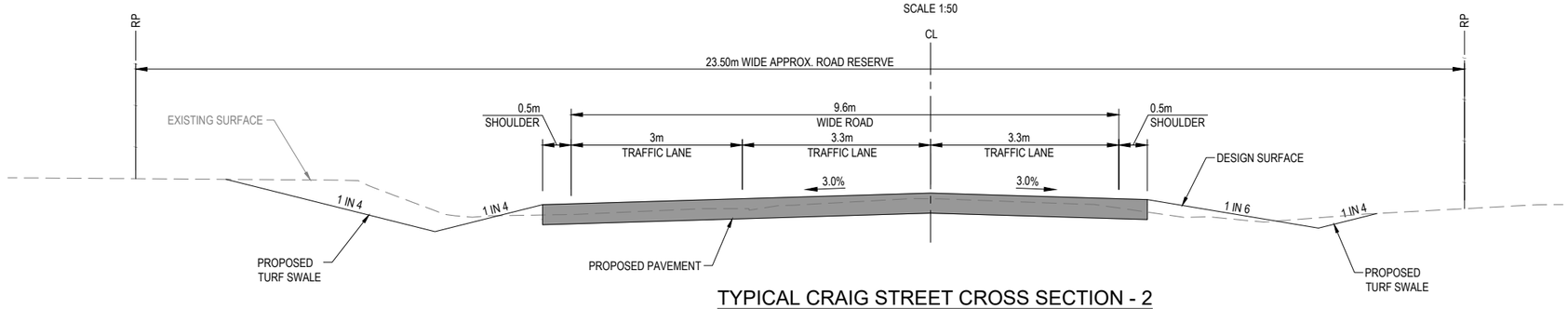
PROJECT No.: BE250152 | DRAWING No. : C1001 | VERSION: C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



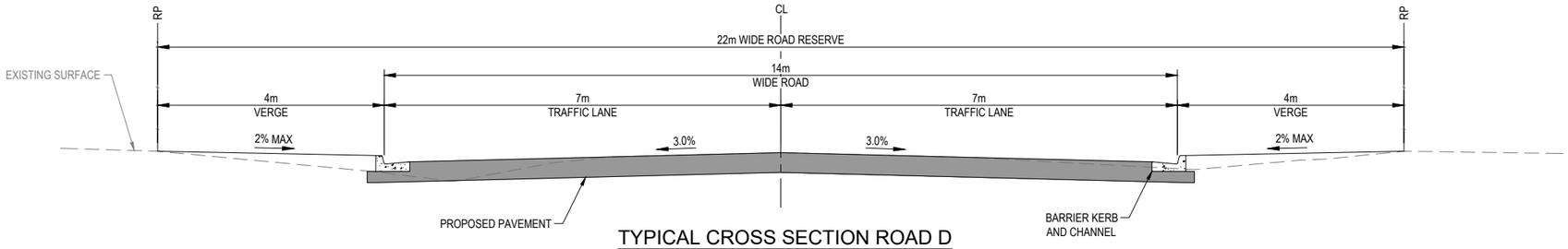
TYPICAL CRAIG STREET CROSS SECTION - 1
(CHAINAGE 130)

SCALE 1:50



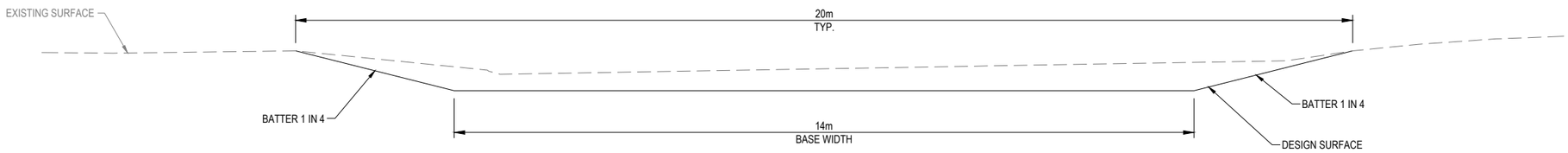
TYPICAL CRAIG STREET CROSS SECTION - 2
(CHAINAGE 480)

SCALE 1:50



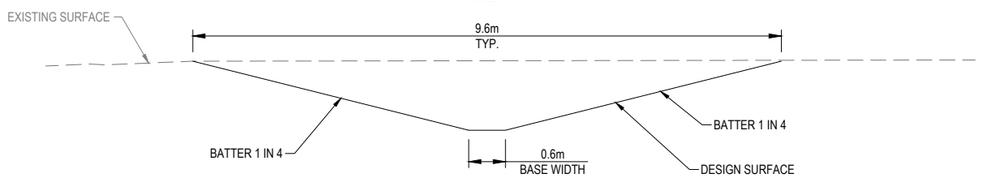
TYPICAL CROSS SECTION ROAD D

SCALE 1:50



CHANNEL 1 TYPICAL SECTION

SCALE 1:50



CHANNEL 2 TYPICAL SECTION

SCALE 1:50

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B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : TYPICAL SECTIONS & DETAILS

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
1 0 1 2m
1 : 50 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

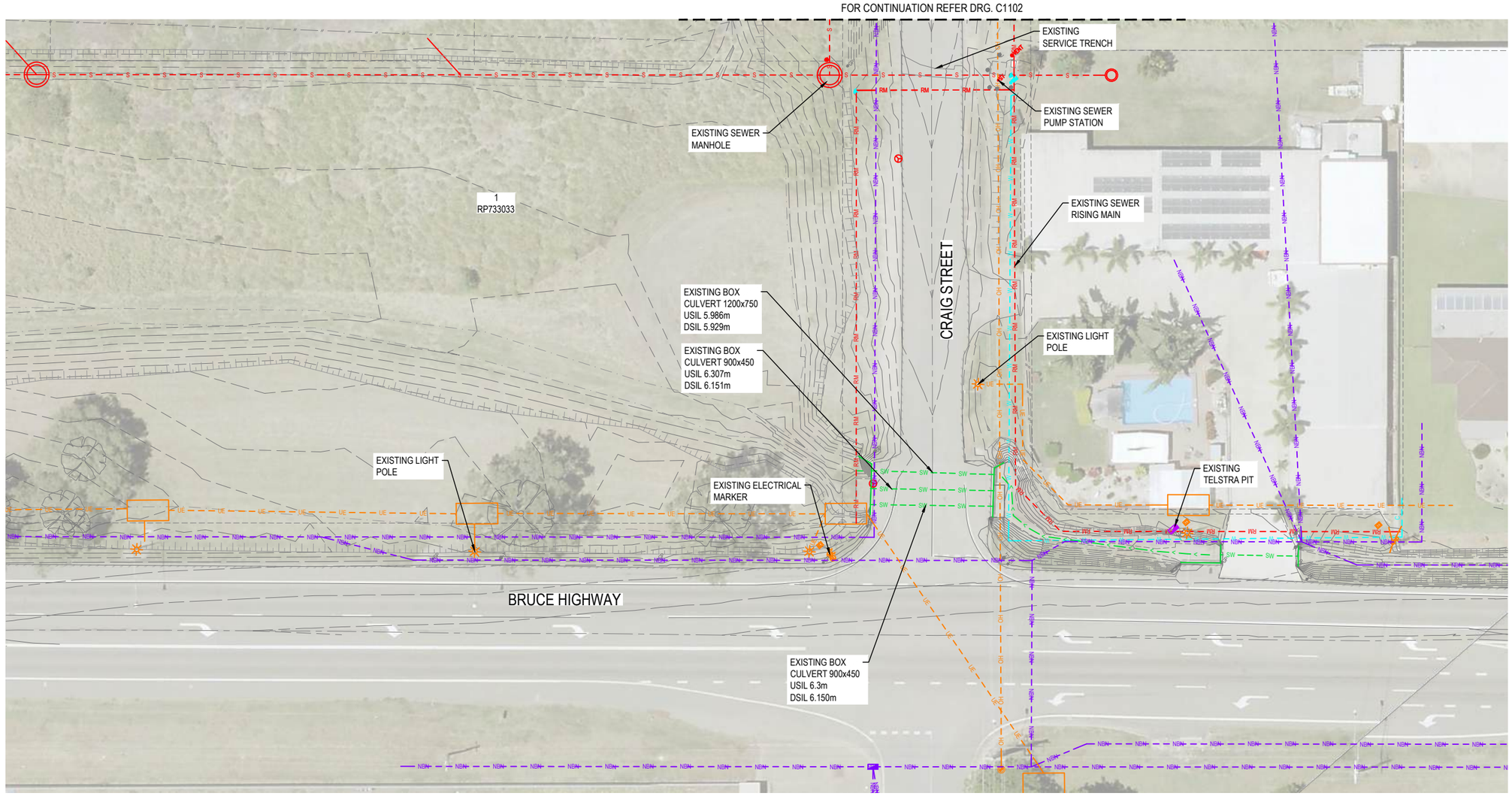
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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C1002	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

LEGEND

- EXISTING SURFACE CONTOURS
- EXISTING BUILDING
- EXISTING LOT BOUNDARY
- EXISTING STORMWATER
- EXISTING OVERHEAD ELECTRIC
- EXISTING SEWER RISING MAIN
- EXISTING WATER
- INDICATIVE EXISTING NBN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING EDGE OF BITUMEN
- EXISTING LINEMARKING
- EXISTING TOP OF BANK
- EXISTING BOTTOM OF BANK
- EXISTING SWALE
- EXISTING HEADWALL
- EXISTING LIGHT POLE
- EXISTING ELECTRICAL PIT
- EXISTING ELECTRICAL MARKER
- EXISTING TELSTRA PIT
- EXISTING NBN MANHOLE/PIT
- EXISTING SEWER STN
- EXISTING SEWER SEPTIC
- EXISTING WATER METER/ HYDRANT/ VALVE
- EXISTING GUIDE POST
- EXISTING ROAD SIGN
- EXISTING TREE



EXISTING FEATURES PLAN - SHEET 1

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C	REVISED DETAILED DESIGN	10-10-25
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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : EXISTING FEATURES PLAN - SHEET 1

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
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SCALE AT FULL SIZE (A1) : 5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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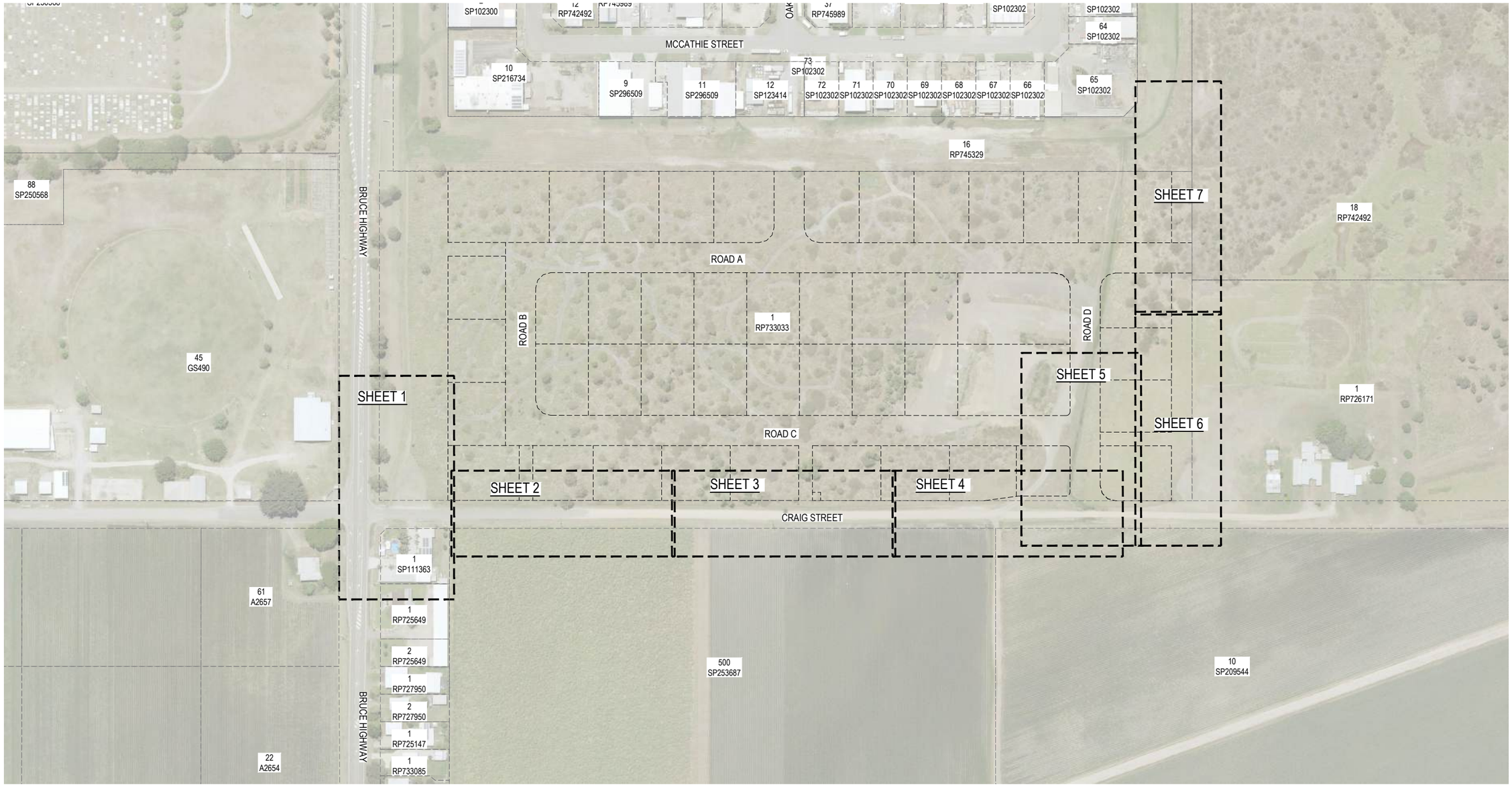
PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C1101	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

LEGEND

EXISTING LOT BOUNDARY

DENOTES LAYOUT PLAN AT SCALE 1:250



KEY LAYOUT PLAN

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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : KEY LAYOUT PLAN

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
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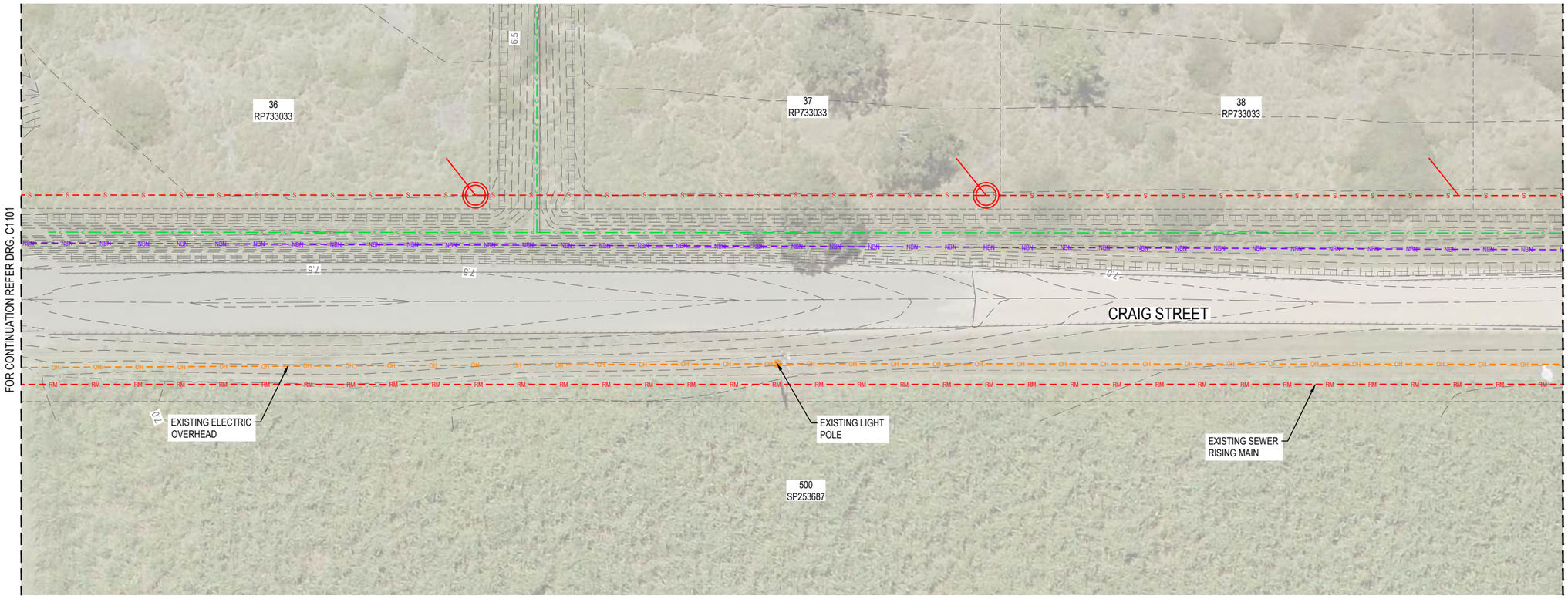
PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
12.5 0 12.5 25 37.5 50 62.5m
1 : 1250 (FULL SIZE)

DEVEL. APPLIC. No. : DATE : 10-10-25
PROJECT LEADER : D.WALTON DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN CHECKED : L.FAULKNER
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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C1003	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



EXISTING FEATURES PLAN - SHEET 2

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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : EXISTING FEATURES PLAN - SHEET 2

PROJECT :
AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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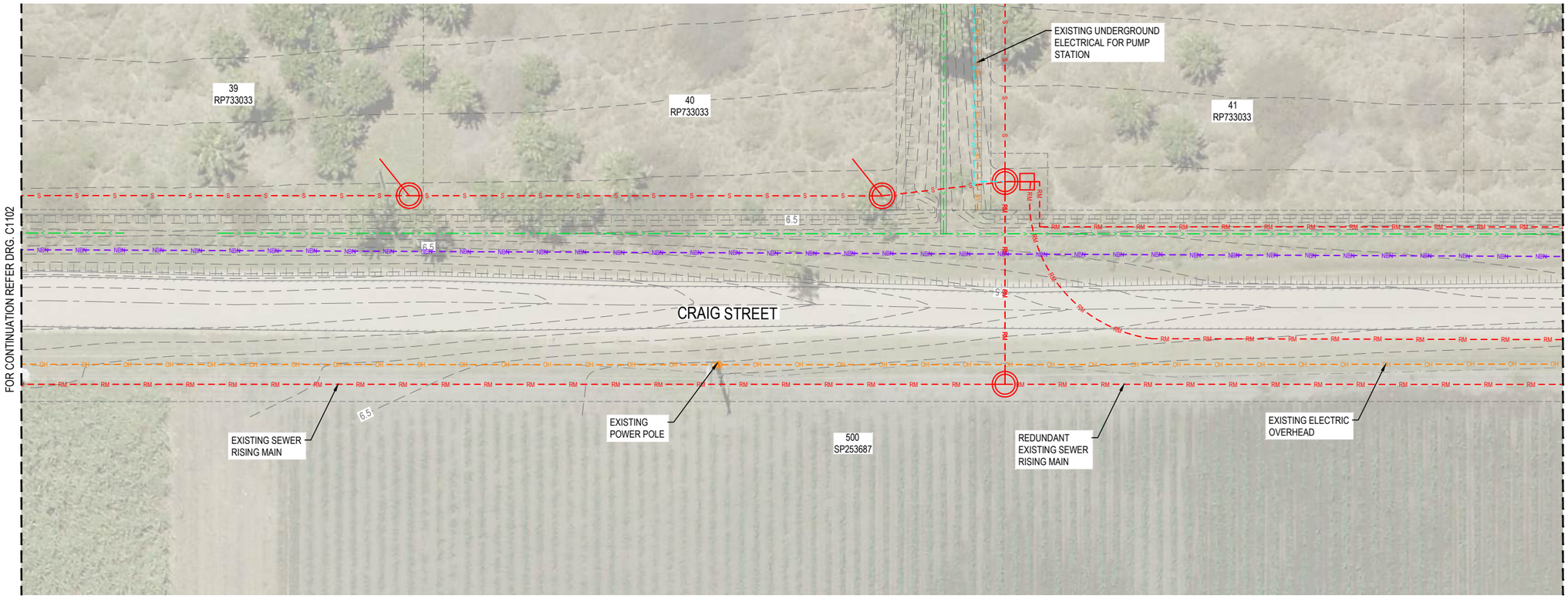
SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C1102	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



EXISTING FEATURES PLAN - SHEET 3

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EMAIL: ADMIN@BURCHILLS.COM.AU
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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : EXISTING FEATURES PLAN - SHEET 3

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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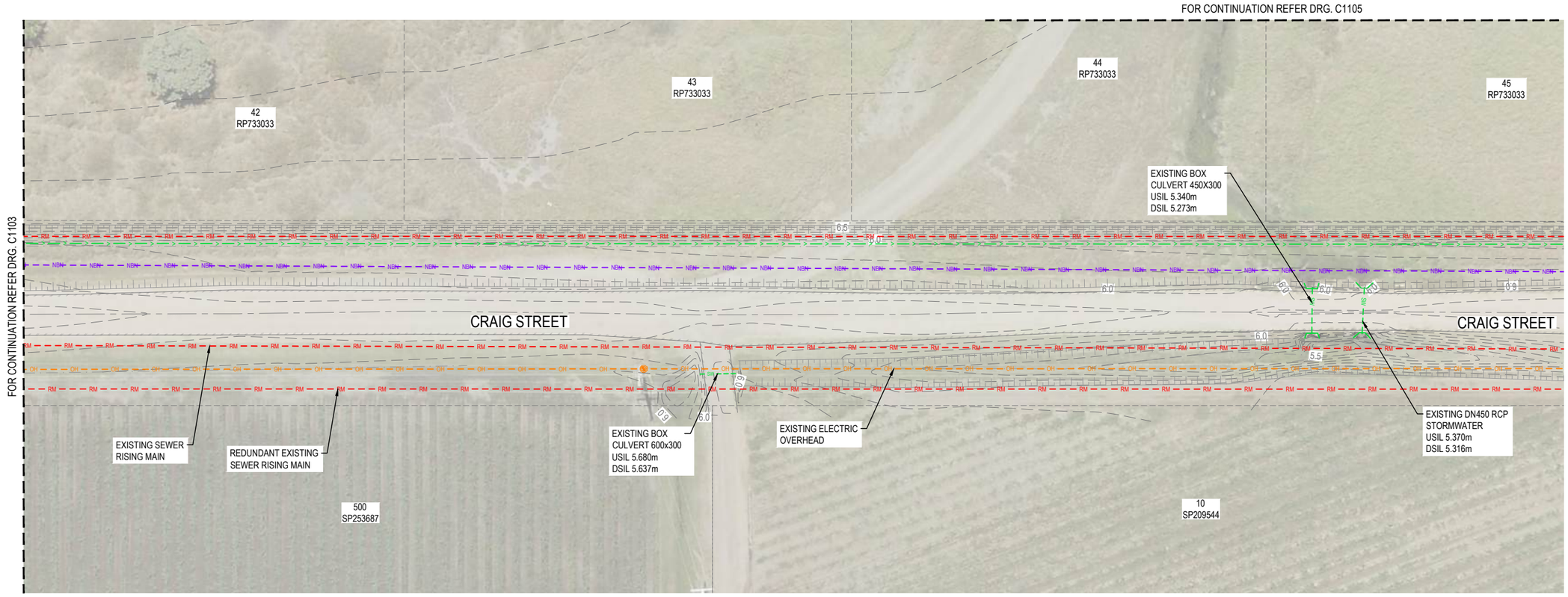
SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C1103	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



EXISTING FEATURES PLAN - SHEET 4

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VER.	DESCRIPTION	DATE
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B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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FAX: +61 7 5509 6411
EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : EXISTING FEATURES PLAN - SHEET 4

PROJECT :
AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

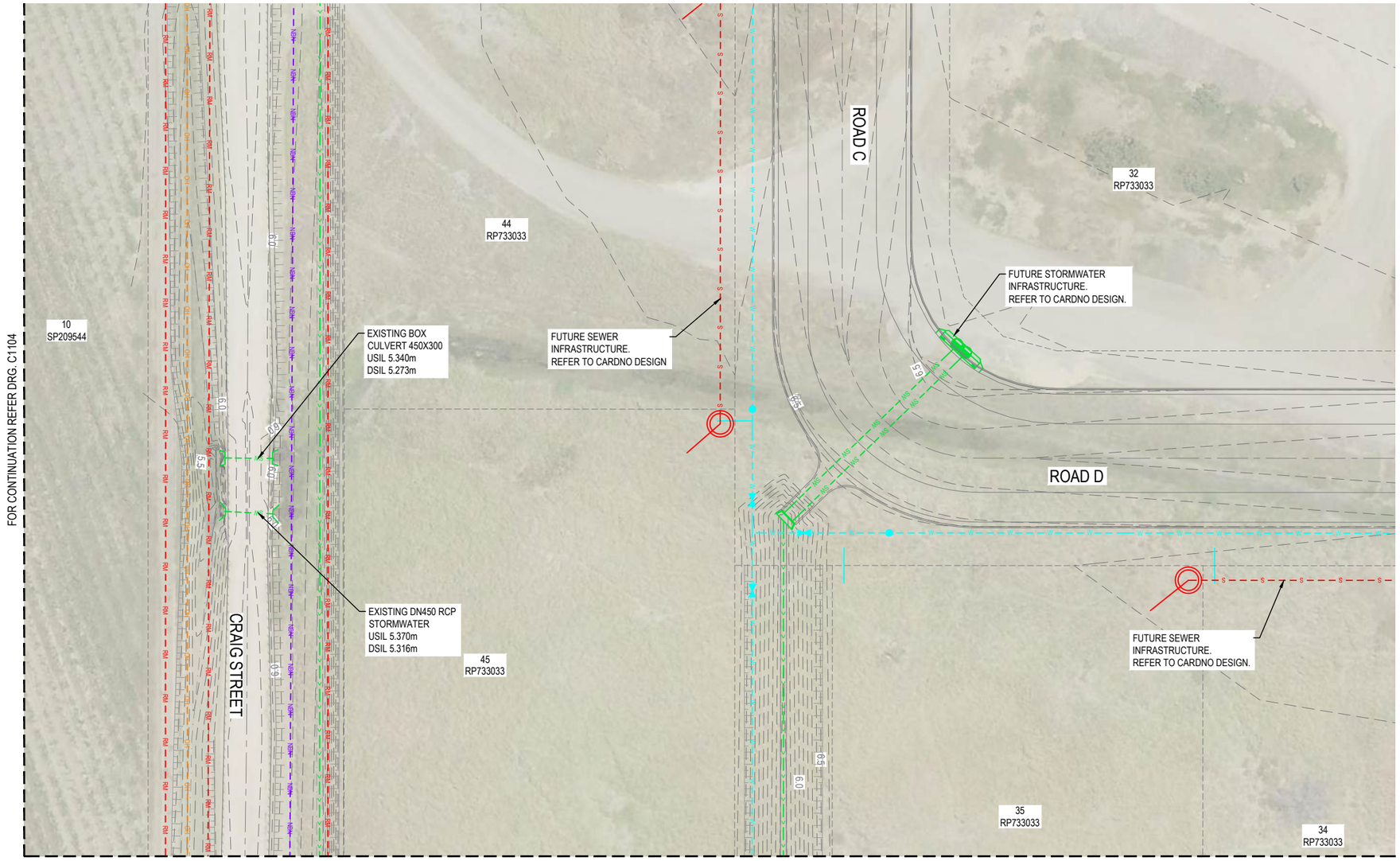
SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C1104	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



NOTE:
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EXISTING FEATURES PLAN - SHEET 5

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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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IPSWICH | MORETON BAY
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FAX: +61 7 5509 6411
EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : EXISTING FEATURES PLAN - SHEET 5

PROJECT :
AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
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EXISTING FEATURES PLAN - SHEET 6

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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : EXISTING FEATURES PLAN - SHEET 6

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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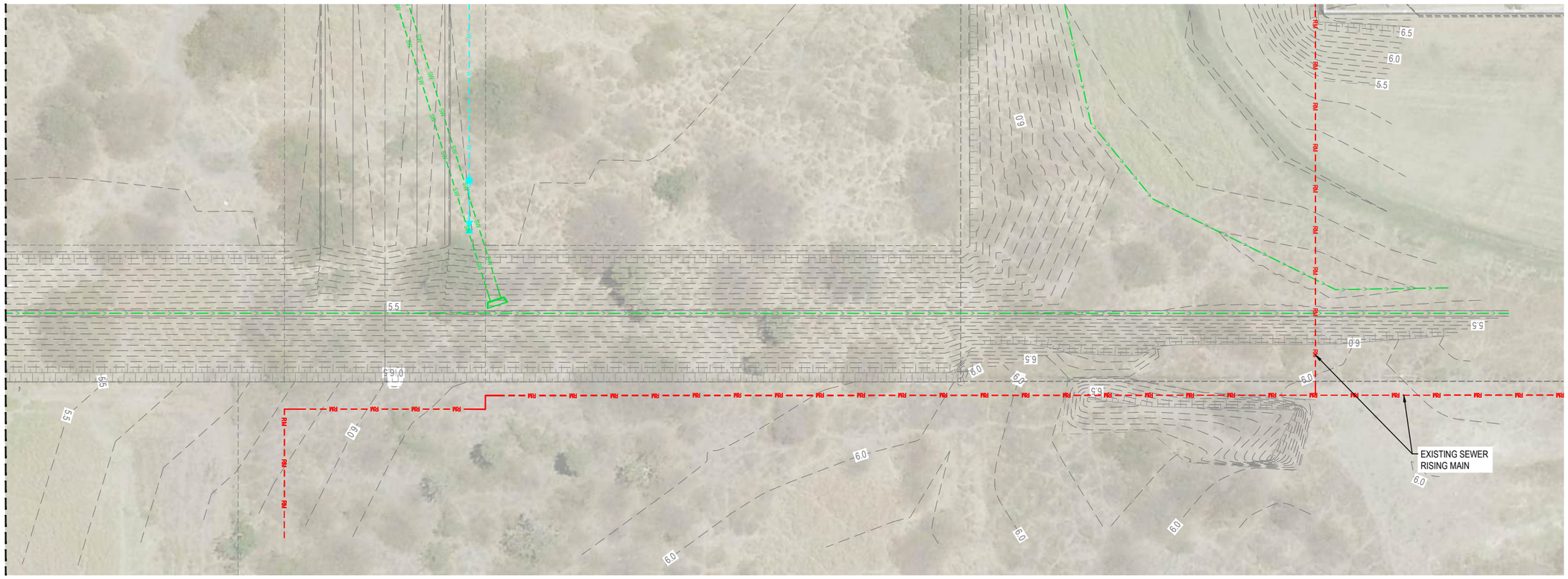
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1 : 250 (FULL SIZE)

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PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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EXISTING FEATURES PLAN - SHEET 7

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : EXISTING FEATURES PLAN - SHEET 7

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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SCALE AT FULL SIZE (A1) : 5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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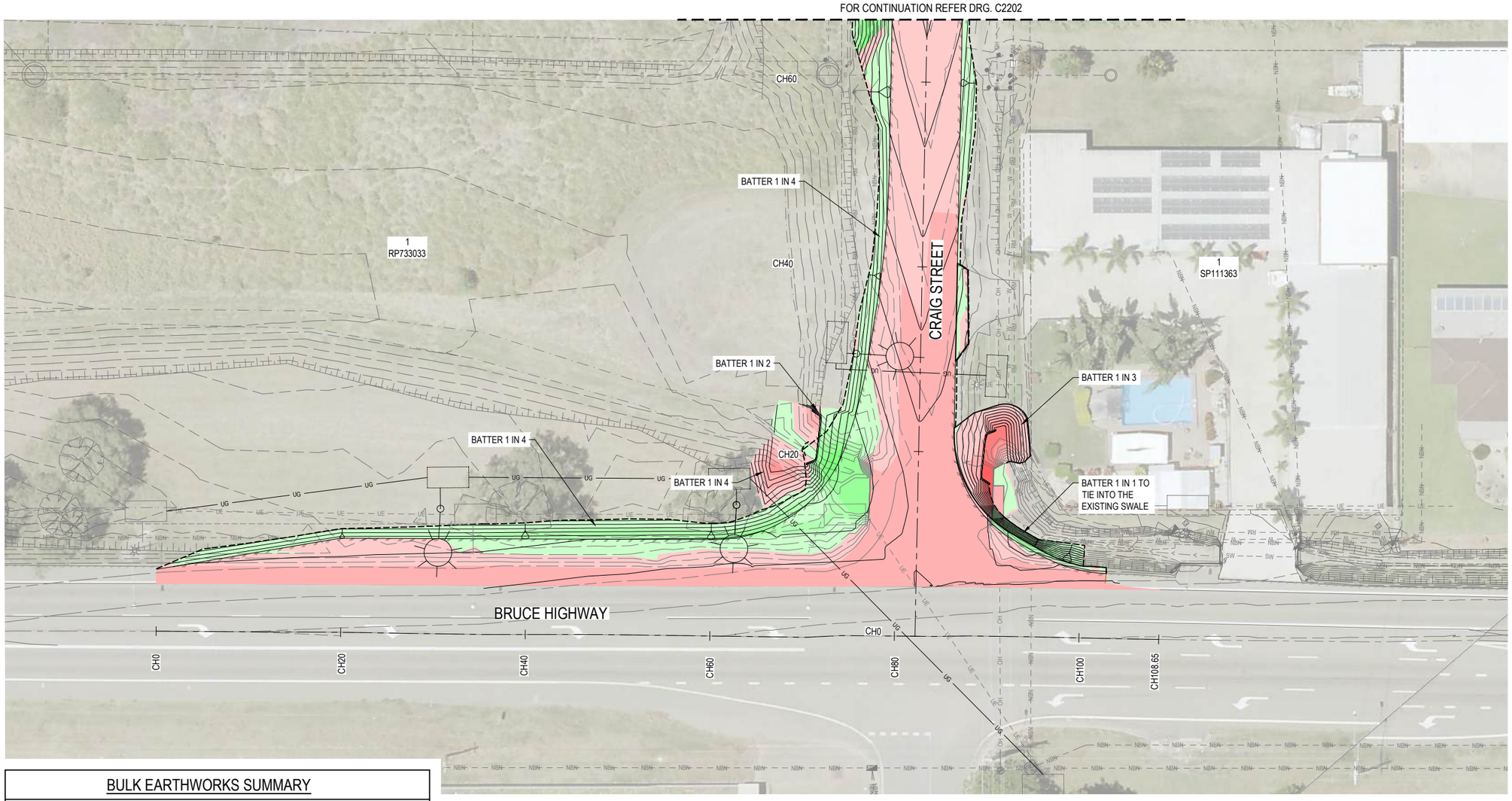
Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

LEGEND

- EXISTING SURFACE CONTOURS (7.00)
- EXISTING LOT BOUNDARY
- EXISTING STORMWATER (SW)
- EXISTING OVERHEAD ELECTRIC (OH)
- EXISTING SEWER RISING MAIN (RM)
- EXISTING ROAD CONTROL LINE
- EXISTING EDGE OF BITUMEN
- EXISTING LINEMARKING
- EXISTING TOP OF BANK
- EXISTING BOTTOM OF BANK
- EXISTING SWALE
- PROPOSED UNDERGROUND ELECTRIC (UG)
- PROPOSED ELECTRICAL PIT
- PROPOSED LIGHT POLE

CUT/FILL LEGEND

CUT -1.25m to -1.00m	FILL 0.0m to 0.25m
CUT -1.00m to -0.75m	FILL 0.25m to 0.50m
CUT -0.75m to -0.50m	FILL 0.50m to 0.75m
CUT -0.50m to -0.25m	FILL 0.75m to 1.00m
CUT -0.25m to 0.00m	



BULK EARTHWORKS PLAN - SHEET 1

BULK EARTHWORKS SUMMARY

STRUCTURAL FILLING

AREA	NETT SOLID FILL	incl. COMPACTION FACTOR (0.85)
OVERALL FILLING		
(ALLOTMENTS, ROADS, BATTERS	898 cu.m.	
TOTAL FILL REQUIRED	898 cu.m.	1,056 cu.m.

EXCAVATION

AREA	NETT CUT	
OVERALL EXCAVATION	5,235 cu.m.	
ROAD BOX	2,009 cu.m.	
TOTAL CUT	5,235 cu.m.	

SUMMARY:
TOTAL MATERIAL ON LEADS (NETT CUT) = 1,056 cu.m.
i.e. 5,235 - 1,056 cu.m. = 4,179 cu.m. SPOIL OF SITE.
THESE VOLUMES CONSIDER ROAD BOXING,
THESE VOLUMES NOT CONSIDER STORMWATER TRENCHING OR TOPSOIL STRIPPING AND REPLACEMENT.

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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : BULK EARTHWORKS PLAN - SHEET 1

PROJECT : AYR INDUSTRIAL ESTATE
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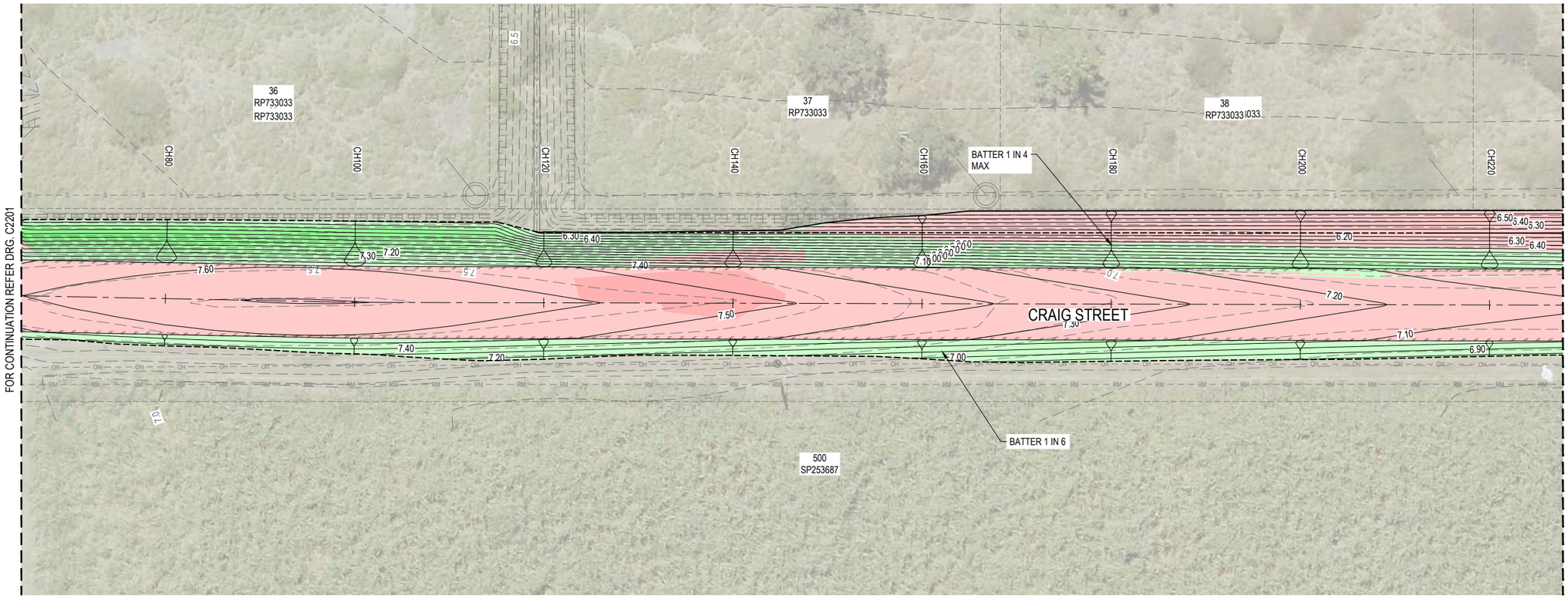
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DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



BULK EARTHWORKS PLAN - SHEET 2

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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : BULK EARTHWORKS PLAN - SHEET 2

PROJECT :
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SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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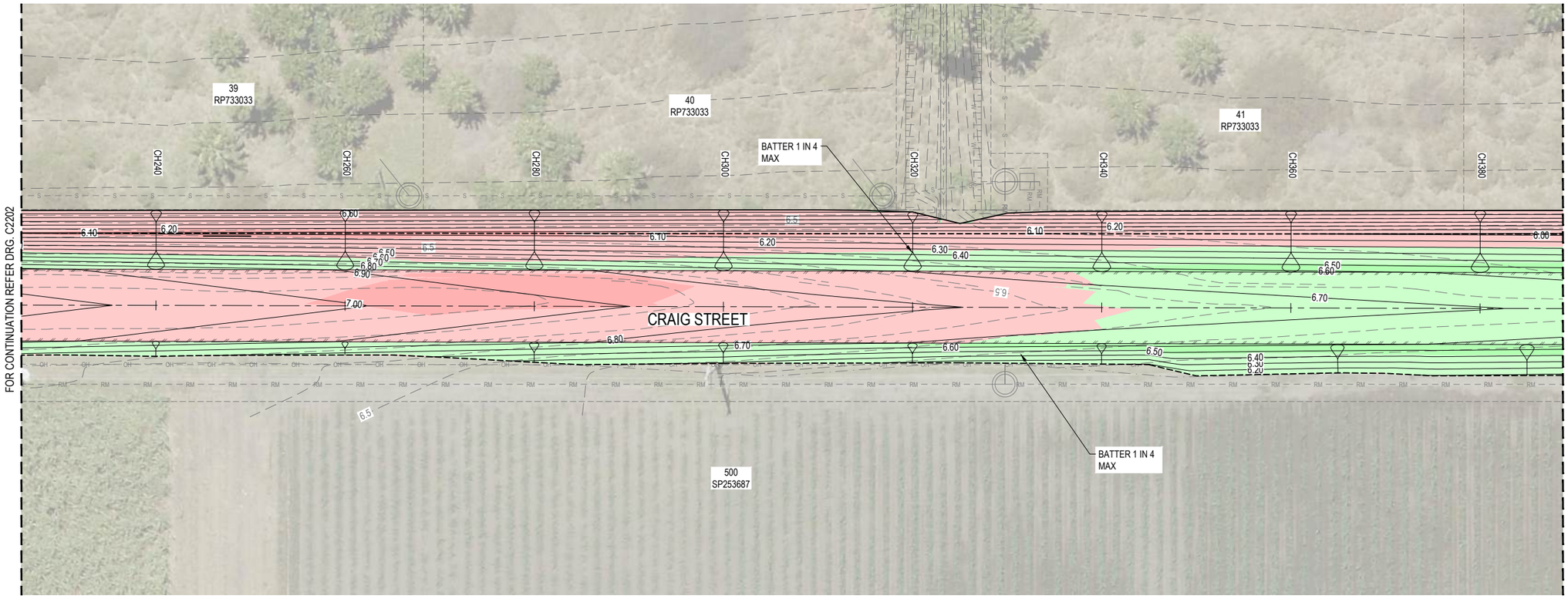
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1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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BULK EARTHWORKS PLAN - SHEET 3

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ABN 76 166 942 365

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DRAWING TITLE : BULK EARTHWORKS PLAN - SHEET 3

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
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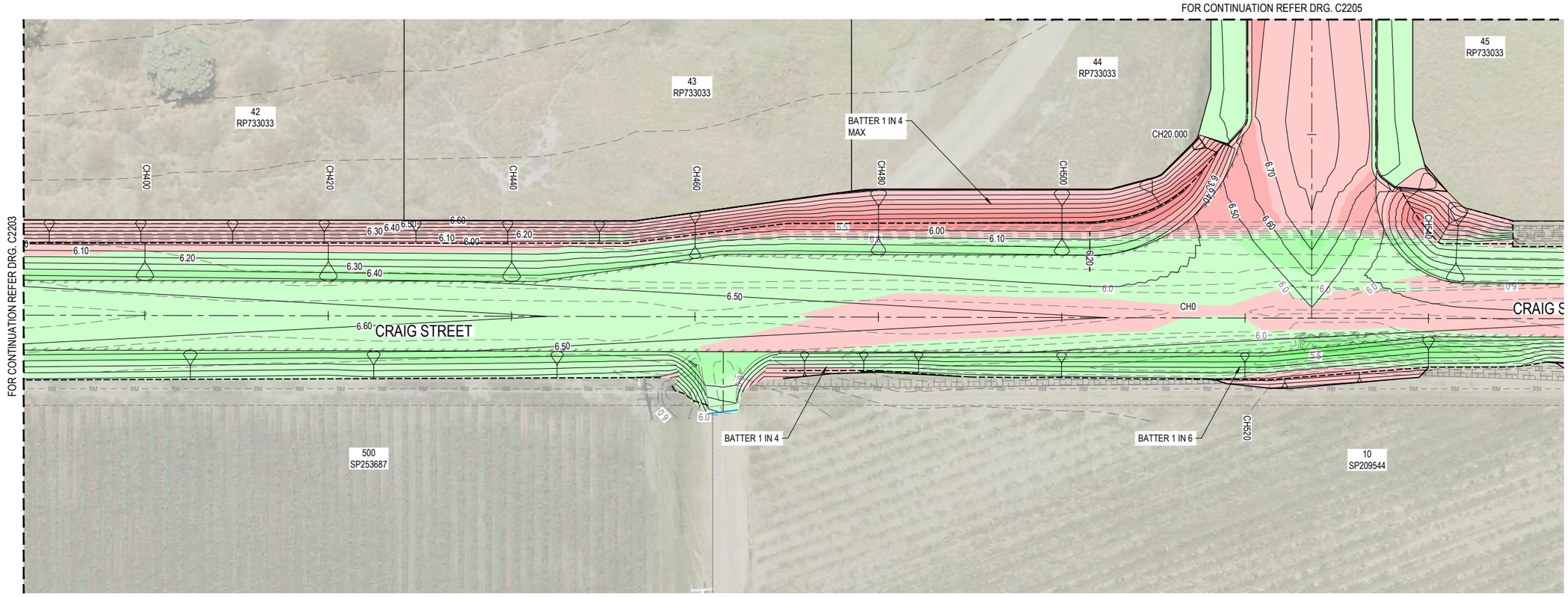
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1 : 250 (FULL SIZE)

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DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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BULK EARTHWORKS PLAN - SHEET 4

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PROJECT : AYR INDUSTRIAL ESTATE
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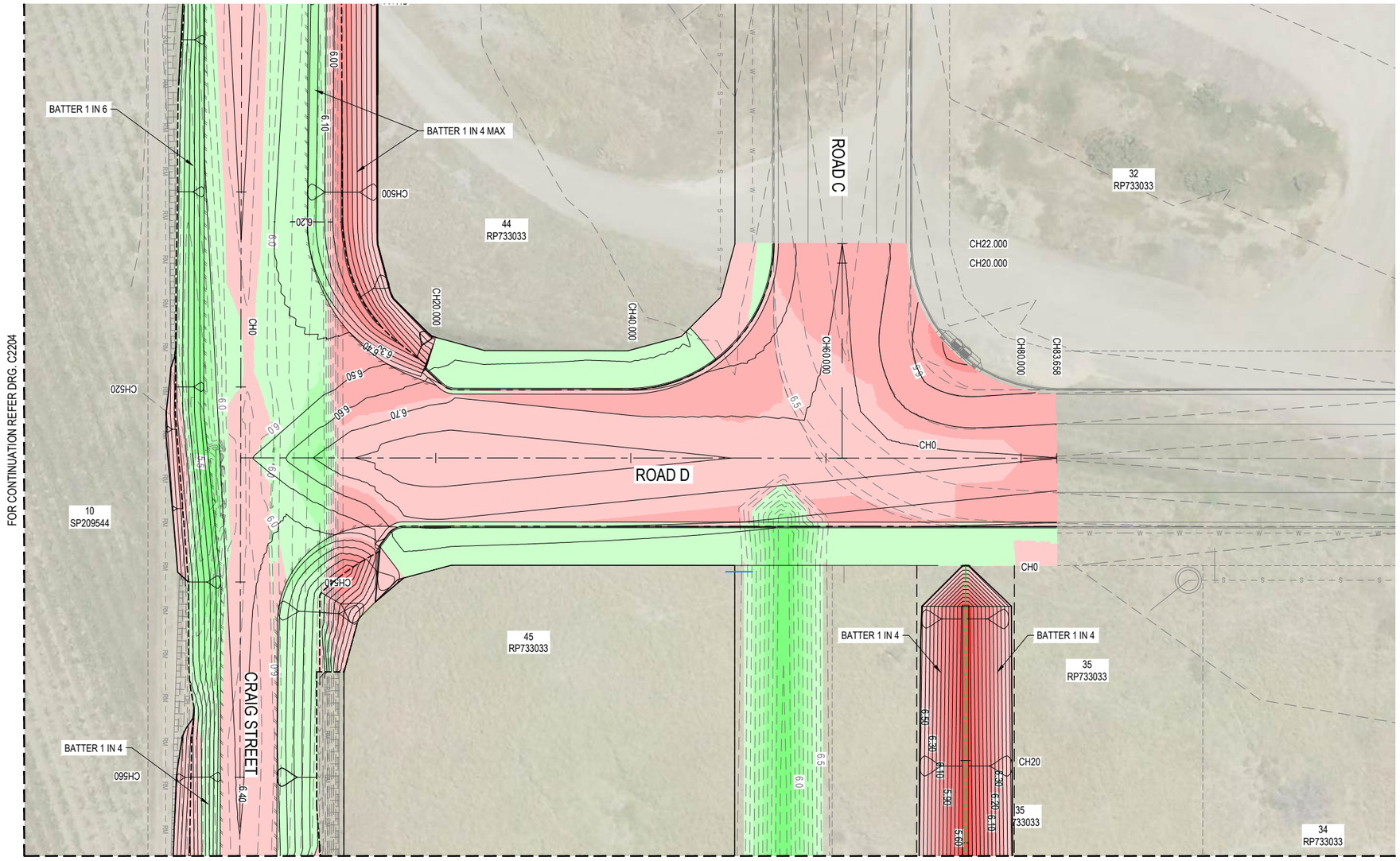
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PROJECT : AYR INDUSTRIAL ESTATE
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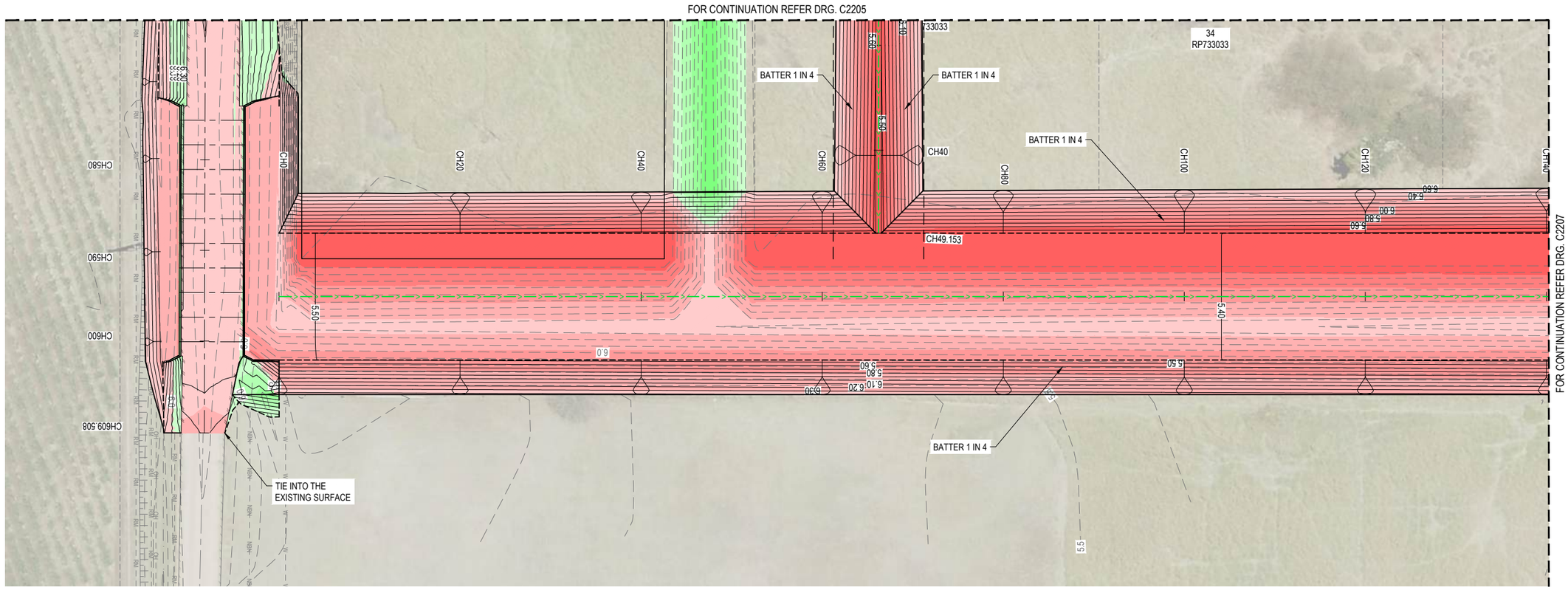
SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

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DRAWING TITLE : BULK EARTHWORKS PLAN - SHEET 6

PROJECT : AYR INDUSTRIAL ESTATE
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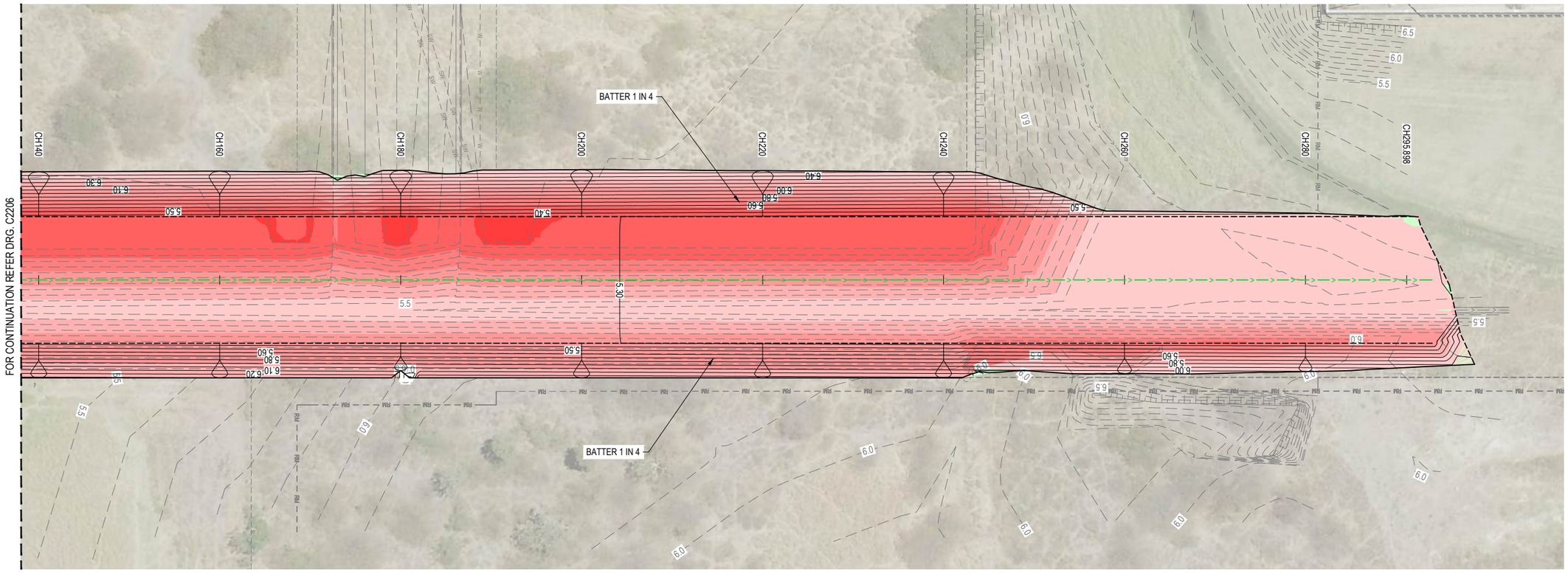
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : BULK EARTHWORKS PLAN - SHEET 7

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

APPROVED FOR AND ON BEHALF OF
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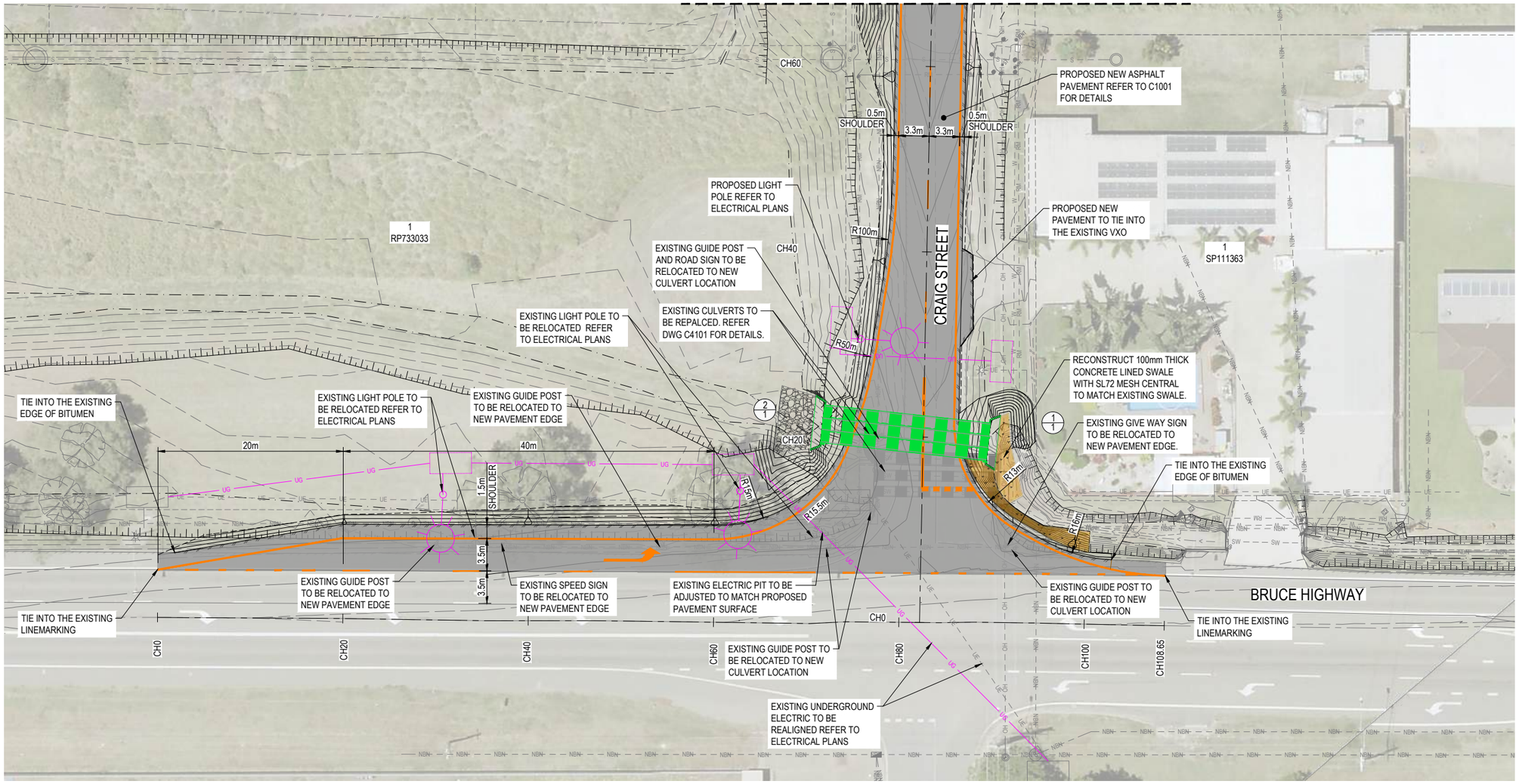
PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C2207	A

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

LEGEND

- EXISTING SURFACE CONTOURS
- EXISTING LOT BOUNDARY
- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING SEWER RISING MAIN
- EXISTING OVERHEAD ELECTRIC
- INDICATIVE EXISTING NBN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING ROAD CONTROL LINE
- EXISTING KERB
- EXISTING EDGE OF BITUMEN
- EXISTING TOP OF BANK
- EXISTING BOTTOM OF BANK
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED ELECTRICAL PIT
- PROPOSED LIGHT POLE
- PROPOSED SWALE
- PROPOSED STORMWATER
- STORMWATER STRUCTURE LABEL
- PROPOSED ROAD CONTROL LINE
- PROPOSED ROAD EDGE OF BITUMEN
- PROPOSED ASPHALT PAVEMENT
- CONCRETE SWALE

FOR CONTINUATION REFER DRG. C3102



GENERAL ARRANGEMENT PLAN - SHEET 1

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C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : GENERAL ARRANGEMENT PLAN - SHEET 1

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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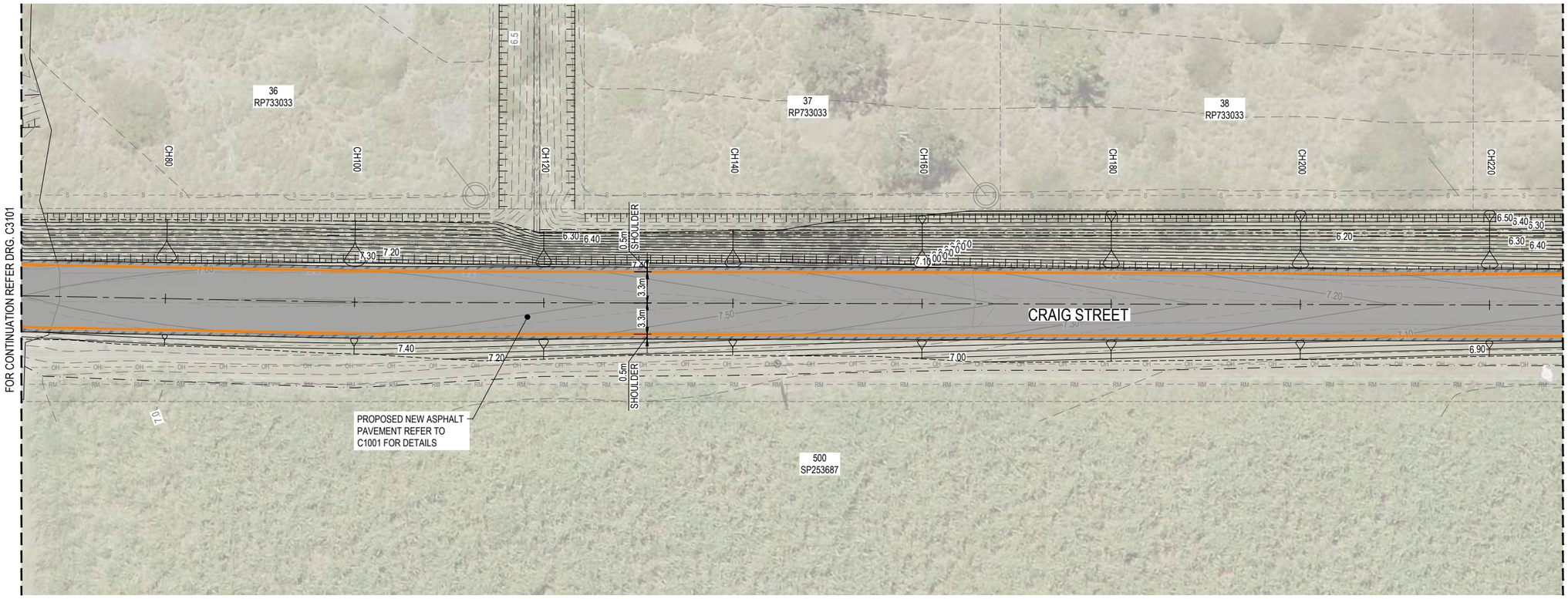
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1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3101	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



GENERAL ARRANGEMENT PLAN - SHEET 2

NOTE:
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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : GENERAL ARRANGEMENT PLAN - SHEET 2

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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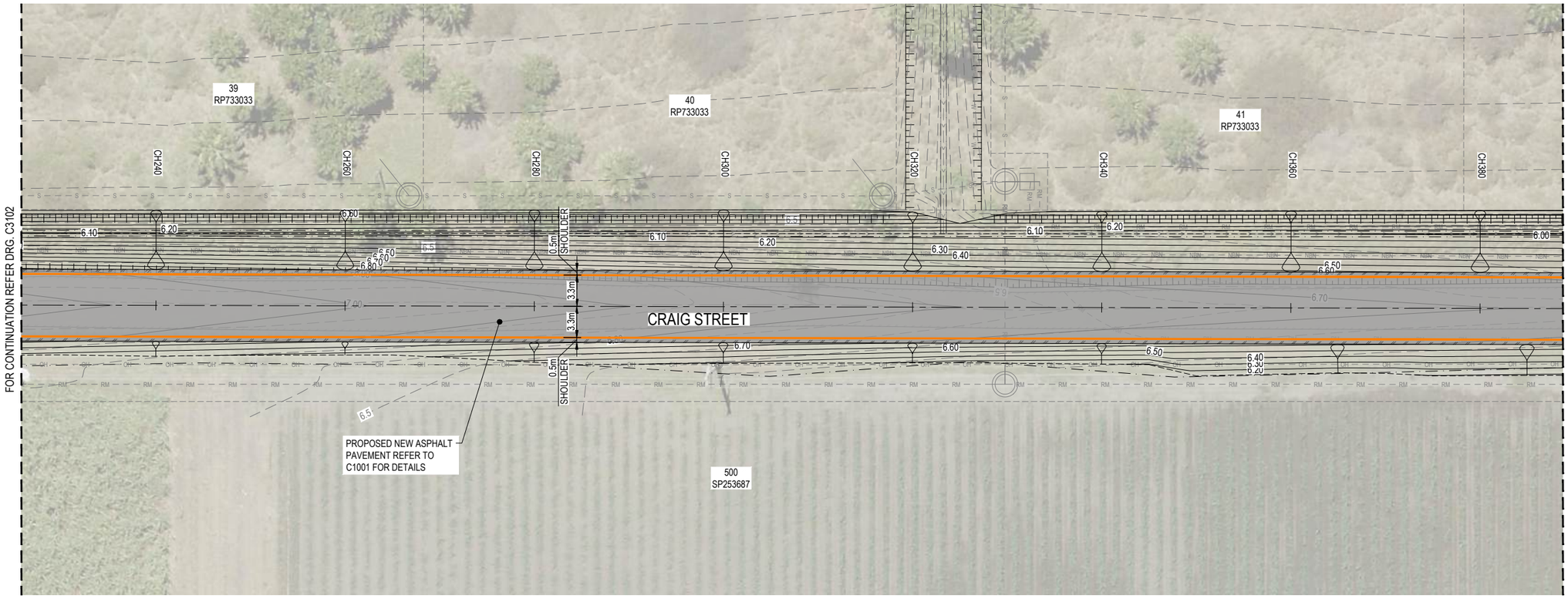
SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3102	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



GENERAL ARRANGEMENT PLAN - SHEET 3

NOTE:
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C	REVISED DETAILED DESIGN	10-10-25
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A	FINAL PRELIMINARY DESIGN	25-04-25

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CLIENT : Burdekin Shire Council

DRAWING TITLE : GENERAL ARRANGEMENT PLAN - SHEET 3

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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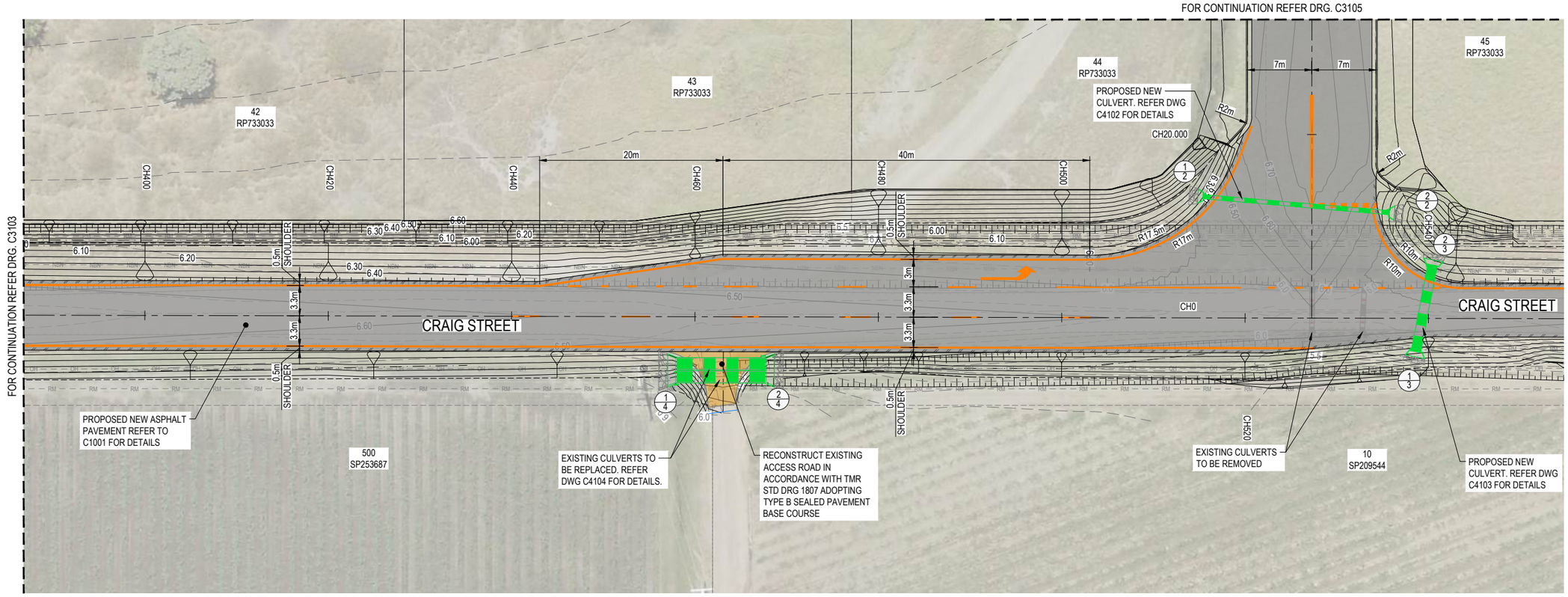
SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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BE250152	C3103	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



GENERAL ARRANGEMENT PLAN - SHEET 4

NOTE:
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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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CLIENT : Burdekin Shire Council

DRAWING TITLE : GENERAL ARRANGEMENT PLAN - SHEET 4

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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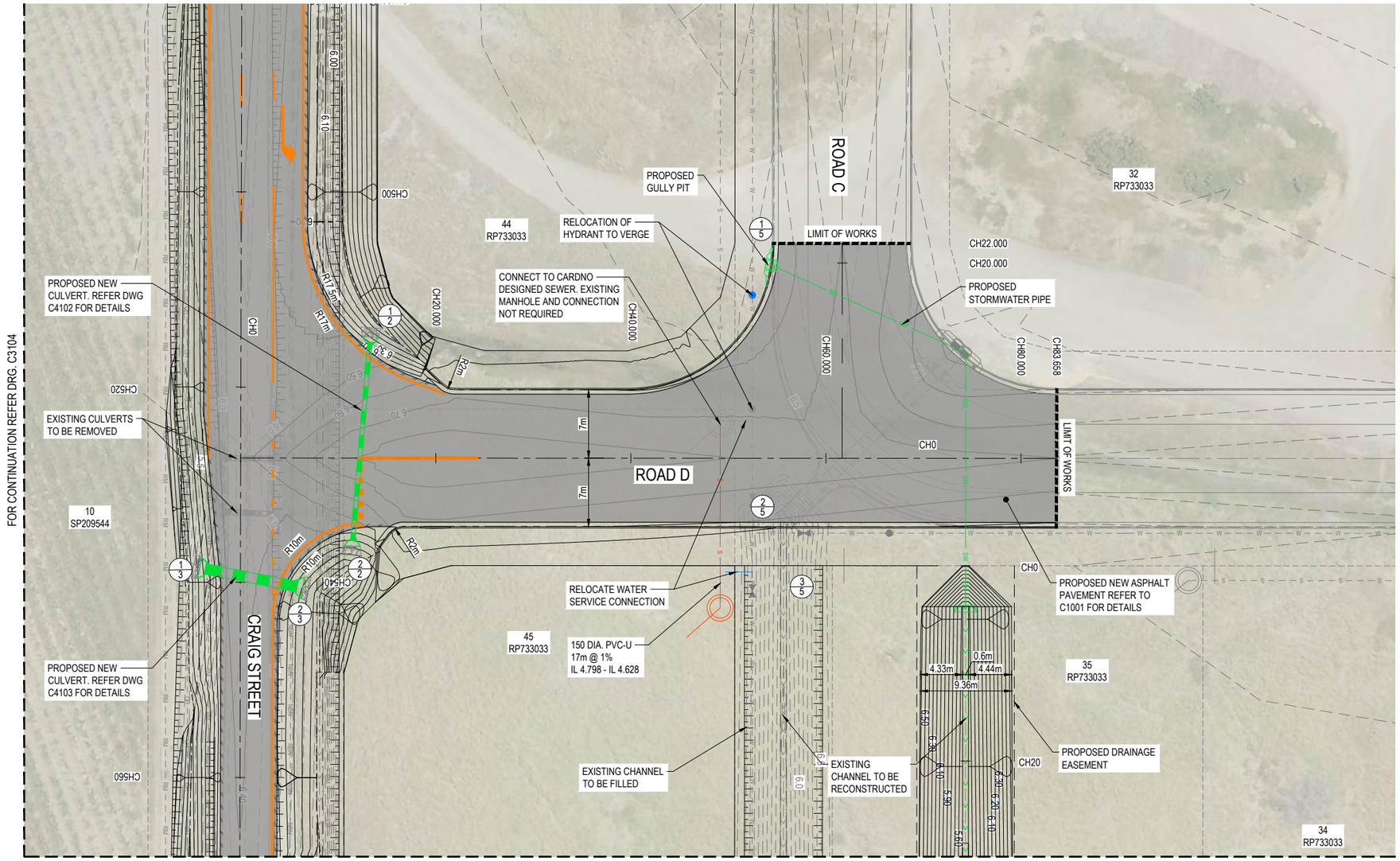
SCALE AT FULL SIZE (A1) : 1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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GENERAL ARRANGEMENT PLAN - SHEET 5

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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : GENERAL ARRANGEMENT PLAN - SHEET 5

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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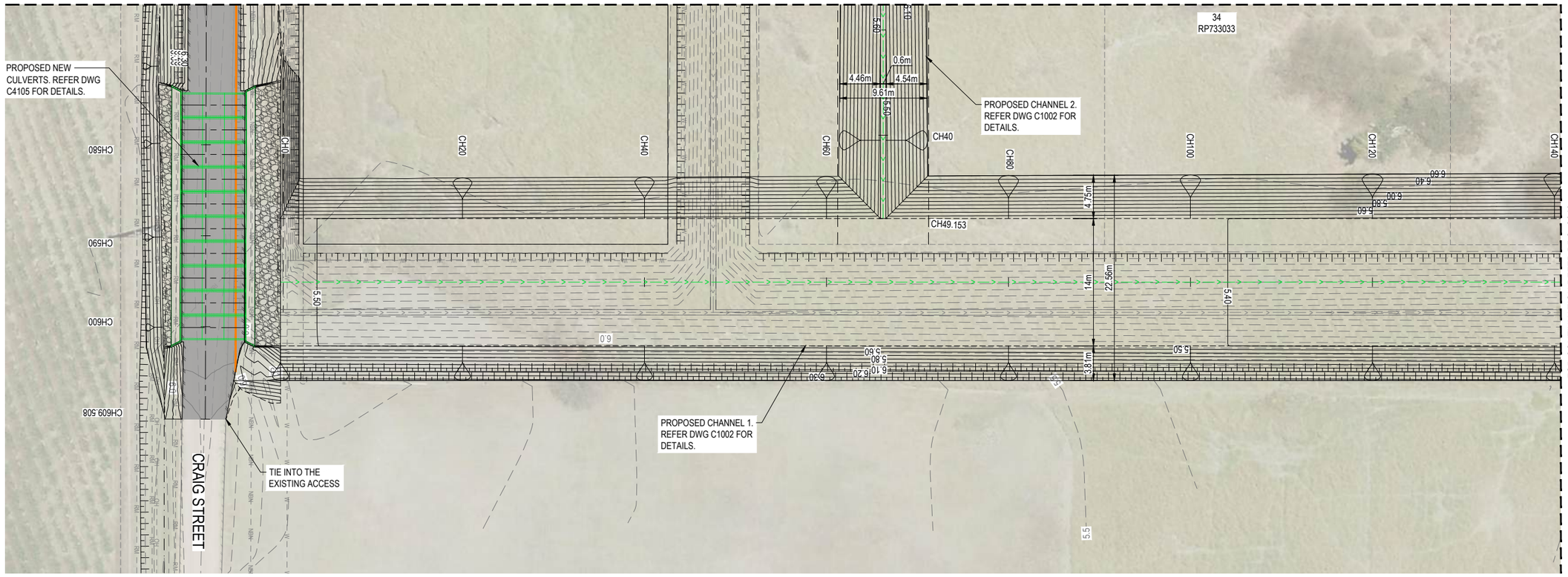
SCALE AT FULL SIZE (A1) : 5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3105	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



GENERAL ARRANGEMENT PLAN - SHEET 6

NOTE:
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A	REVISED DETAILED DESIGN	10-10-25

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EMAIL: ADMIN@BURCHILLS.COM.AU
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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : GENERAL ARRANGEMENT PLAN - SHEET 6

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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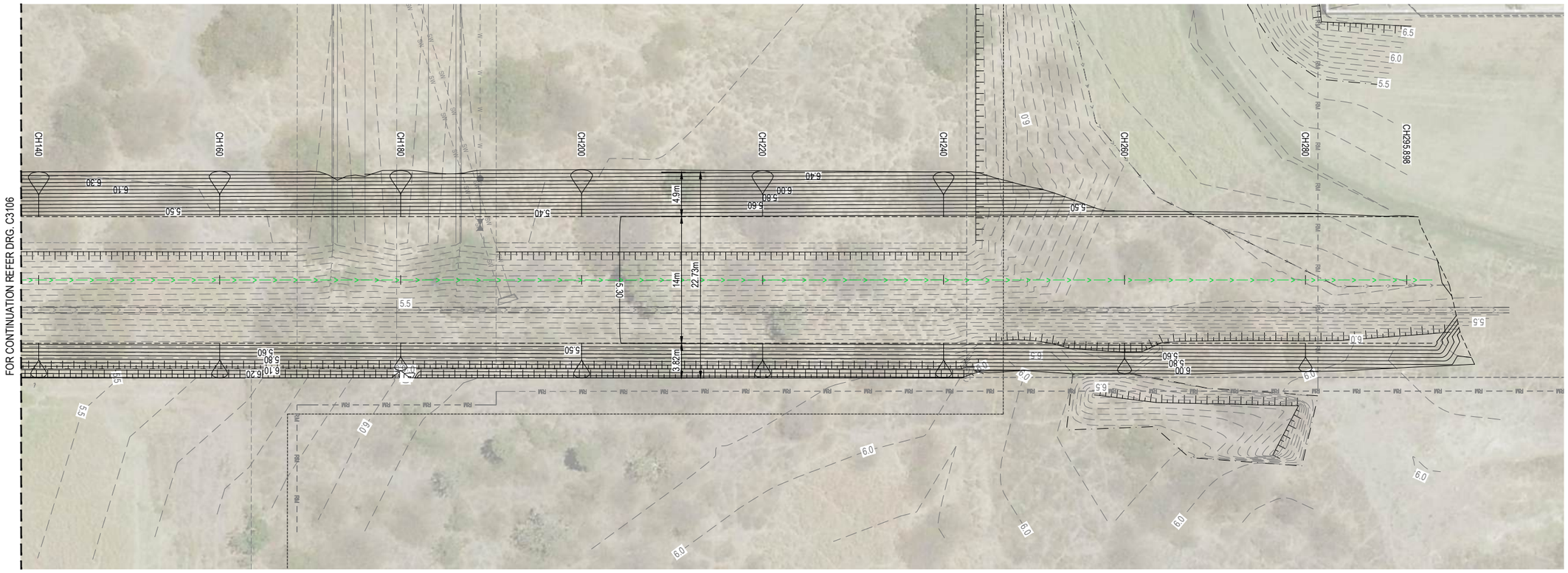
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1 : 100 (FULL SIZE)
5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3106	A

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Version: 1, Version Date: 19/03/2026



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GENERAL ARRANGEMENT PLAN - SHEET 7

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VER.	DESCRIPTION	DATE
A	REVISED DETAILED DESIGN	10-10-25

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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : GENERAL ARRANGEMENT PLAN - SHEET 7

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :		DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA	
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER	

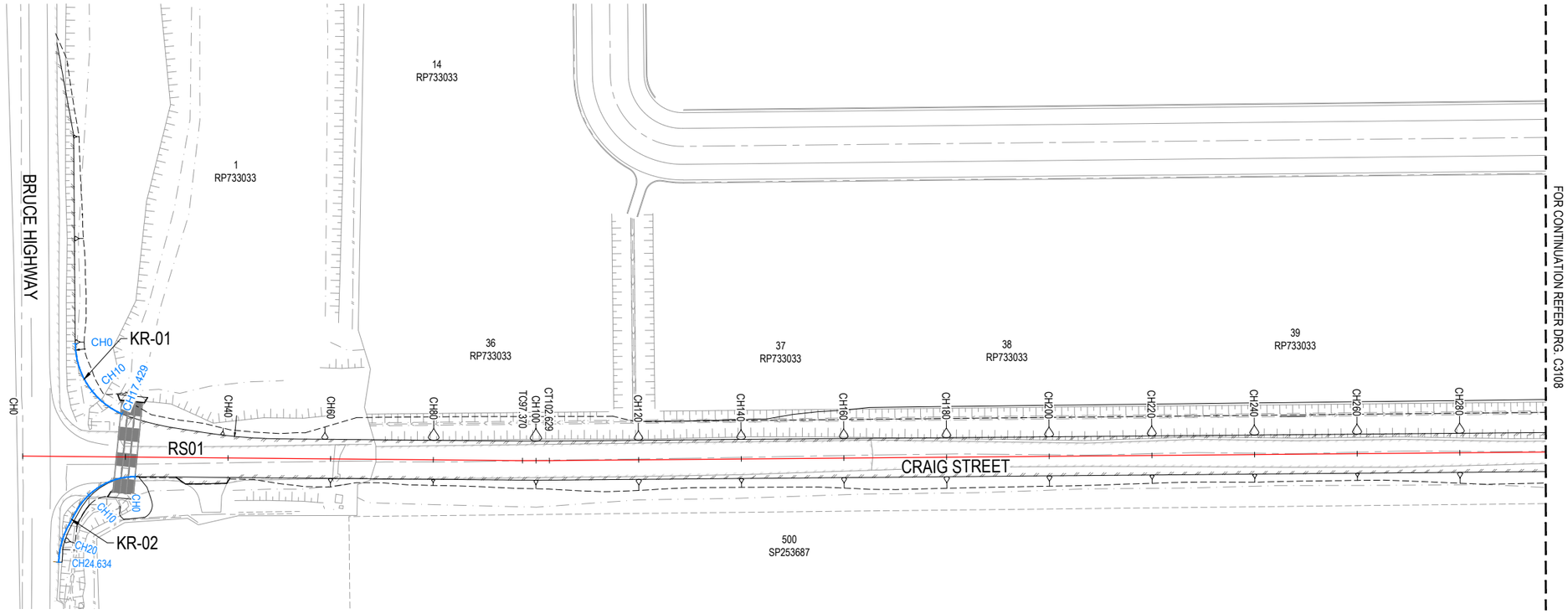
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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3107	A

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

LEGEND

- EXISTING LOT BOUNDARY
- EXISTING ROAD CONTROL LINE
- EXISTING KERB
- EXISTING EDGE OF BITUMEN
- EXISTING TOP OF BANK
- EXISTING BOTTOM OF BANK
- PROPOSED ROAD CONTROL LINE
- PROPOSED ROAD EDGE OF BITUMEN



CONTROL LINE SETOUT PLAN - SHEET 1

CONTROL LINE SETOUT KR 01

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	541385.494	7836666.485	7.029	130°28'35.38"			
IP 2	8.715	541392.966	7836660.109	6.935		R = -15.154	17.429	65°53'51.36"
IP 3	17.429	541401.837	7836664.326	6.914	64°34'44.02"			

CONTROL LINE SETOUT KR 02

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	541412.683	7836658.223	7.143	221°47'44.05"			
IP 2	0.000	541412.683	7836658.223	7.143				
IP 3	6.984	541407.522	7836652.450	7.137		R = -13.000	13.968	61°33'48.69"
CT	13.968	541410.141	7836645.163	6.968	160°13'55.73"			
TC	16.985	541411.162	7836642.323	7.010	160°13'55.73"			
	20.000	541412.442	7836639.599	7.120	149°26'12.12"			
IP 4	20.810	541412.480	7836638.654	7.130		R = -16.000	7.649	27°23'28.26"
IP 5	24.634	541415.339	7836636.003	7.162	132°50'27.47"			

CONTROL LINE SETOUT RS 01 - CRAIG STREET

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	541395.193	7836644.360	7.363	41°47'44.42"	LINE		97.370
	20.000	541408.523	7836659.271	7.171	41°47'44.42"			
	40.000	541421.852	7836674.181	7.371	41°47'44.42"			
	60.000	541435.182	7836689.092	7.565	41°47'44.42"			
	80.000	541448.511	7836704.003	7.683	41°47'44.42"			
TC	97.370	541460.088	7836716.952	7.706	41°47'44.42"	ARC	-300.000	5.259
	100.000	541461.832	7836718.921	7.703	41°17'36.12"		-300.000	
CT	102.629	541463.558	7836720.903	7.698	40°47'28.87"	LINE		506.883
	120.000	541474.907	7836734.055	7.629	40°47'28.87"			
	140.000	541487.973	7836749.197	7.534	40°47'28.87"			
	160.000	541501.039	7836764.339	7.438	40°47'28.87"			
	180.000	541514.105	7836779.481	7.342	40°47'28.87"			
	200.000	541527.171	7836794.623	7.247	40°47'28.87"			
	220.000	541540.237	7836809.764	7.157	40°47'28.87"			
	240.000	541553.304	7836824.906	7.083	40°47'28.87"			
	260.000	541566.370	7836840.048	7.010	40°47'28.87"			
	280.000	541579.436	7836855.190	6.936	40°47'28.87"			

CONTROL LINE SETOUT RS 01 - CRAIG STREET

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
	300.000	541592.502	7836870.332	6.867	40°47'28.87"			
	320.000	541605.568	7836885.474	6.812	40°47'28.87"			
	340.000	541618.634	7836900.616	6.771	40°47'28.87"			
	360.000	541631.700	7836915.757	6.738	40°47'28.87"			
	380.000	541644.766	7836930.899	6.705	40°47'28.87"			
	400.000	541657.833	7836946.041	6.672	40°47'28.87"			
	420.000	541670.899	7836961.183	6.639	40°47'28.87"			
	440.000	541683.965	7836976.325	6.606	40°47'28.87"			
	460.000	541697.031	7836991.467	6.574	40°47'28.87"			
	480.000	541710.097	7837006.609	6.541	40°47'28.87"			
	500.000	541723.163	7837021.751	6.508	40°47'28.87"			
	520.000	541736.229	7837036.892	6.475	40°47'28.87"			
	540.000	541749.296	7837052.034	6.443	40°47'28.87"			
	560.000	541762.362	7837067.176	6.410	40°47'28.87"			
	580.000	541775.428	7837082.318	6.388	40°47'28.87"			
	600.000	541788.494	7837097.460	6.371	40°47'28.87"			
E	609.511	541794.708	7837104.661	6.218	40°47'28.87"			

NOTE:
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VER.	DESCRIPTION	DATE
B	REVISED DETAILED DESIGN	10-10-25
A	DETAILED DESIGN	27-06-25

BURCHILLS ENGINEERING SOLUTIONS
GOLD COAST | BRISBANE | TOOWOOMBA
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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : CONTROL LINE SETOUT PLAN SHEET 1

PROJECT : AYR INDUSTRIAL ESTATE SECONDARY ACCESS DESIGN CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

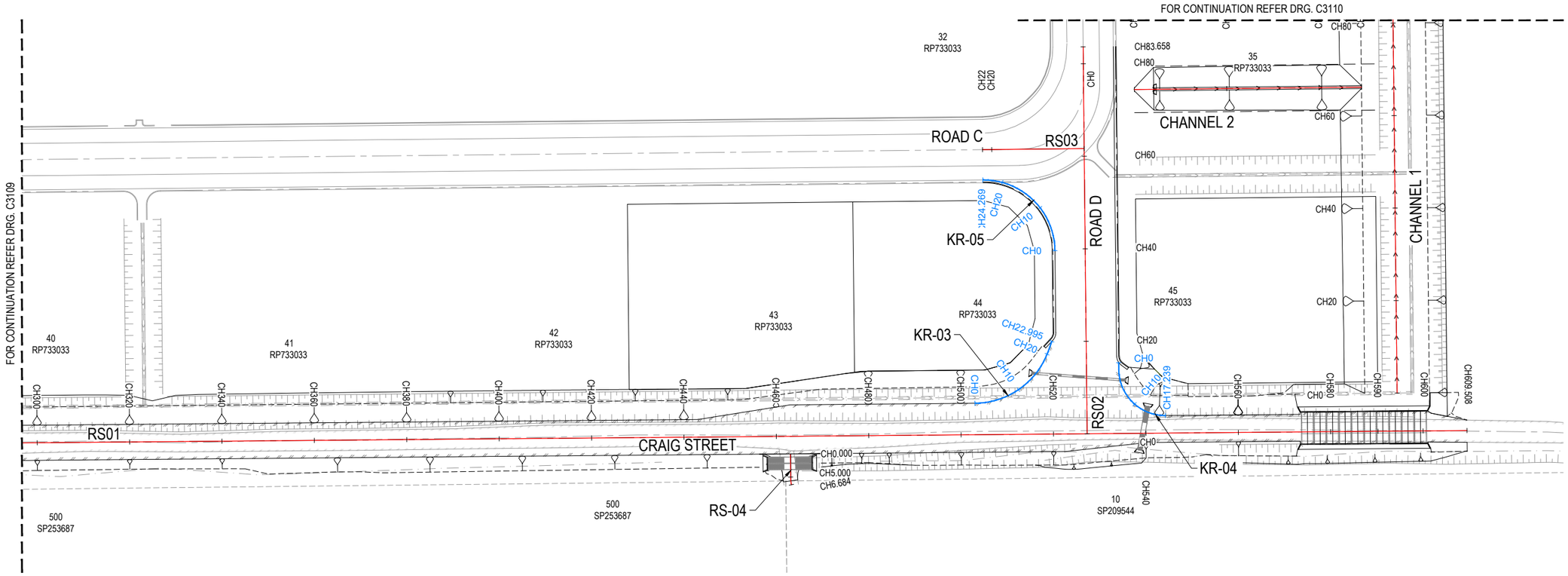
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1 : 500 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3108	B

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



CONTROL LINE SETOUT PLAN - SHEET 2

CONTROL LINE SETOUT RS 02 - ROAD D

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	541740.978	7837042.396		310°41'15.00"
	20.000	541725.813	7837055.434	6.889	310°41'15.00"
	40.000	541710.647	7837068.473	6.831	310°41'15.00"
	60.000	541695.482	7837081.512	6.771	310°41'15.00"
	80.000	541680.316	7837094.550	6.711	310°41'15.00"
IP 2	83.658	541677.542	7837096.935	6.700	310°41'15.00"

CONTROL LINE SETOUT RS 03 - ROAD C

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	541694.224	7837082.592	6.766	220°41'15.00"
	20.000	541681.186	7837067.427	6.706	220°41'15.00"
IP 2	22.000	541679.882	7837065.910	6.700	220°41'15.00"

CONTROL LINE SETOUT - KR 03 TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	541720.009	7837028.503	6.299	40°47'28.87"			
IP 2	10.277	541727.681	7837037.394	6.366		R = -17.000	20.554	69°16'27.35"
	20.000	541722.336	7837047.225	6.557	333°23'04.39"			
CT	20.554	541722.080	7837047.717	6.571	331°31'01.51"			
IP 3	22.995	541720.916	7837049.862	6.632	331°31'01.51"			

CONTROL LINE SETOUT - KR 04 TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	541733.926	7837057.690	6.606	130°41'15.00"			
TC	1.549	541735.101	7837056.680	6.534	130°41'15.00"			
IP 2	9.394	541742.670	7837050.173	6.354		R = -10.000	15.690	89°53'46.14"
IP 3	17.239	541749.191	7837057.730	6.322	40°47'28.87"			

CONTROL LINE SETOUT - KR 05 TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	541706.636	7837063.283	6.636	310°41'15.00"			
IP 2	12.134	541694.921	7837073.356	6.577		R = -15.450	24.269	90°00'00.00"
	20.000	541688.041	7837064.454	6.553	236°31'05.54"			
IP 3	24.269	541684.849	7837061.640	6.564	220°41'15.00"			

CONTROL LINE SETOUT RS 04 - DRIVEWAY

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	541701.877	7836991.266	6.454	130°47'28.87"			
	5.000	541705.662	7836988.000	6.325	130°47'28.87"			
TC	5.370	541705.943	7836987.758	6.299	130°47'28.87"			
IP 2	5.843	541706.302	7836987.448	6.266		R = -5.000	0.945	10°49'58.87"
CT	6.316	541706.712	7836987.211	6.234	119°57'30.00"			
IP 3	6.684	541707.031	7836987.027	6.208	119°57'30.00"			

NOTE:
FOR LEGEND & NOTES REFER DRG. C3106.

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VER.	DESCRIPTION	DATE
B	REVISED DETAILED DESIGN	10-10-25
A	DETAILED DESIGN	27-06-25

BURCHILLS ENGINEERING SOLUTIONS
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : CONTROL LINE SETOUT PLAN SHEET 2

PROJECT : AYR INDUSTRIAL ESTATE SECONDARY ACCESS DESIGN CRAIG STREET, AYR

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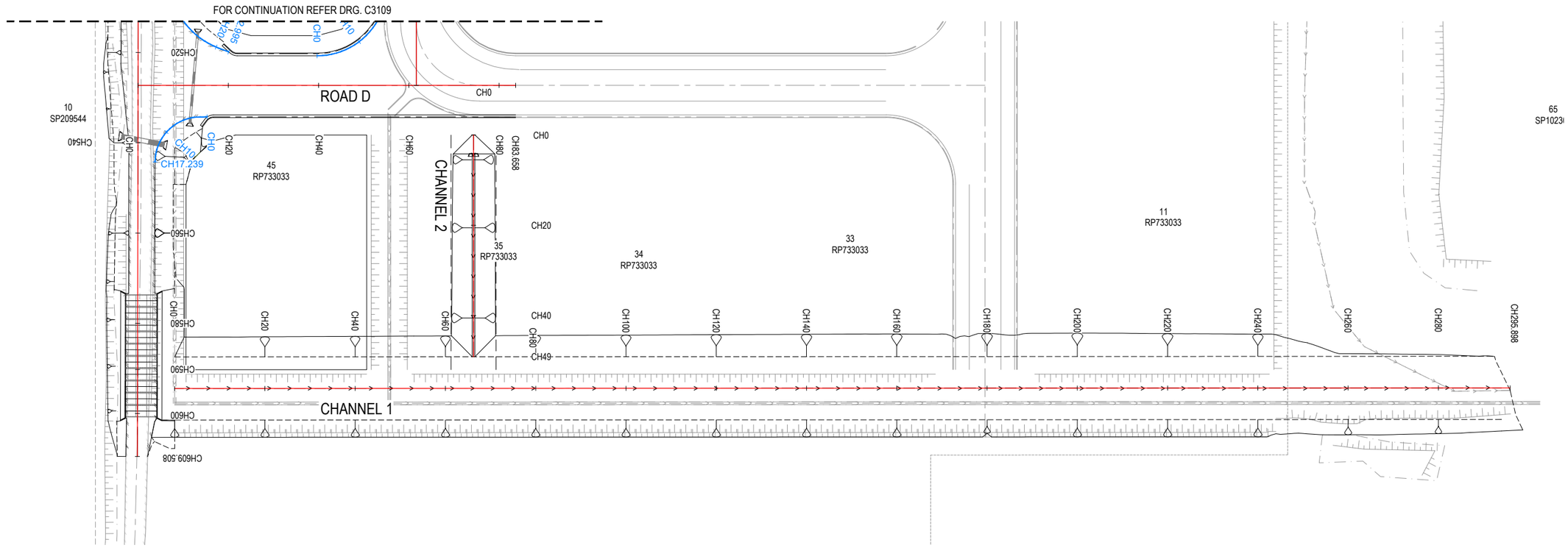
SCALE AT FULL SIZE (A1) : 5 0 5 10 15 20 25m
1 : 500 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3109	B

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



CONTROL LINE SETOUT PLAN - SHEET 3

CONTROL LINE SETOUT - CHANNEL 1 TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.LEN
S	0.000	541778.635	7837098.623	5.504	310°39'34.72"	LINE	295.598
	20.000	541763.464	7837111.654	5.484	310°39'34.72"		
	40.000	541748.292	7837124.685	5.464	310°39'34.72"		
	60.000	541733.120	7837137.717	5.444	310°39'34.72"		
	80.000	541717.948	7837150.748	5.424	310°39'34.72"		
	100.000	541702.776	7837163.779	5.404	310°39'34.72"		
	120.000	541687.604	7837176.810	5.384	310°39'34.72"		
	140.000	541672.432	7837189.842	5.364	310°39'34.72"		
	160.000	541657.260	7837202.873	5.344	310°39'34.72"		
	180.000	541642.089	7837215.904	5.324	310°39'34.72"		
	200.000	541626.917	7837228.936	5.304	310°39'34.72"		
	220.000	541611.745	7837241.967	5.284	310°39'34.72"		
	240.000	541596.573	7837254.998	5.264	310°39'34.72"		
	260.000	541581.401	7837268.029	5.244	310°39'34.72"		
	280.000	541566.229	7837281.061	5.224	310°39'34.72"		
E	295.598	541554.397	7837291.224	5.209	310°39'34.72"		

CONTROL LINE SETOUT - CHANNEL 2 TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.LEN
S	0.000	541691.792	7837099.190	6.618	40°41'15.00"	LINE	49.153
	20.000	541704.831	7837114.356	5.524	40°41'15.00"		
	40.000	541717.869	7837129.521	5.464	40°41'15.00"		
E	49.153	541723.837	7837136.462	5.438	40°41'15.00"		

NOTE:
FOR LEGEND & NOTES REFER DRG. C3106.

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VER.	DESCRIPTION	DATE
A	REVISED DETAILED DESIGN	10-10-25

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : CONTROL LINE SETOUT PLAN SHEET 3

PROJECT : AYR INDUSTRIAL ESTATE SECONDARY ACCESS DESIGN CRAIG STREET, AYR

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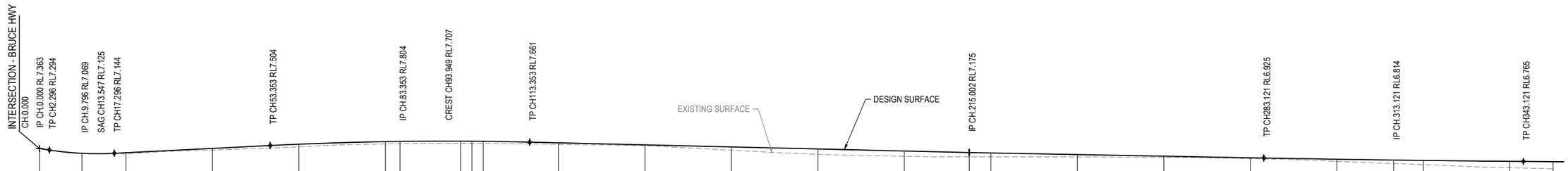
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1 : 500 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

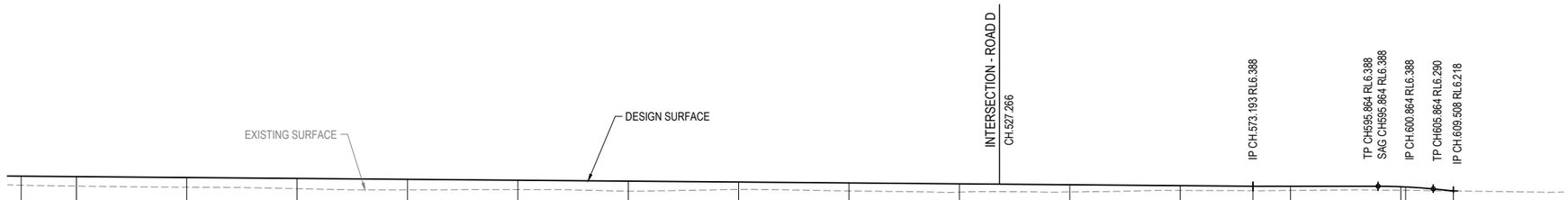
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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3110	A

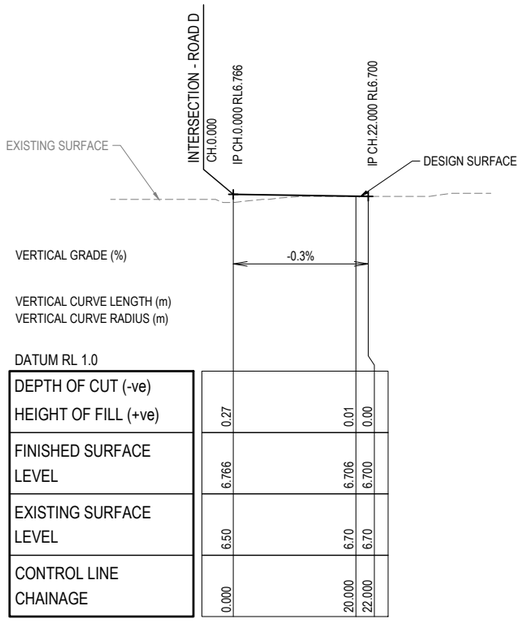
Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026


INTERSECTION - BRUCE HWY
CH 0.000
IP CH 0.000 RL 7.363
TP CH 2.296 RL 7.294
IP CH 9.796 RL 7.069
SAG CH 13.547 RL 7.125
TP CH 17.296 RL 7.144
TP CH 53.353 RL 7.504
IP CH 83.353 RL 7.804
CREST CH 93.949 RL 7.707
TP CH 113.353 RL 7.661
EXISTING SURFACE
DESIGN SURFACE
IP CH 215.002 RL 7.175
TP CH 283.121 RL 6.925
IP CH 313.121 RL 6.814
TP CH 343.121 RL 6.765

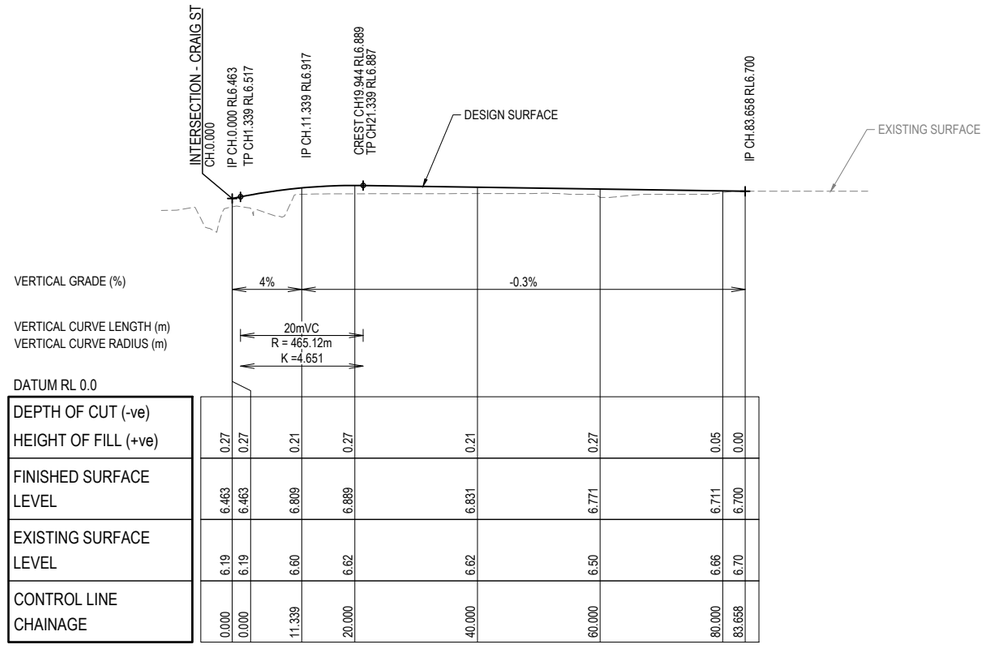
| | | |


EXISTING SURFACE
DESIGN SURFACE
INTERSECTION - ROAD D
CH:527.266
IP CH:573.193 RL6.388
TP CH595.864 RL6.388
SAG CH595.864 RL6.388
IP CH:600.864 RL6.388
TP CH605.864 RL6.290
IP CH:609.508 RL6.218
VERTICAL GRADE (%)
-0.164%
0%
-1.965%
VERTICAL CURVE LENGTH (m)
VERTICAL CURVE RADIUS (m)
10mVC
R = 508.92m
K =5.089
DATUM RL 1.0

| | | |



LONGITUDINAL SECTION - ROAD C



LONGITUDINAL SECTION - ROAD D

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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : ROAD LONGITUDINAL SECTIONS - SHEET 3

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

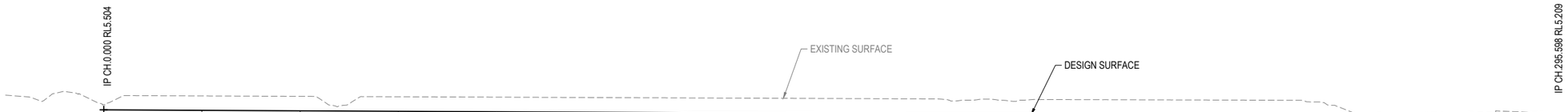
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SCALE AT FULL SIZE (A1) :
1 : 100 VERTICAL (FULL SIZE)
1 0 1 2 3 4 5m
5 0 5 10 15 20 25m
1 : 500 HORIZONTAL (FULL SIZE)

DEVEL. APPLIC. No. :
DATE : 10-10-25
PROJECT LEADER : D.WALTON
DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN
CHECKED : L.FAULKNER
APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

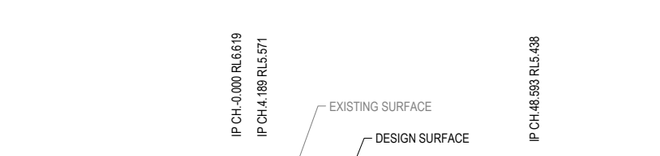
PROJECT No.: BE250152
DRAWING No. : C3203
VERSION: C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



VERTICAL GRADE (%)							-0.1%								
VERTICAL CURVE LENGTH (m) VERTICAL CURVE RADIUS (m)															
DATUM RL 0.0															
DEPTH OF CUT (-ve) HEIGHT OF FILL (+ve)	-0.22	-0.59	-0.59	-0.59	-0.60	-0.60	-0.60	-0.61	-0.61	-0.62	-0.62	-0.62	-0.63	-0.09	-0.18	-0.15
FINISHED SURFACE LEVEL	5.504	5.484	5.464	5.444	5.424	5.404	5.384	5.364	5.344	5.324	5.304	5.284	5.264	5.244	5.224	5.209
EXISTING SURFACE LEVEL	5.72	6.07	6.05	6.04	6.02	6.01	5.99	5.97	5.96	5.94	5.92	5.91	5.90	5.34	5.40	5.35
CONTROL LINE CHAINAGE	0.000	20.000	40.000	60.000	80.000	100.000	120.000	140.000	160.000	180.000	200.000	220.000	240.000	260.000	280.000	295.598
HORIZONTAL GEOMETRY																

LONGITUDINAL SECTION - CHANNEL 1



VERTICAL GRADE (%)	-25%		-0.3%			
VERTICAL CURVE LENGTH (m) VERTICAL CURVE RADIUS (m)						
DATUM RL 0.0						
DEPTH OF CUT (-ve) HEIGHT OF FILL (+ve)	-0.00	-1.08	-1.11	-1.14	-1.12	
FINISHED SURFACE LEVEL	6.619	6.618	5.571	5.524	5.464	5.438
EXISTING SURFACE LEVEL	6.62	6.65	6.64	6.60	6.55	6.55
CONTROL LINE CHAINAGE	-0.000	0.000	4.189	20.000	40.000	48.593	49.153
HORIZONTAL GEOMETRY							

LONGITUDINAL SECTION - CHANNEL 2

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VER.	DESCRIPTION	DATE
A	REVISED DETAILED DESIGN	10-10-25

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : CHANNEL LONGITUDINAL SECTION

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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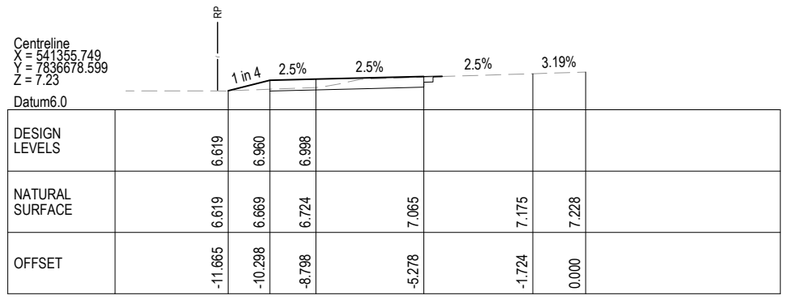
SCALE AT FULL SIZE (A1) :
1 : 100 VERTICAL (FULL SIZE)
1 0 1 2 3 4 5m
5 0 5 10 15 20 25m
1 : 500 HORIZONTAL (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

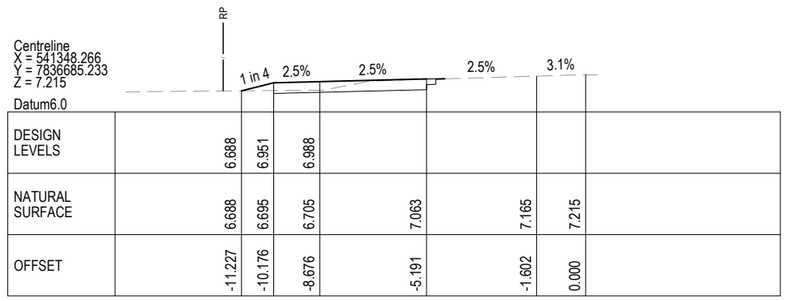
PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3204	A

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



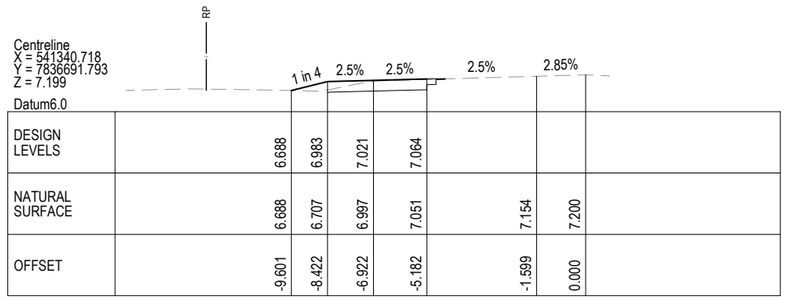
DESIGN LEVELS	6.619	6.960	6.998				
NATURAL SURFACE	6.619	6.669	6.724	7.065	7.175	7.228	
OFFSET	-11.665	-10.298	-8.798	-5.278	-1.724	0.000	

CH. 30.000



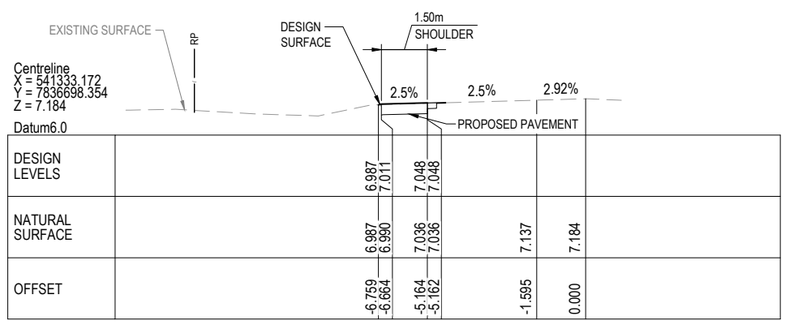
DESIGN LEVELS	6.688	6.951	6.988				
NATURAL SURFACE	6.688	6.695	6.705	7.063	7.165	7.215	
OFFSET	-11.227	-10.176	-8.676	-5.191	-1.602	0.000	

CH. 20.000



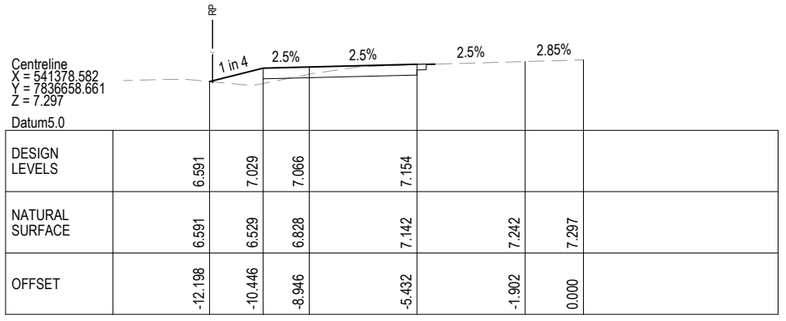
DESIGN LEVELS	6.688	6.983	7.021	7.064			
NATURAL SURFACE	6.688	6.707	6.997	7.051	7.154	7.200	
OFFSET	-9.601	-8.422	-6.922	-5.182	-1.599	0.000	

CH. 10.000



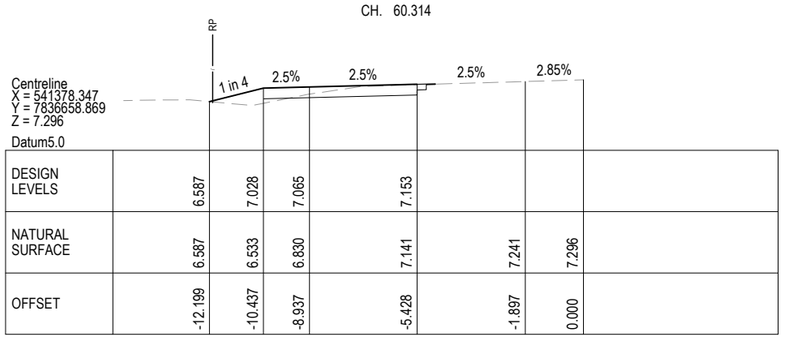
DESIGN LEVELS			6.987	7.011	7.048	7.048	
NATURAL SURFACE	6.987	6.990	7.036	7.036	7.137	7.184	
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CH. 0.000



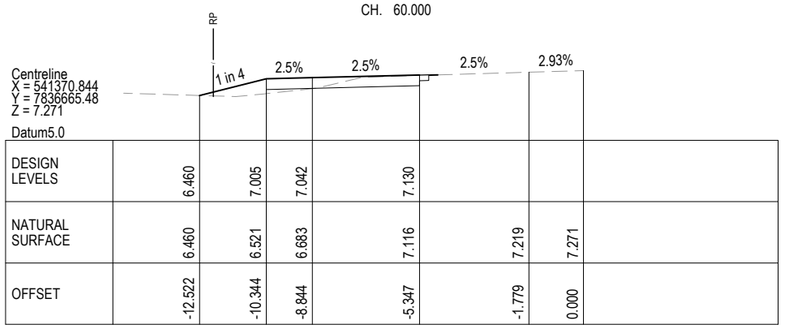
DESIGN LEVELS	6.591	7.029	7.066	7.154			
NATURAL SURFACE	6.591	6.529	6.828	7.142	7.242	7.297	
OFFSET	-12.198	-10.446	-8.946	-5.432	-1.902	0.000	

CH. 60.314



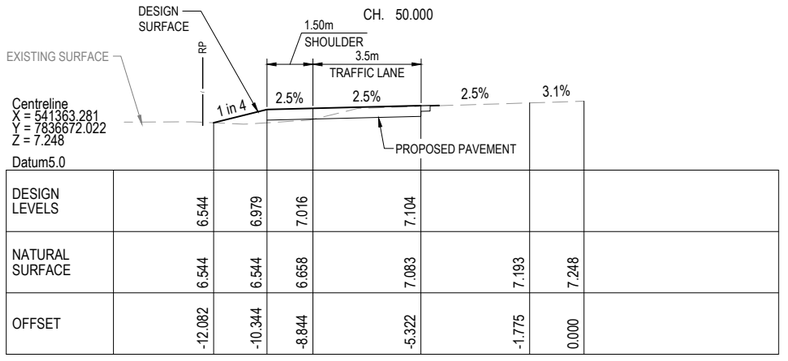
DESIGN LEVELS	6.587	7.028	7.065	7.153			
NATURAL SURFACE	6.587	6.533	6.830	7.141	7.241	7.296	
OFFSET	-12.199	-10.437	-8.937	-5.428	-1.897	0.000	

CH. 60.000



DESIGN LEVELS	6.460	7.005	7.042	7.130			
NATURAL SURFACE	6.460	6.521	6.683	7.116	7.219	7.271	
OFFSET	-12.522	-10.344	-8.844	-5.347	-1.779	0.000	

CH. 50.000



DESIGN LEVELS	6.544	6.979	7.016	7.104			
NATURAL SURFACE	6.544	6.544	6.658	7.083	7.193	7.248	
OFFSET	-12.082	-10.344	-8.844	-5.322	-1.775	0.000	

CH. 40.000

ROAD CROSS SECTIONS - SHEET 1 (BRUCE HIGHWAY)

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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : ROAD CROSS SECTIONS

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

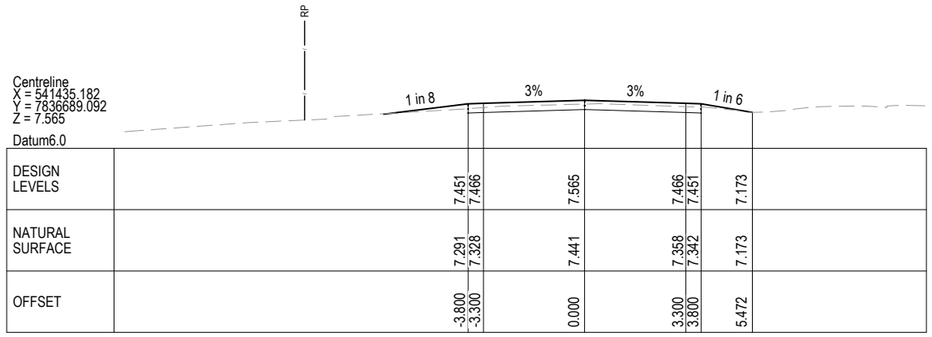
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1 : 100 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

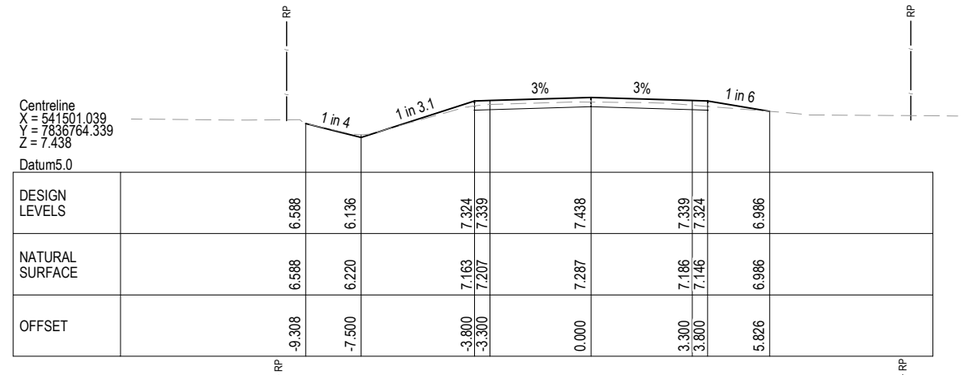
APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3301	C

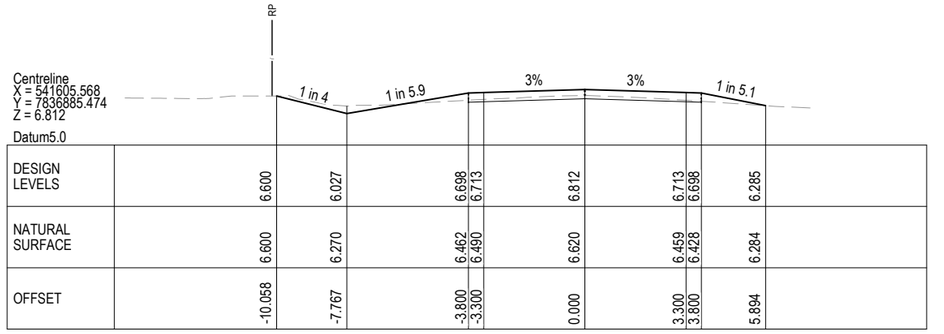
Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026


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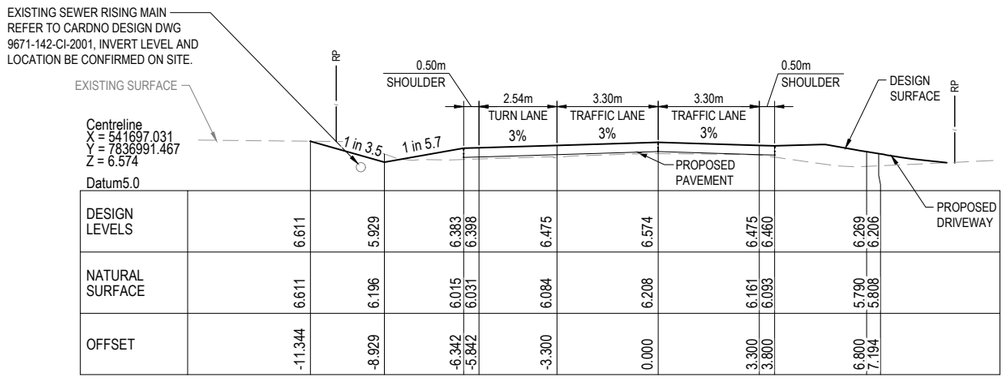
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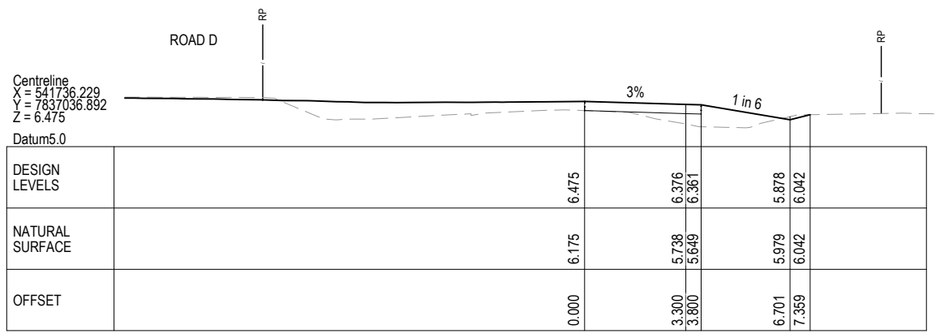

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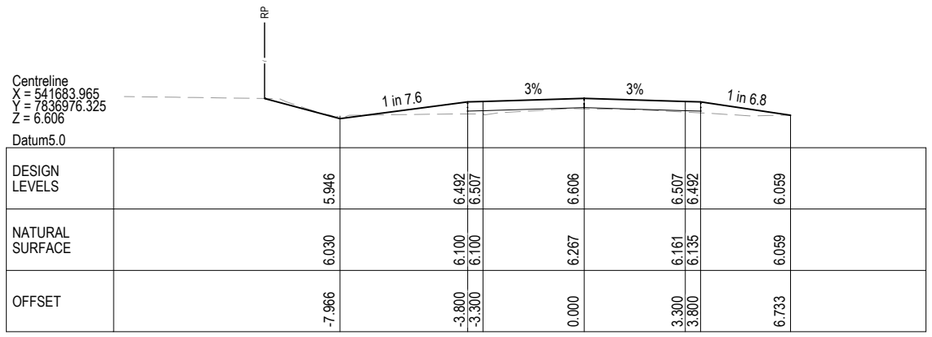
DESIGN LEVELS	6.611	5.929	6.383	6.398	6.475	6.574	6.475	6.460	6.269	6.206					
NATURAL SURFACE	6.611	6.196	6.015	6.031	6.084	6.208	6.161	6.093	5.790	5.808					
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CH. 460.000



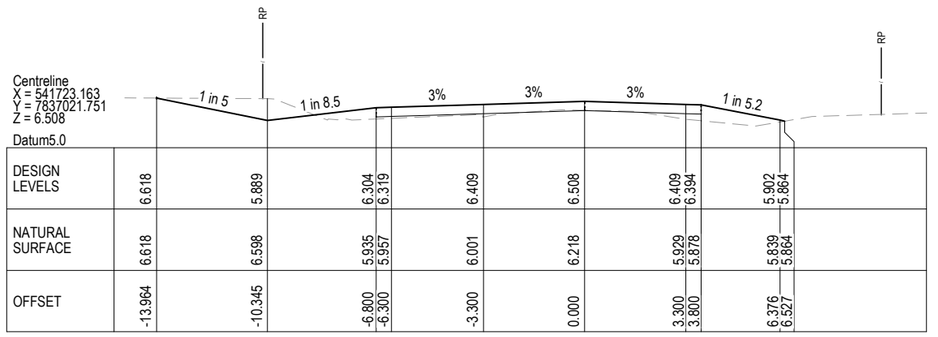
DESIGN LEVELS							6.475		6.376	6.361	5.878	6.042			
NATURAL SURFACE							6.175		5.738	5.649	5.979	6.042			
OFFSET							0.000		3.300	3.800	6.701	7.359			

CH. 520.000



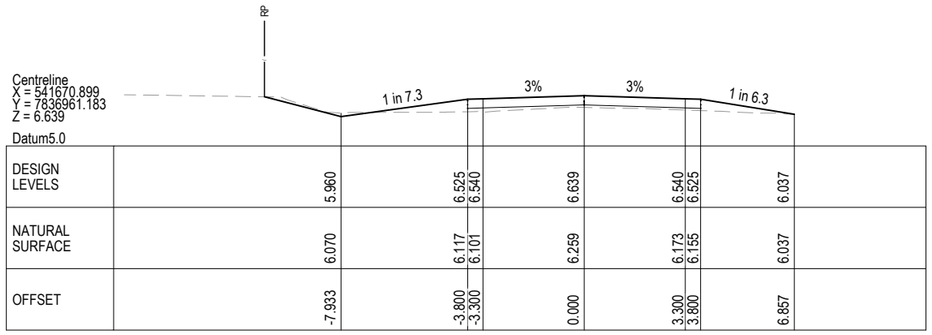
DESIGN LEVELS		5.946		6.492	6.507	6.606		6.507	6.492	6.059					
NATURAL SURFACE		6.030		6.100	6.100	6.267		6.161	6.135	6.059					
OFFSET		-7.966		-3.800	-3.300	0.000		3.300	3.800	6.733					

CH. 440.000



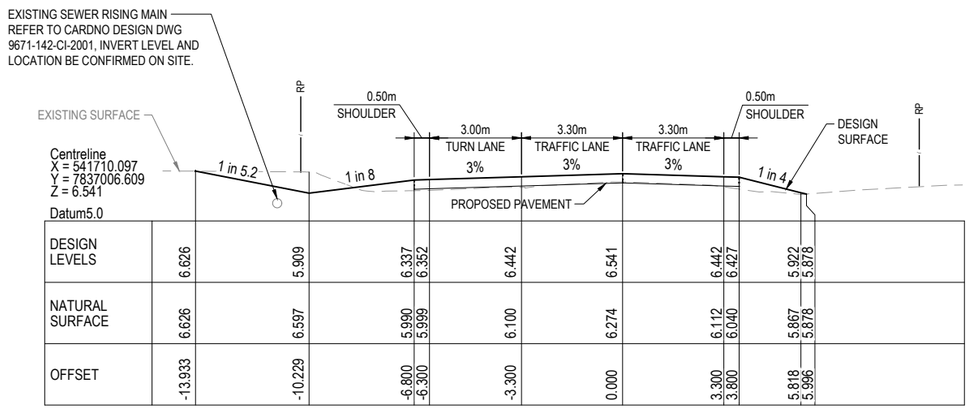
DESIGN LEVELS	6.618	5.889	6.304	6.319	6.409	6.508	6.409	6.394	5.902	5.864					
NATURAL SURFACE	6.618	6.598	5.935	5.957	6.001	6.218	5.929	5.878	5.839	5.864					
OFFSET	-13.964	-10.345	-6.800	-6.300	-3.300	0.000	3.300	3.800	6.376	6.527					

CH. 500.000



DESIGN LEVELS		5.960		6.525	6.540	6.639		6.540	6.525	6.037					
NATURAL SURFACE		6.070		6.117	6.101	6.259		6.173	6.155	6.037					
OFFSET		-7.933		-3.800	-3.300	0.000		3.300	3.800	6.857					

CH. 420.000



DESIGN LEVELS	6.626	5.909	6.337	6.352	6.442	6.541	6.442	6.427	5.922	5.878					
NATURAL SURFACE	6.626	6.597	5.990	5.999	6.100	6.274	6.112	6.040	5.867	5.878					
OFFSET	-13.933	-10.229	-6.800	-6.300	-3.300	0.000	3.300	3.800	5.818	5.996					

CH. 480.000

ROAD CROSS SECTIONS - SHEET 5 (CRAIG STREET)

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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : ROAD CROSS SECTIONS - SHEET 5

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
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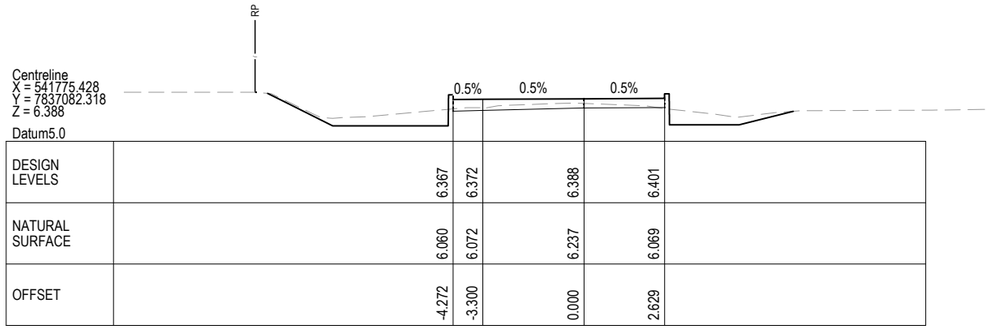
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DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

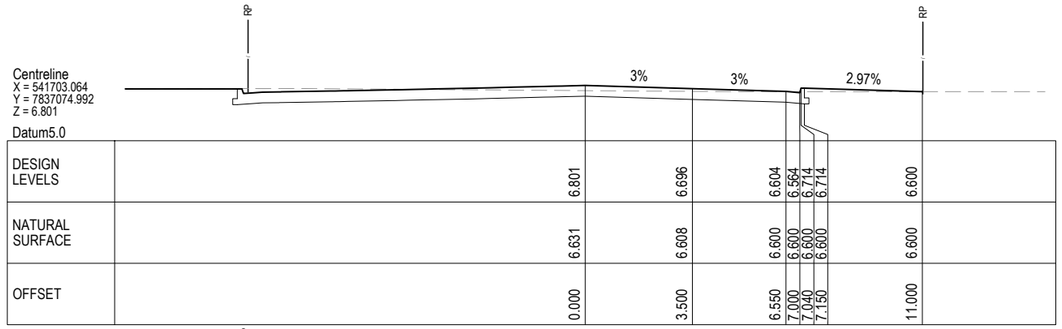
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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3305	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

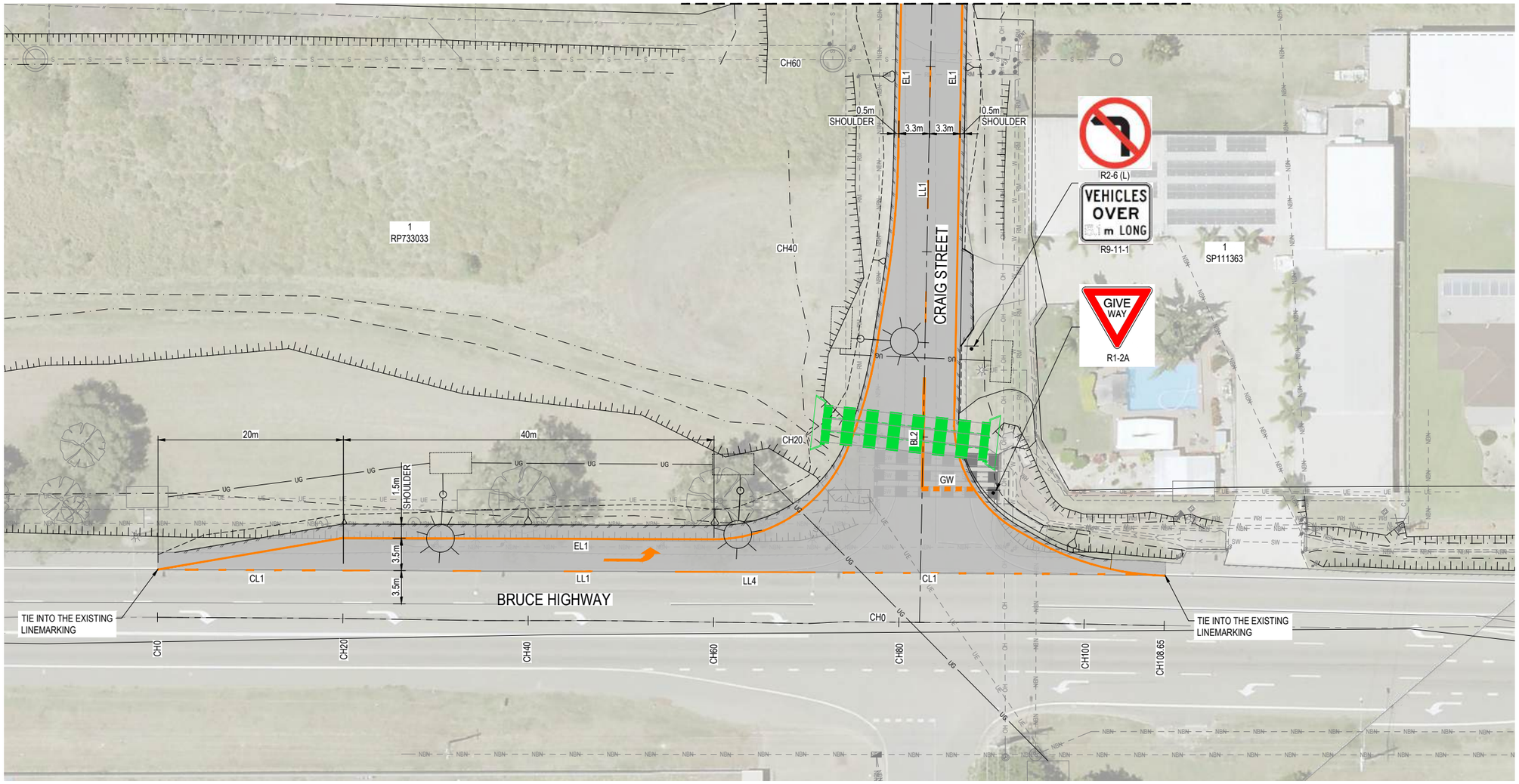

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| | | |

FOR CONTINUATION REFER DRG. C3402



LEGEND

- EXISTING SURFACE CONTOURS
- EXISTING LOT BOUNDARY
- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING SEWER RISING MAIN
- EXISTING OVERHEAD ELECTRIC
- INDICATIVE EXISTING NBN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING ROAD CONTROL LINE
- EXISTING KERB
- EXISTING EDGE OF BITUMEN
- EXISTING TOP OF BANK
- EXISTING BOTTOM OF BANK
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED ELECTRICAL PIT
- PROPOSED LIGHT POLE
- PROPOSED ROAD EDGE OF BITUMEN
- PROPOSED SWALE
- PROPOSED STORMWATER
- PROPOSED ROAD CONTROL LINE
- PROPOSED ASPHALT PAVEMENT

PAVEMENT-MARKING LEGEND :

CODE	LINE TYPE	LINE LENGTH	GAP	WIDTH	COLOUR
EL1	EDGE LINE	-	-	150mm	WHITE
CL1	CONTINUITY LINE	1.0m	3.0m	150mm	WHITE
LL1	LANE-LINE (BROKEN)	3.0m	9.0m	100mm	WHITE
LL4	LANE-LINE (CONTINUOUS)	-	-	100mm	WHITE
GW	GIVE-WAY LINE	0.6m	0.6m	450mm	WHITE
BL2	DOUBLE TWO-WAY BARRIER LINE	-	-	100mm	WHITE
-	PAVEMENT ARROWS	REFER M.U.T.C.D. FOR DETAILS			
-	CHEVRON MARKING	REFER M.U.T.C.D. FOR DETAILS			

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SIGNS AND LINEMARKING PLAN - SHEET 1

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B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : SIGNS AND LINEMARKING PLAN - SHEET 1

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
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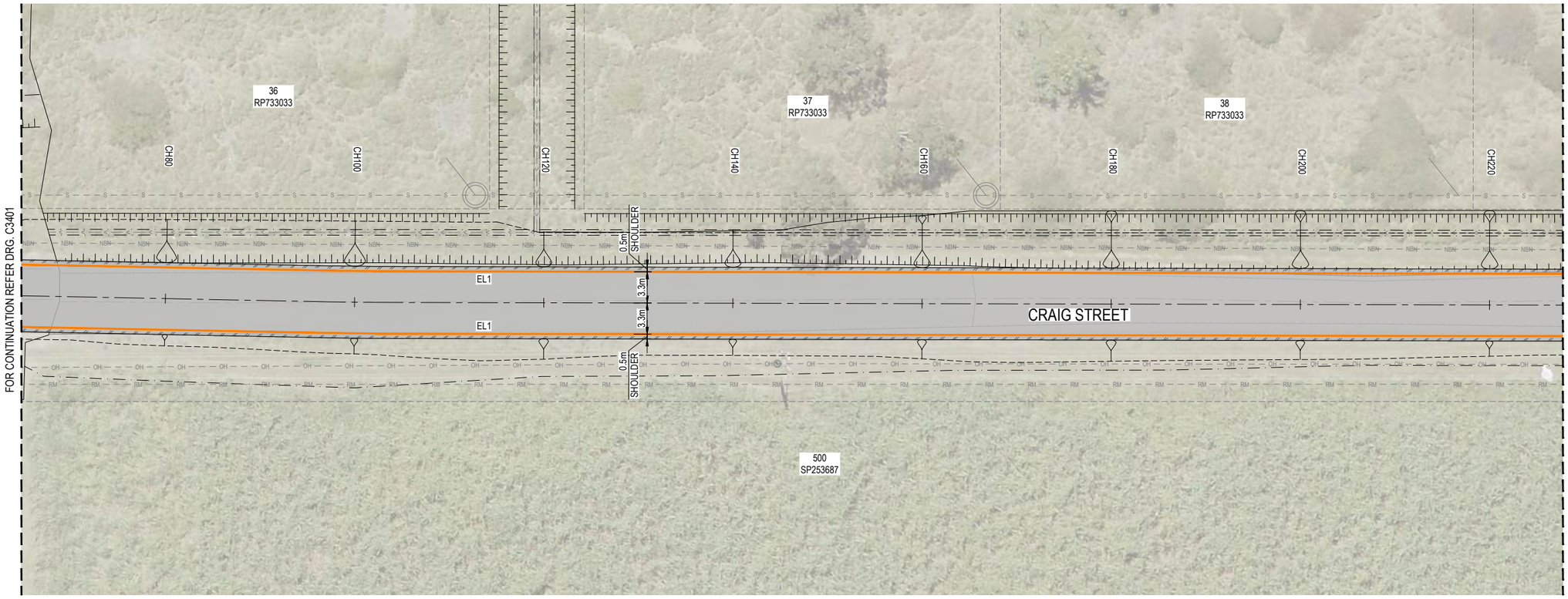
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1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3401	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



SIGNS AND LINEMARKING PLAN - SHEET 2

NOTE:
FOR LEGEND & NOTES REFER DRG. C4101

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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : SIGNS AND LINEMARKING PLAN - SHEET 2

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

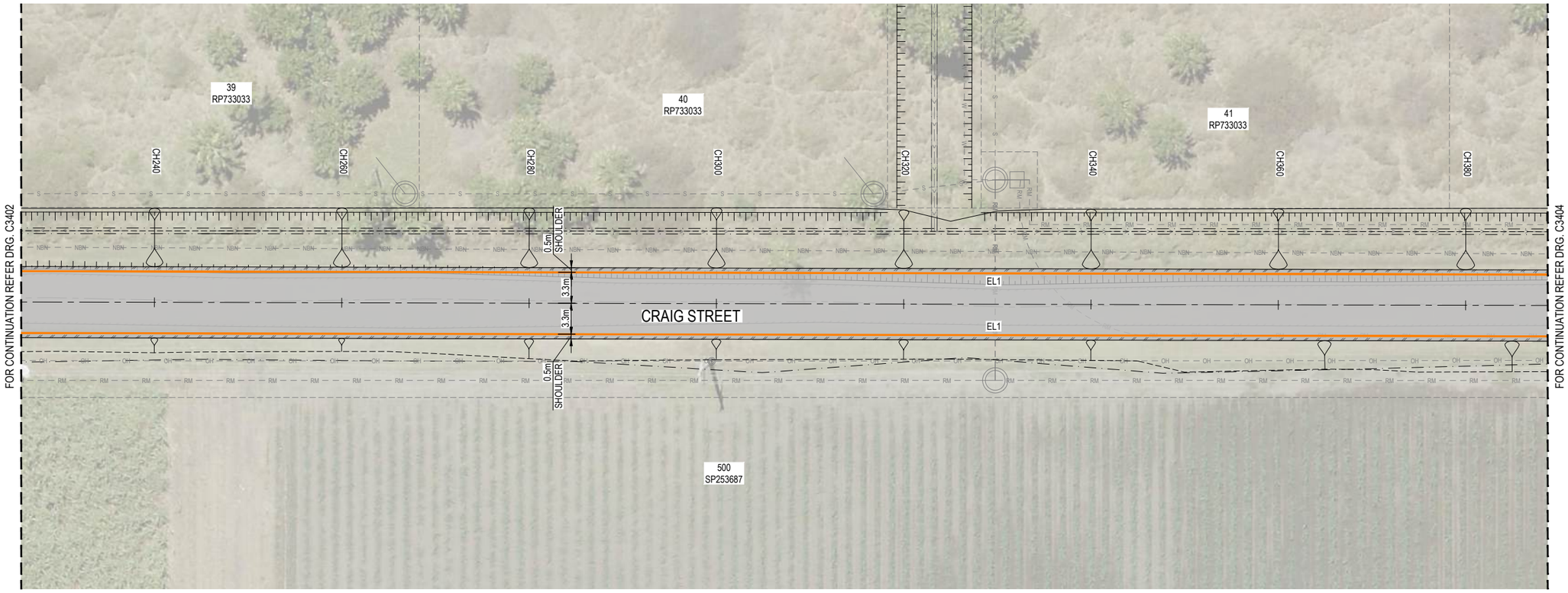
SCALE AT FULL SIZE (A1) :
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1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3402	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



SIGNS AND LINEMARKING PLAN - SHEET 3

NOTE:
FOR LEGEND & NOTES REFER DRG. C3401

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C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : SIGNS AND LINEMARKING PLAN - SHEET 3

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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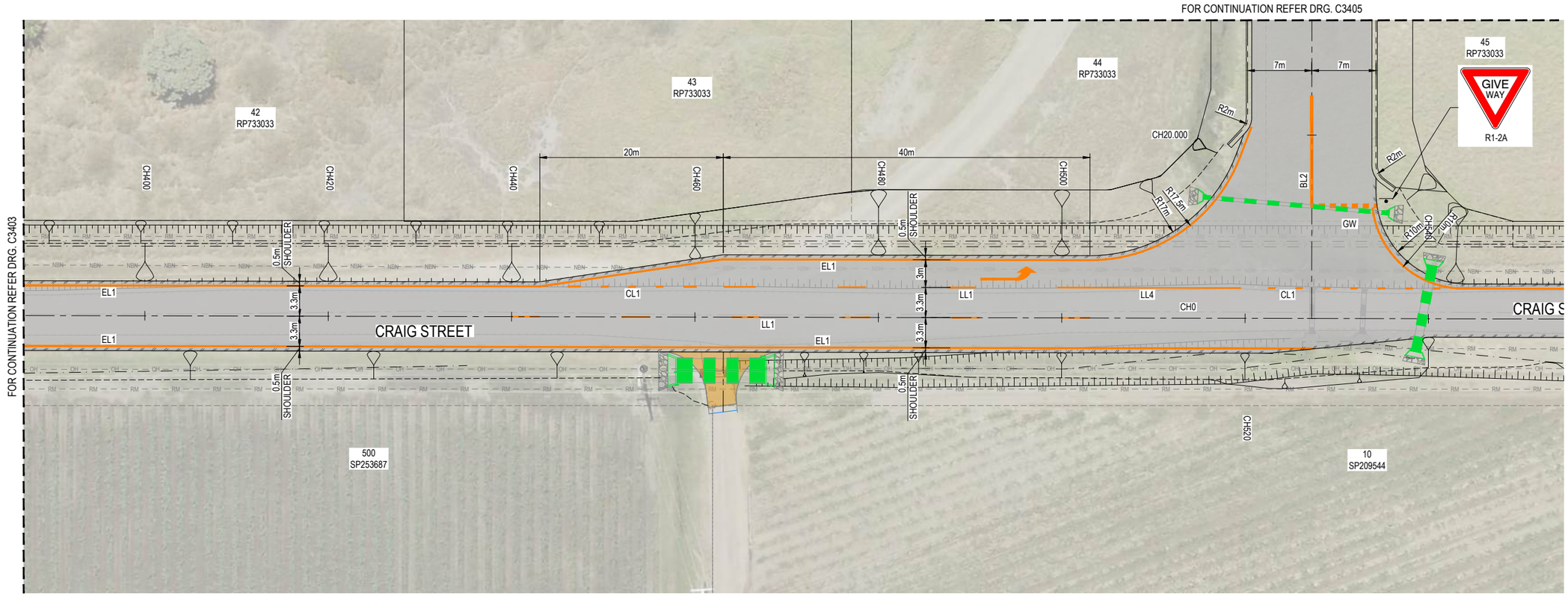
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DEVEL. APPLIC. No. :
DATE : 10-10-25
PROJECT LEADER : D.WALTON
DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN
CHECKED : L.FAULKNER

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PROJECT No.: BE250152
DRAWING No. : C3403
VERSION: C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



SIGNS AND LINEMARKING PLAN - SHEET 4

NOTE:
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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : SIGNS AND LINEMARKING PLAN - SHEET 4

PROJECT :
AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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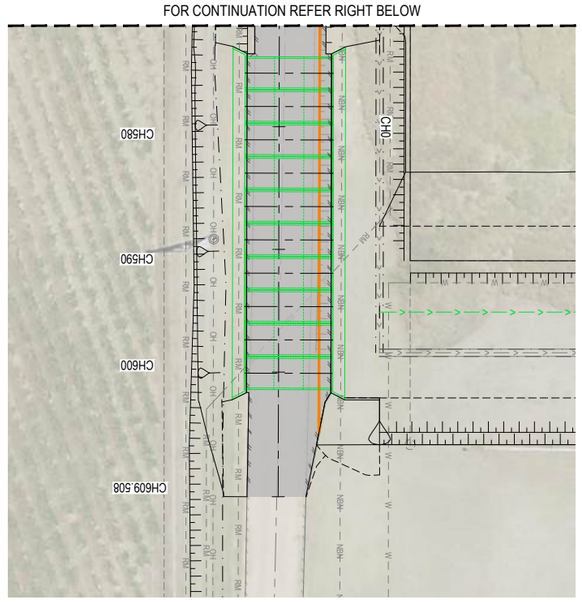
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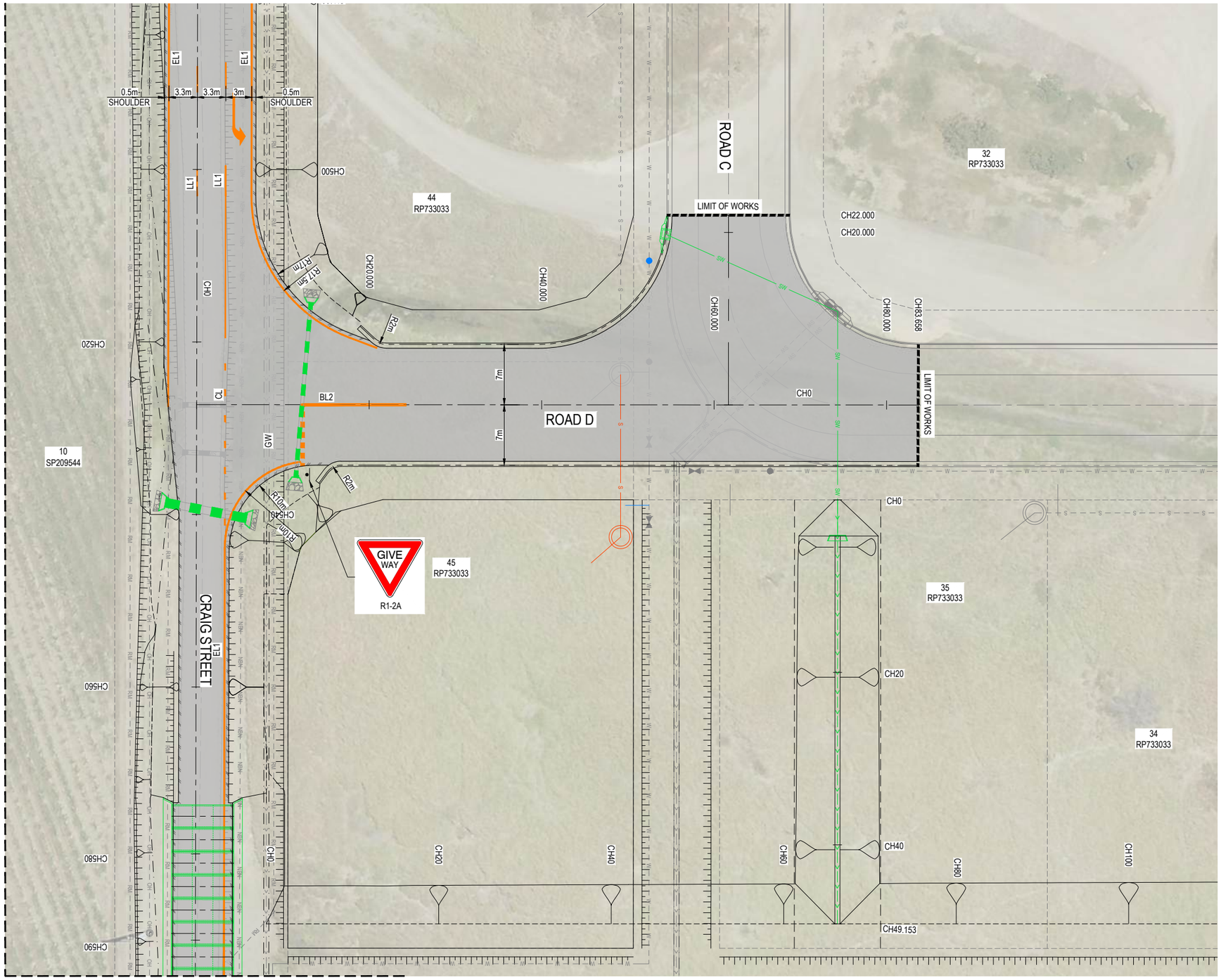
DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3404	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026





NOTE:
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SIGNS AND LINEMARKING PLAN - SHEET 5

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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : SIGNS AND LINEMARKING PLAN - SHEET 5

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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SCALE AT FULL SIZE (A1) : 5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

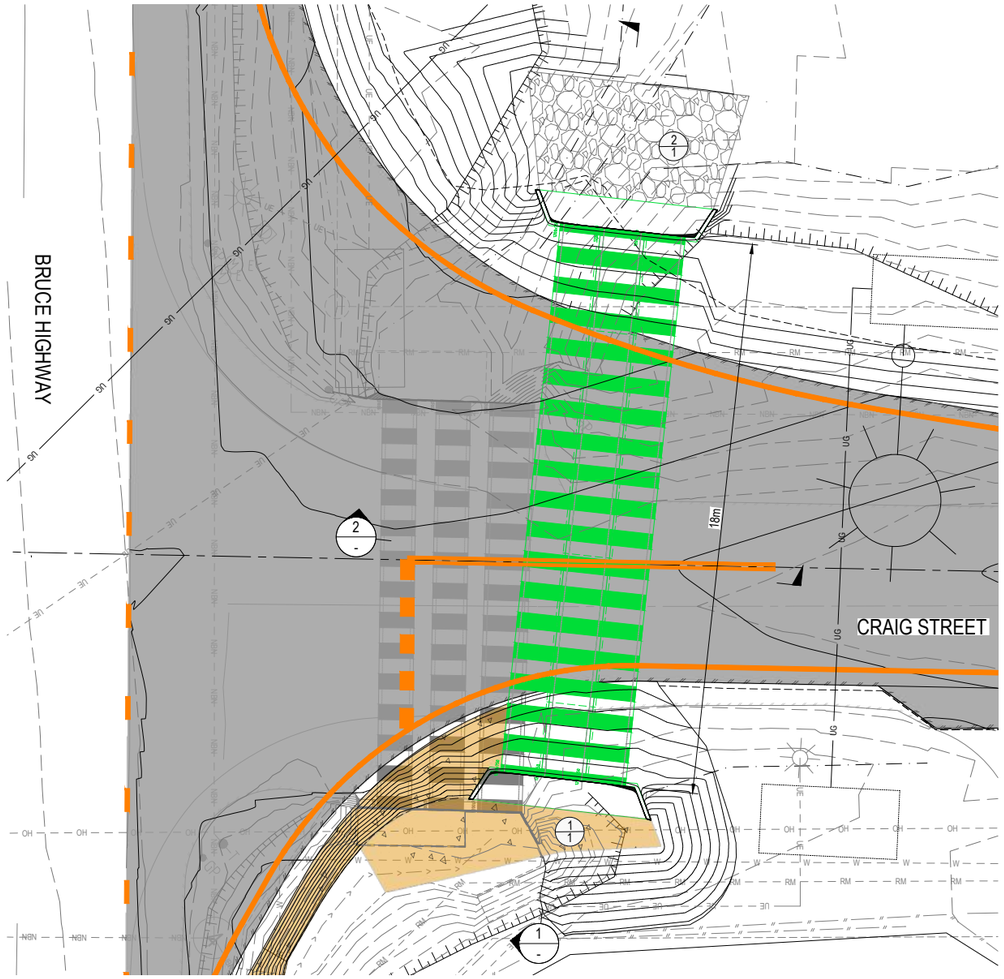
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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3405	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

LEGEND

- EXISTING SURFACE CONTOURS
- EXISTING LOT BOUNDARY
- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING SEWER RISING MAIN
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING WATER
- EXISTING KERB
- EXISTING EDGE OF BITUMEN
- EXISTING TOP OF BANK
- EXISTING BOTTOM OF BANK
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED ELECTRICAL PIT
- PROPOSED LIGHT POLE
- PROPOSED SWALE
- PROPOSED STORMWATER
- PROPOSED ROAD CONTROL LINE
- PROPOSED ROAD EDGE OF BITUMEN
- PROPOSED ASPHALT PAVEMENT
- HEADWALL
- PRECAST CONCRETE PIPE/BOX CULVERT
- CAST IN SITU BASE SLAB
- ROCK SCOUR PROTECTION
- CONCRETE SWALE
- STORMWATER STRUCTURE LABEL (1/2)

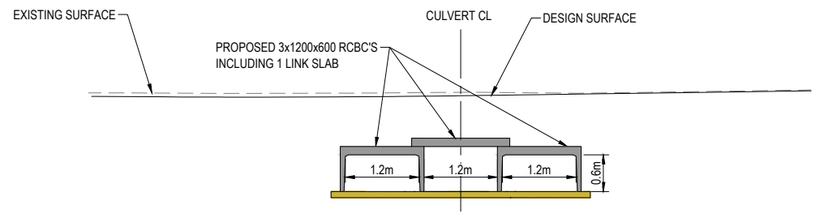


HEADWALL SCHEDULE

HW NAME	HW TYPE	SETOUT COORDINATES	INVERT LEVEL (m)	INVERT LEVEL (m)
1/1	RCBC 3/1200x600 HW	X 541413.769 Y 7836654.522	6.021	
2/1	RCBC 3/1200x600 HW	X 541401.229 Y 7836667.450		5.931

RCBC SCHEDULE

NAME	PIPE TYPE	PIPE SIZE	LENGTH (m)	SLOPE (%)	U/S HEADWALL	D/S HEADWALL	U/S INV	D/S INV	COMMENT
1	REINFORCED CONCRETE	3 / 1200x600	18.00	0.5	1/1	2/1	6.021	5.931	NEW BOX CULVERT

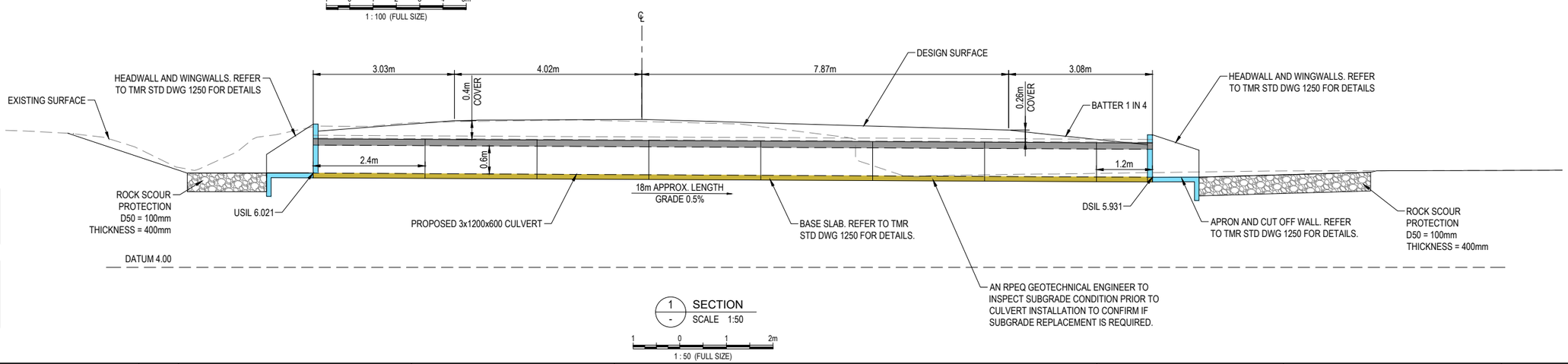


2/- SECTION
SCALE 1:50

1 0 1 2m
1 : 50 (FULL SIZE)

PLAN OF CULVERT

1 0 1 2 3 4 5m
1 : 100 (FULL SIZE)



1/- SECTION
SCALE 1:50

1 0 1 2m
1 : 50 (FULL SIZE)

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : STORMWATER LAYOUT PLAN AND DETAILS - SHEET 1

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
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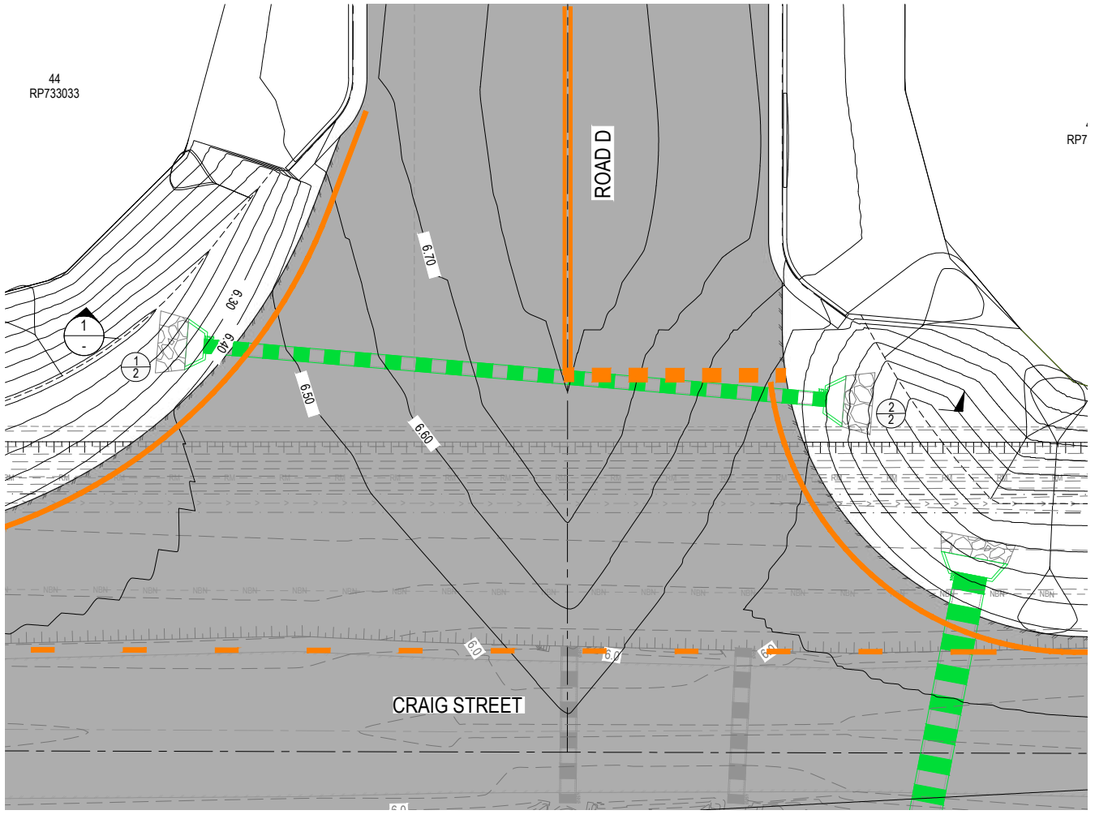
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DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C4101	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



PLAN OF CULVERT

1 0 1 2 3 4 5m

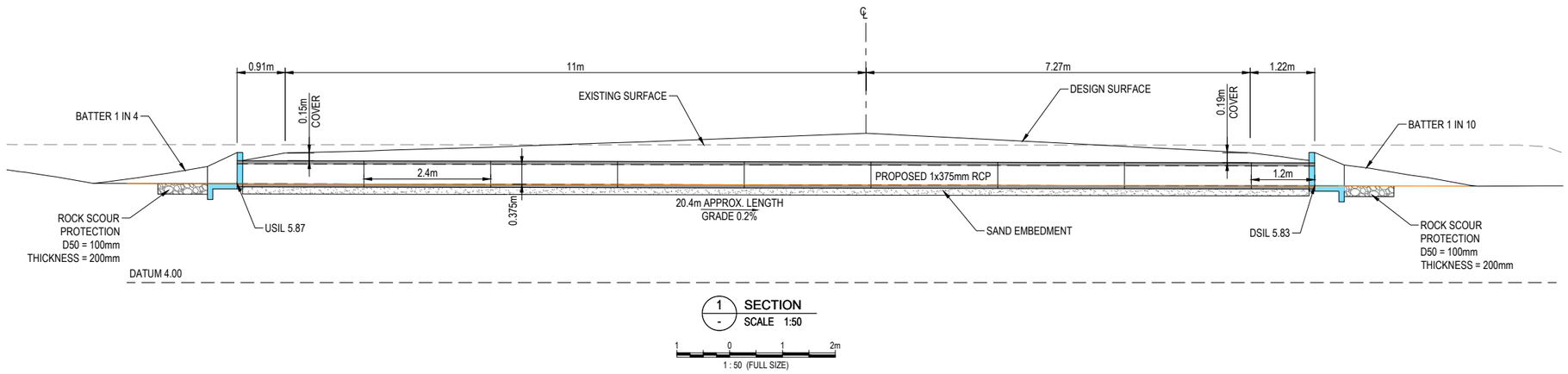
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HEADWALL SCHEDULE

HW NAME	HW TYPE	SETOUT COORDINATES	INVERT LEVEL (m)	INVERT LEVEL (m)
1/2	RCP 1/ 375 HW	X 541723.202 Y 7837042.033	5.87	
2/2	RCP 1/ 375 HW	X 541737.773 Y 7837056.300		5.83

RCP SCHEDULE

NAME	PIPE TYPE	PIPE SIZE	LENGTH (m)	SLOPE (%)	U/S HEADWALL	D/S HEADWALL	U/S INV	D/S INV	COMMENT
1	REINFORCED CONCRETE	1 / 375	20.4	0.2	1/2	2/2	5.87	5.83	NEW CULVERT



1 - SECTION

SCALE 1:50

1 0 1 2m

1 : 50 (FULL SIZE)

NOTE:
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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE :

STORMWATER LAYOUT PLAN AND DETAILS - SHEET 2

PROJECT :

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CRAIG STREET, AYR

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SCALE AT FULL SIZE (A1) :

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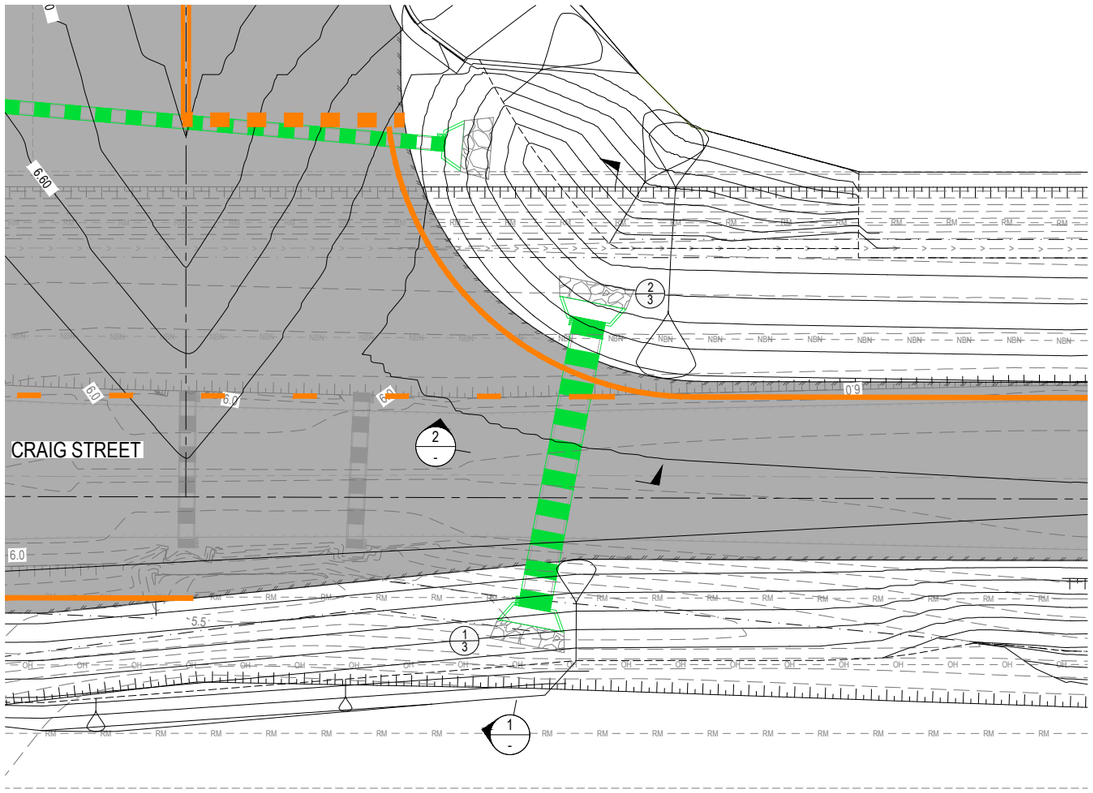
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DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C4102	C

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Version: 1, Version Date: 19/03/2026

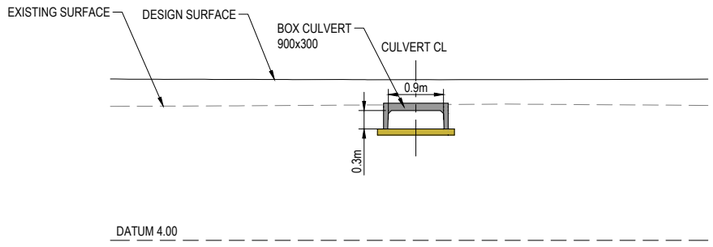


HEADWALL SCHEDULE

HW NAME	HW TYPE	SETOUT COORDINATES	INVERT LEVEL (m)	INVERT LEVEL (m)
1/3	RCBC 1/ 900x300 HW	X 541751.146 Y 7837048.635	5.817	
2/3	RCBC 1/ 900x300 HW	X 541745.173 Y 7837056.152		5.817

RCBC SCHEDULE

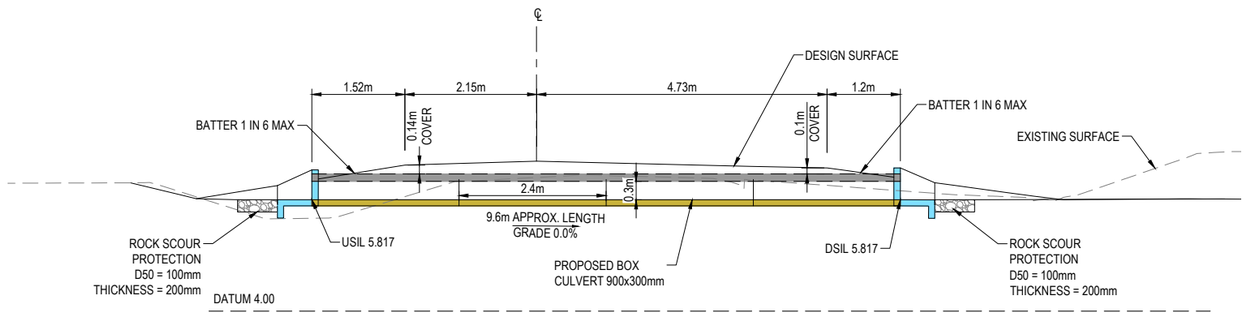
NAME	PIPE TYPE	PIPE SIZE	LENGTH (m)	SLOPE (%)	U/S HEADWALL	D/S HEADWALL	U/S INV	D/S INV	COMMENT
1	REINFORCED CONCRETE	1 / 900x300	9.6	0.0	1/3	2/3	5.817	5.817	NEW BOX CULVERT



2 - SECTION
SCALE 1:50

PLAN OF CULVERT

1 0 1 2 3 4 5m
1 : 100 (FULL SIZE)



1 - SECTION
SCALE 1:50

1 0 1 2m
1 : 50 (FULL SIZE)

NOTE:
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : STORMWATER LAYOUT PLAN AND DETAILS - SHEET 3

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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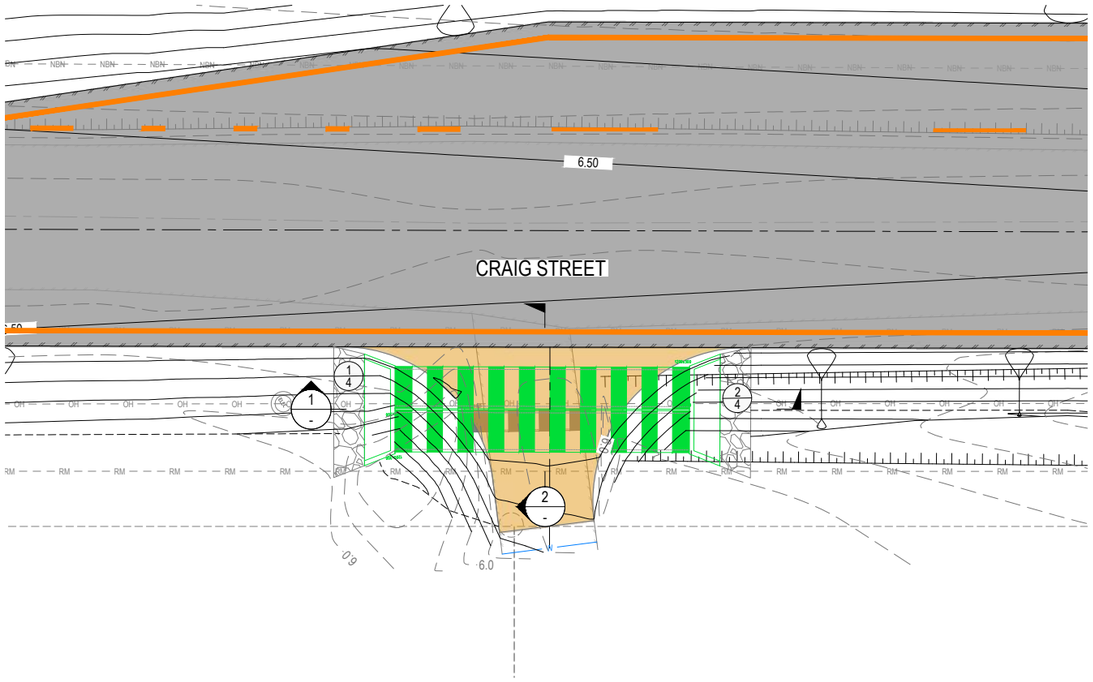
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1 : 50 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C4103	C

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Version: 1, Version Date: 19/03/2026



PLAN OF CULVERT

1 0 1 2 3 4 5m

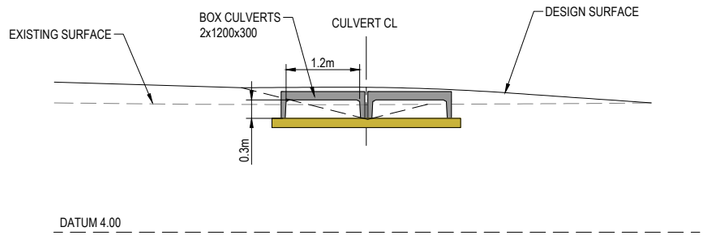
1 : 100 (FULL SIZE)

HEADWALL SCHEDULE

HW NAME	HW TYPE	SETOUT COORDINATES	INVERT LEVEL (m)	INVERT LEVEL (m)
1/4	RCBC 1/ 600x300 HW	X 541700.179 Y 7836986.184	5.983	
2/4	RCBC 1/ 600x300 HW	X 541706.451 Y 7836993.452		5.935

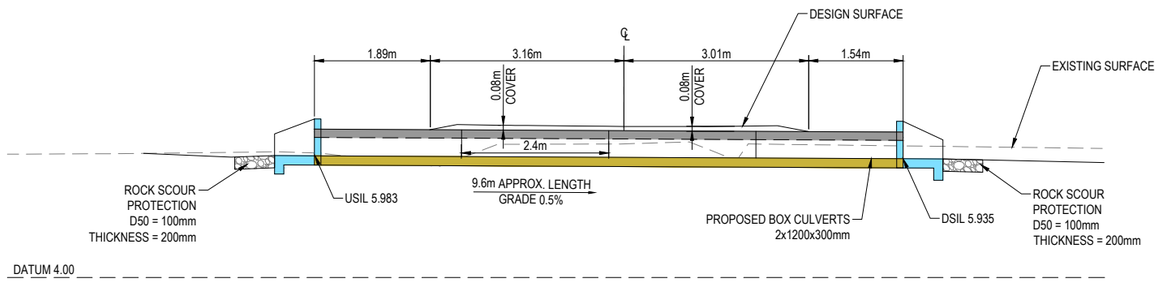
RCBC SCHEDULE

NAME	PIPE TYPE	PIPE SIZE	LENGTH (m)	SLOPE (%)	U/S HEADWALL	D/S HEADWALL	U/S INV	D/S INV	COMMENT
1	REINFORCED CONCRETE	2 / 1200x300	9.6	0.5	1/4	2/4	5.983	5.935	NEW BOX CULVERTS



2 - SECTION

SCALE 1:50



1 - SECTION

SCALE 1:50

NOTE:
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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE :
STORMWATER LAYOUT PLAN AND DETAILS - SHEET 4

PROJECT :
AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

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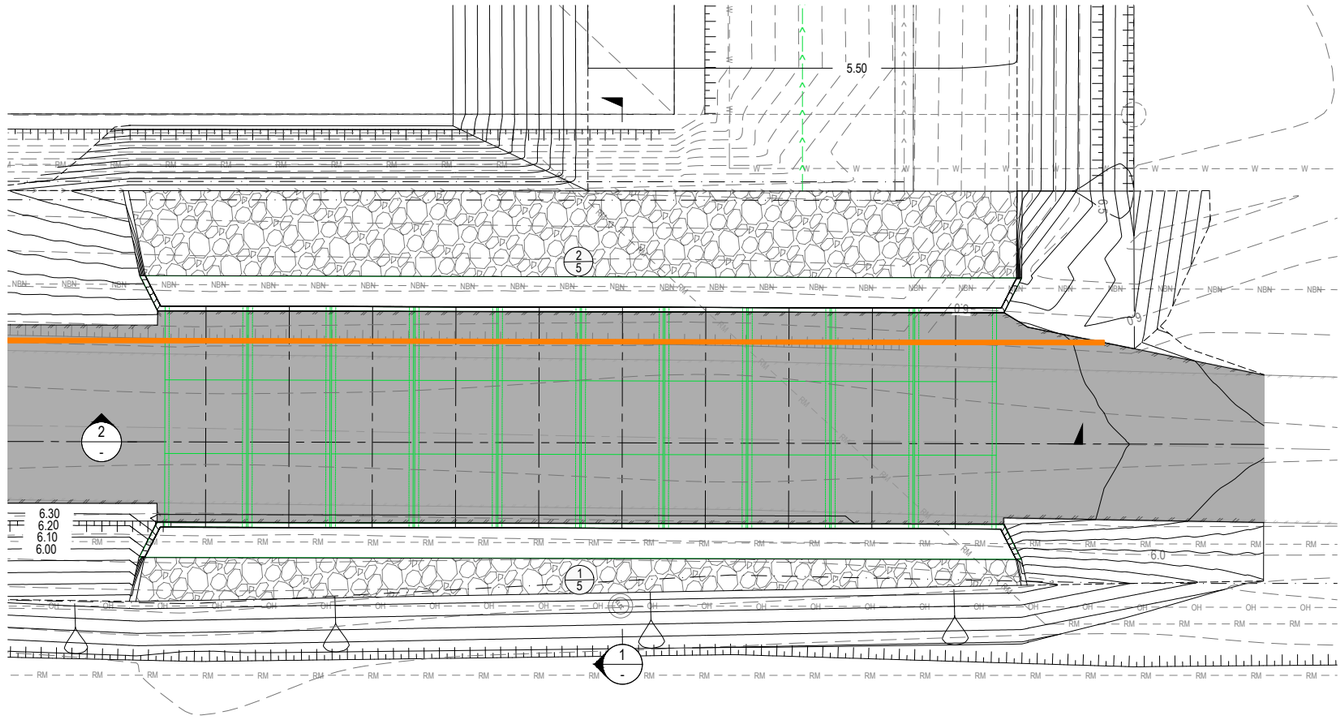
SCALE AT FULL SIZE (A1) :
1 0 1 2m
1 : 50 (FULL SIZE)

DEVEL. APPLIC. No. :		DATE :	10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA		
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER		

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C4104	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026



PLAN OF CULVERT

1 0 1 2 3 4 5m

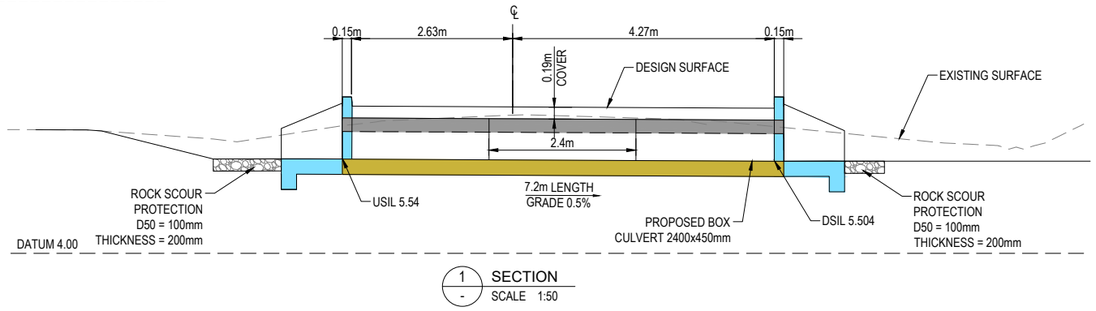
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HEADWALL SCHEDULE

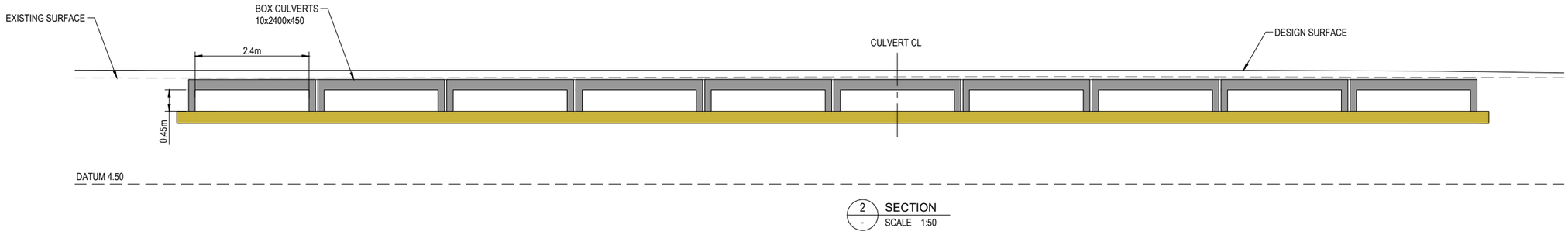
HW NAME	HW TYPE	SETOUT COORDINATES	INVERT LEVEL (m)	INVERT LEVEL (m)
1/5	RCBCs 10/ 2400x450 HW	X 541782.247 Y 7837085.967	5.540	
2/5	RCBCs 10/ 2400x450 HW	X 541776.796 Y 7837090.671		5.504

RCBC SCHEDULE

NAME	PIPE TYPE	PIPE SIZE	LENGTH (m)	SLOPE (%)	U/S HEADWALL	D/S HEADWALL	U/S INV	D/S INV	COMMENT
1	REINFORCED CONCRETE	10 / 2400x450	7.2	0.5	1/5	2/5	5.540	5.504	NEW BOX CULVERTS



1 - SECTION
SCALE 1:50



2 - SECTION
SCALE 1:50

NOTE:
FOR LEGEND & NOTES REFER DRG. C4101.

NOTE:
ALL DESIGN/SETOUT INFORMATION SHOWN ON THIS DRAWING IS AVAILABLE IN DIGITAL FORMAT FROM THE OFFICE OF THE SUPERINTENDENT UPON REQUEST BY THE CONTRACTOR.

WARNING: UNDERGROUND SERVICES:
UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

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VER.	DESCRIPTION	DATE
A	REVISED DETAILED DESIGN	10-10-25

BURCHILLS ENGINEERING SOLUTIONS
GOLD COAST | BRISBANE | TOOWOOMBA
IPSWICH | MORETON BAY
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE :
STORMWATER LAYOUT PLAN AND DETAILS - SHEET 5

PROJECT :
AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
1 0 1 2m
1 : 50 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C4105	A

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

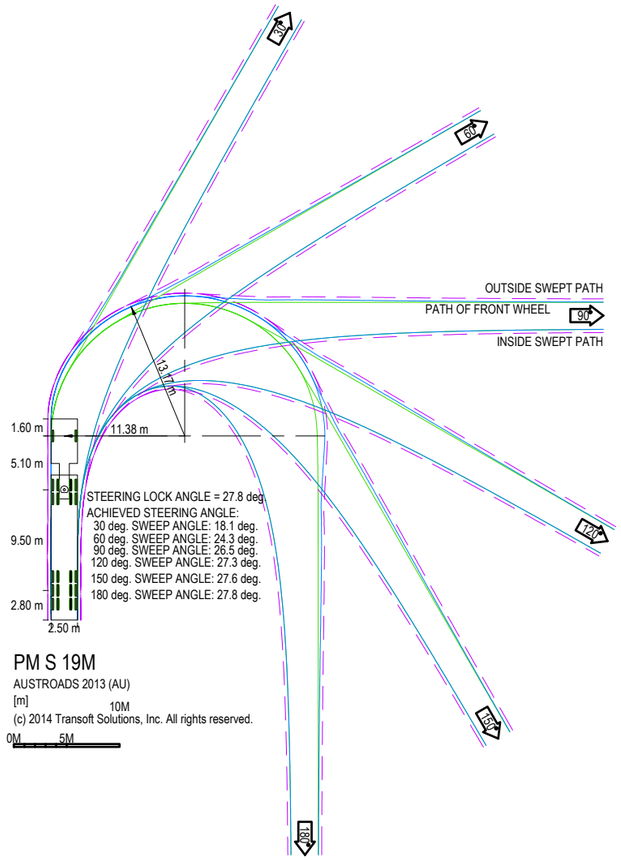
LEGEND

300mm CLEARANCE

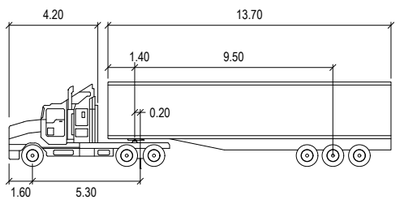
VEHICLE BODY ENVELOPE

PROPOSED CROSSOVER WHEELS

PROPOSED ASPHALT PAVEMENT

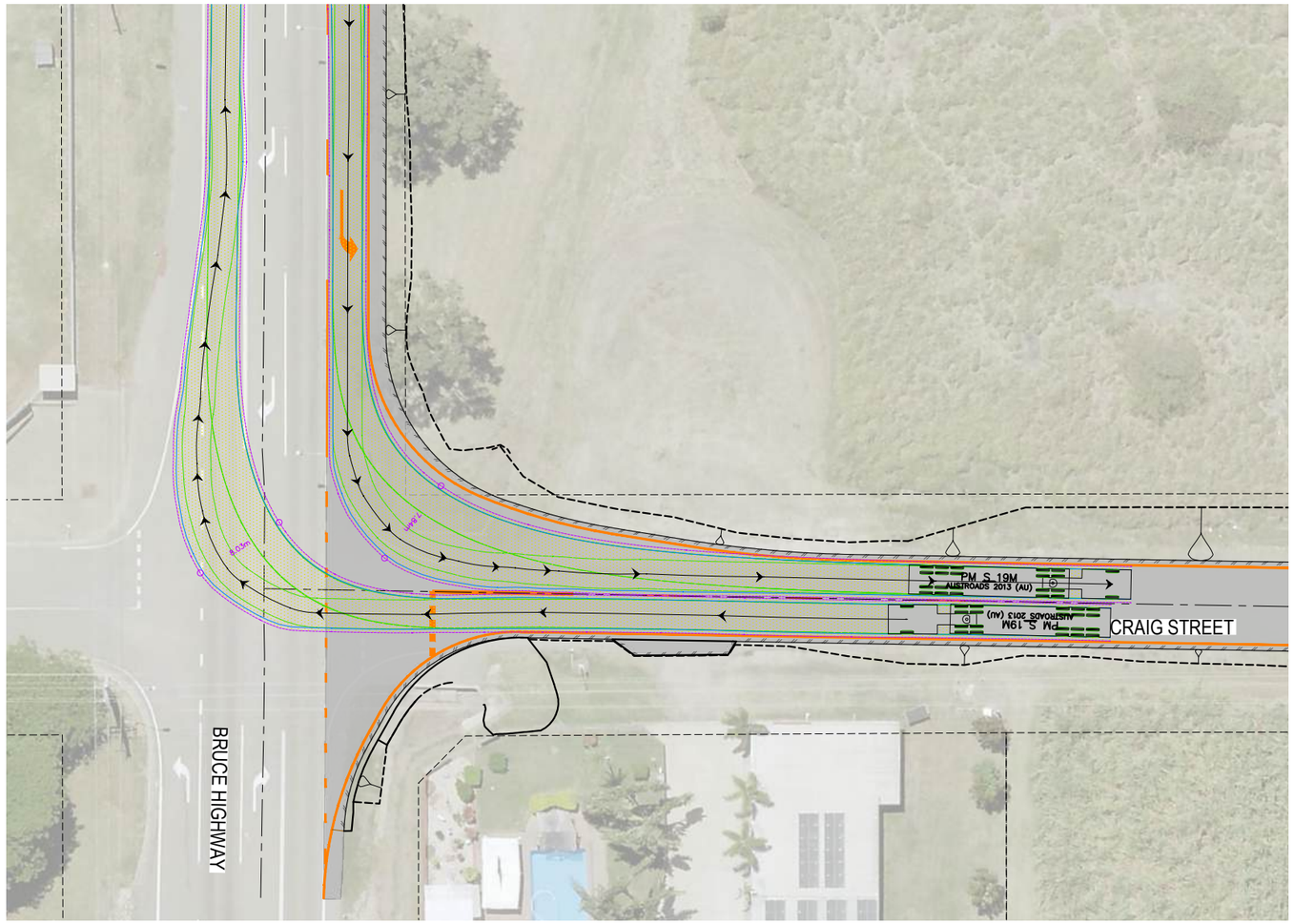


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PM S 19M meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



DESIGN VEHICLE TURN PATH PLAN - SHEET 1

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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

BURCHILLS ENGINEERING SOLUTIONS
GOLD COAST | BRISBANE | TOOWOOMBA
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PHONE: +61 7 5509 6400
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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : DESIGN VEHICLE TURN PATH PLAN - SHEET 1

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) : 5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :		DATE :	10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA		
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER		

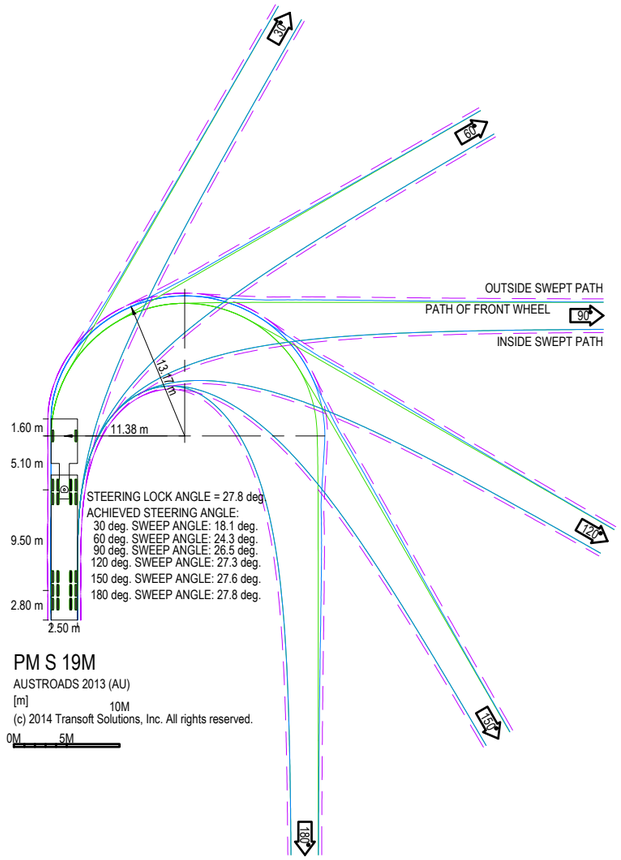
APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

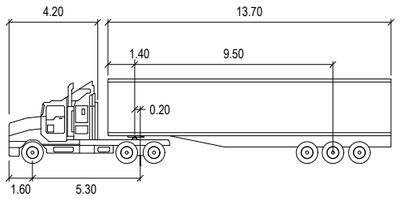
PROJECT No.:	DRAWING No. :	VERSION:
BE250152	SK0001	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

LEGEND

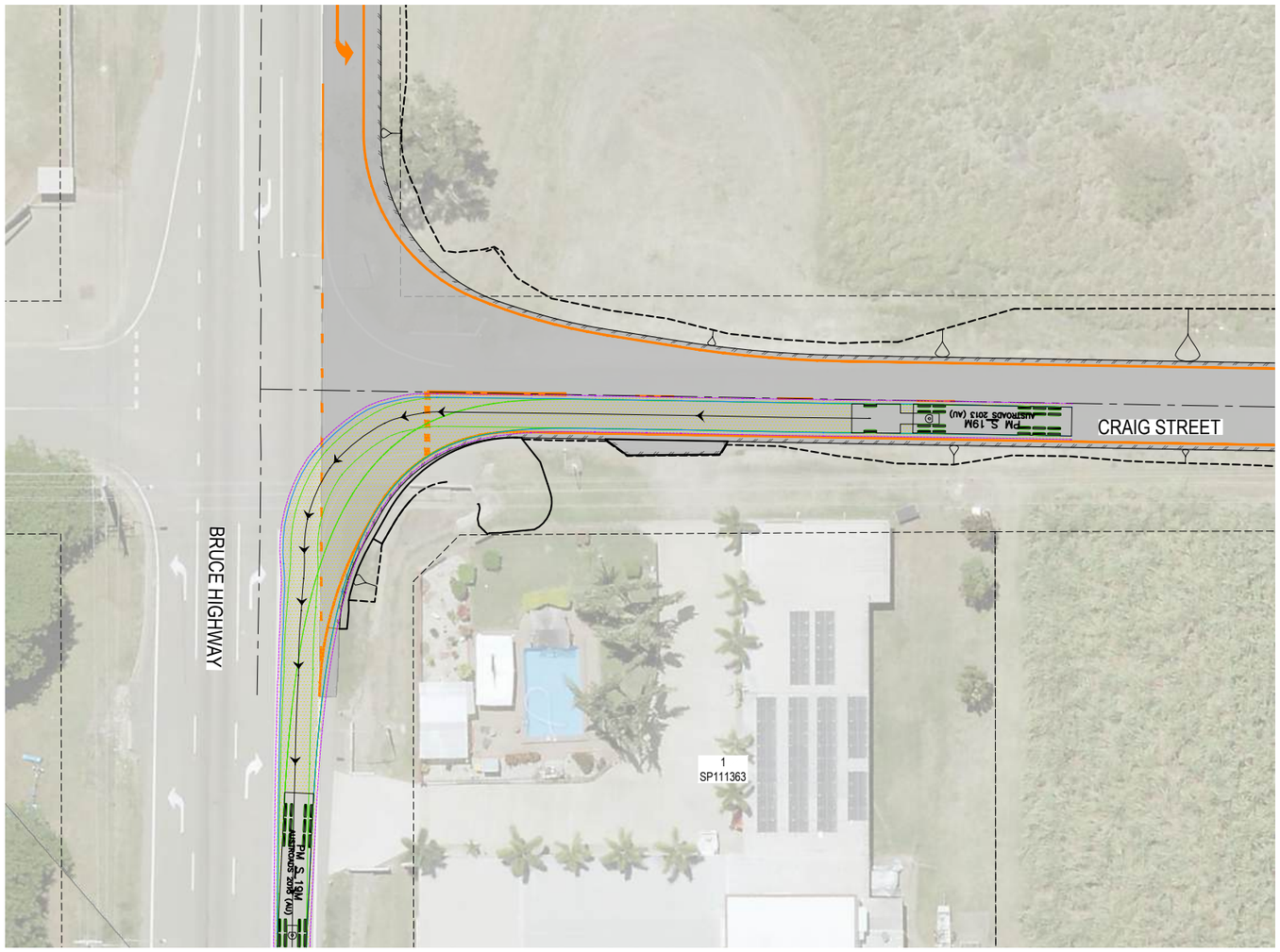
- 300mm CLEARANCE
- VEHICLE BODY ENVELOPE
- PROPOSED CROSSOVER WHEELS
- PROPOSED ASPHALT PAVEMENT





PM S 19M meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



DESIGN VEHICLE TURN PATH PLAN - SHEET 2

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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	07-05-25

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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : DESIGN VEHICLE TURN PATH PLAN - SHEET 2

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) : 5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	SK0002	C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

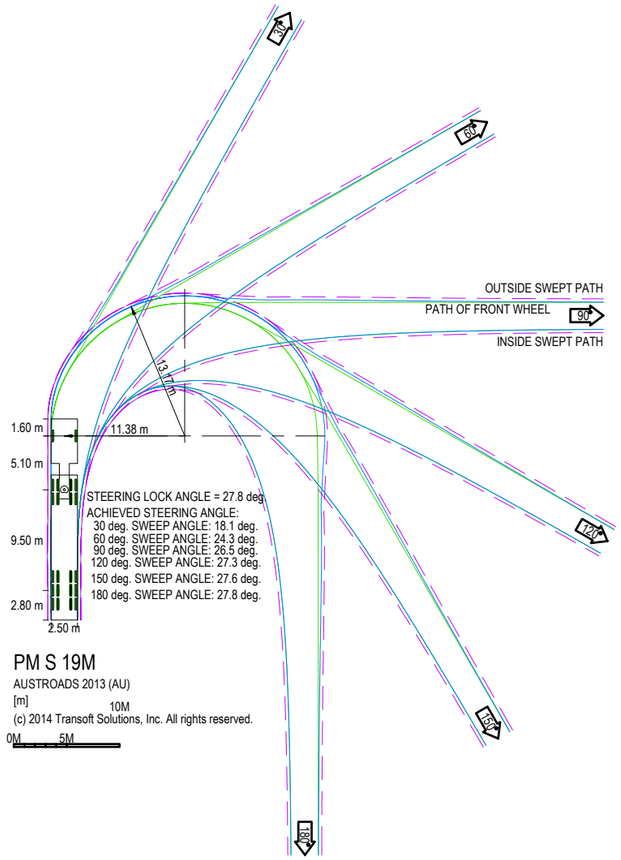
LEGEND

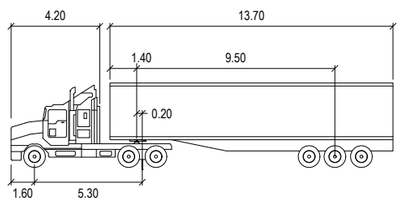
300mm CLEARANCE

VEHICLE BODY ENVELOPE

PROPOSED CROSSOVER WHEELS

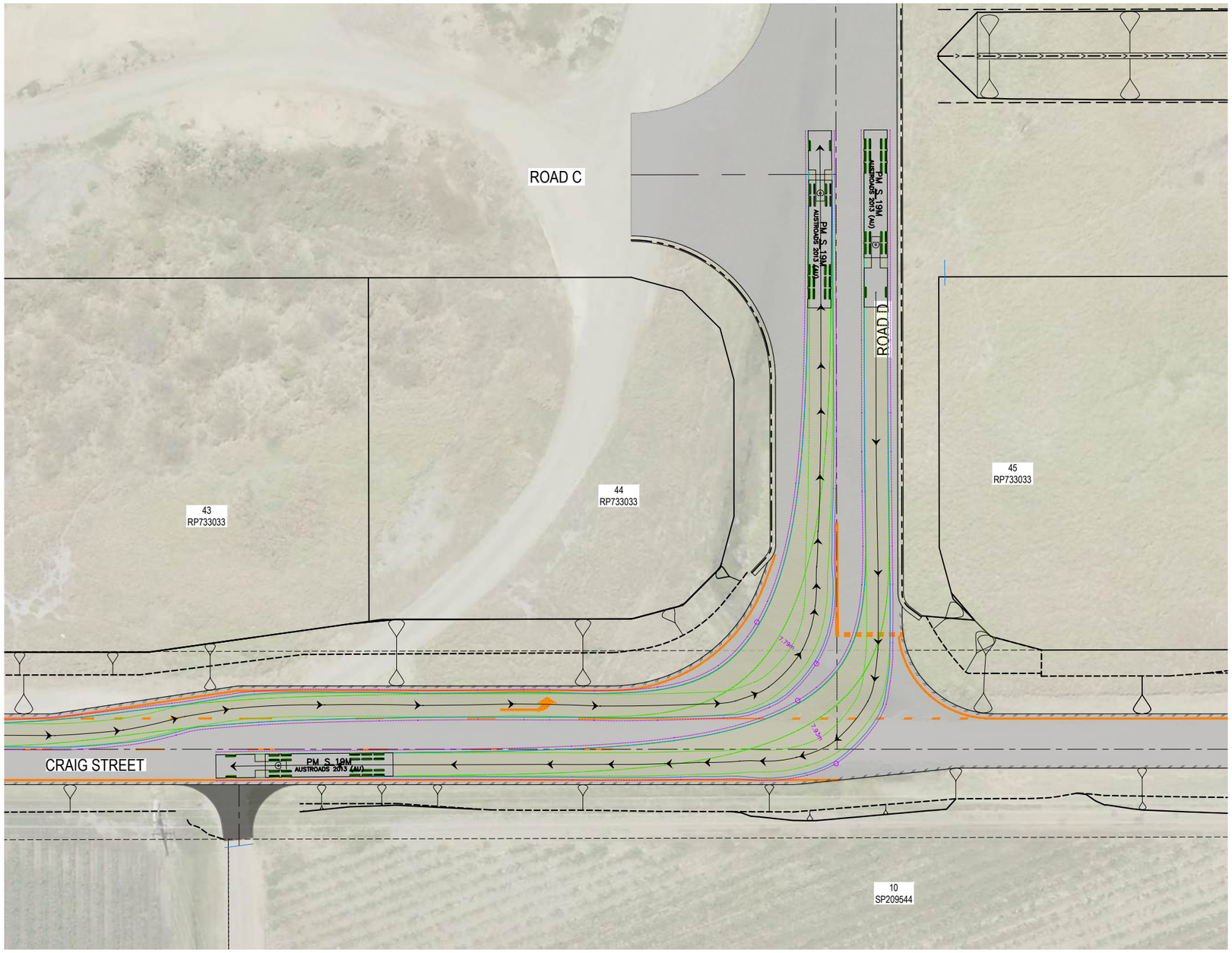
PROPOSED ASPHALT PAVEMENT





PM S 19M — meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



DESIGN VEHICLE TURN PATH PLAN - SHEET 3

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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

BURCHILLS ENGINEERING SOLUTIONS
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PHONE: +61 7 5509 6400
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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : DESIGN VEHICLE TURN PATH PLAN - SHEET 3

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. : | DATE : 10-10-25
PROJECT LEADER : D.WALTON | DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN | CHECKED : L.FAULKNER

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.: BE250152 | DRAWING No. : SK0003 | VERSION: C

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

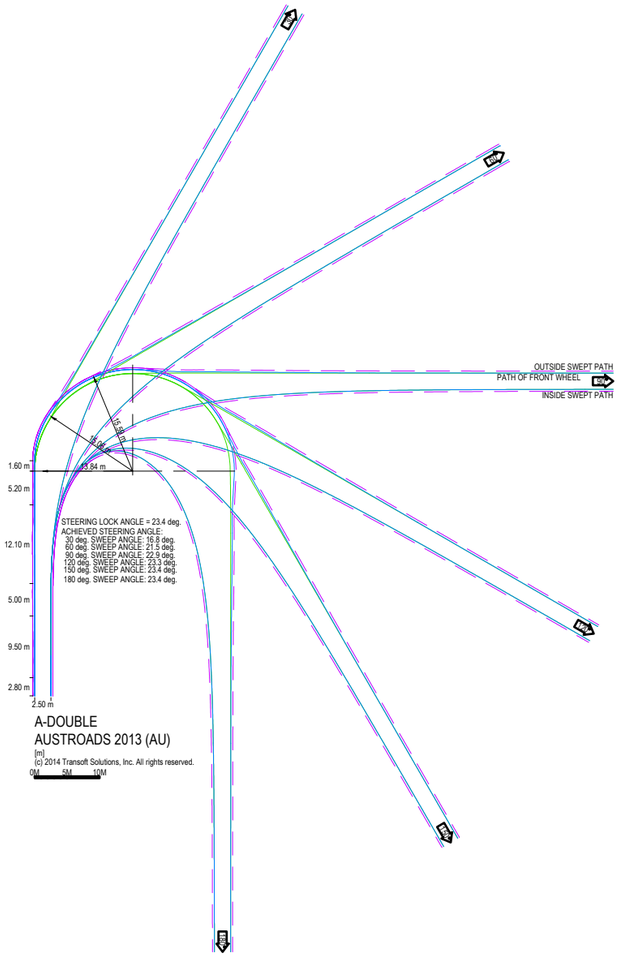
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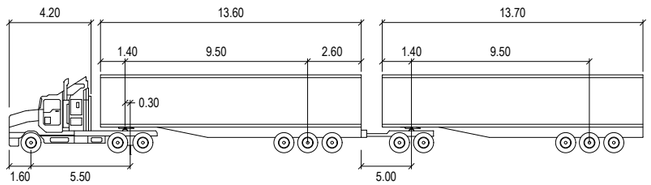
300mm CLEARANCE

VEHICLE BODY ENVELOPE

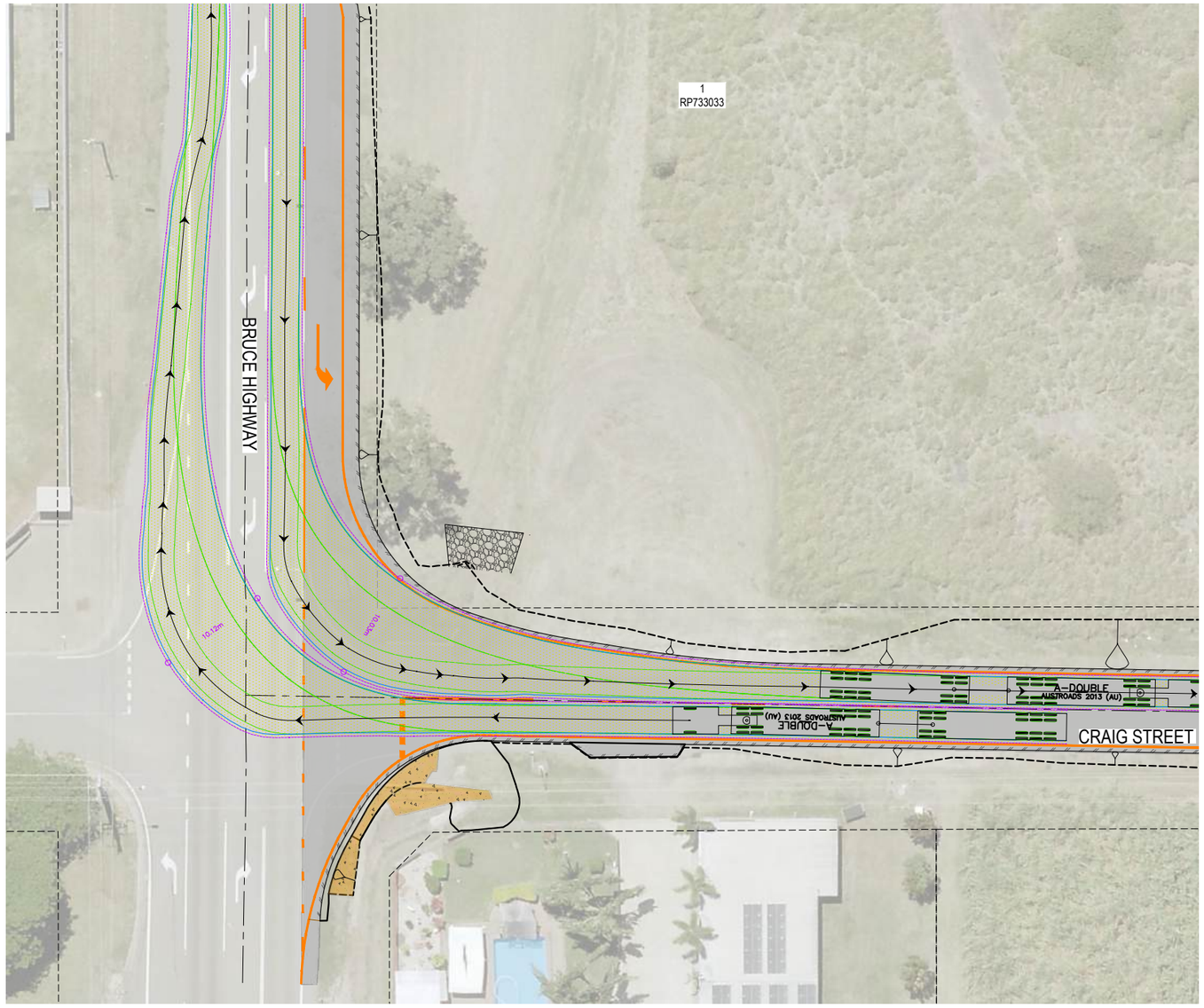
PROPOSED CROSSOVER WHEELS

PROPOSED ASPHALT PAVEMENT





A-DOUBLE	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



CHECK VEHICLE TURN PATH PLAN - SHEET 4

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VER.	DESCRIPTION	DATE
A	FINAL PRELIMINARY DESIGN	25-04-25

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IPSWICH | MORETON BAY
PHONE: +61 7 5509 6400
FAX: +61 7 5509 6411
EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : CHECK VEHICLE TURN PATH PLAN - SHEET 3

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) :
5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 25-04-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

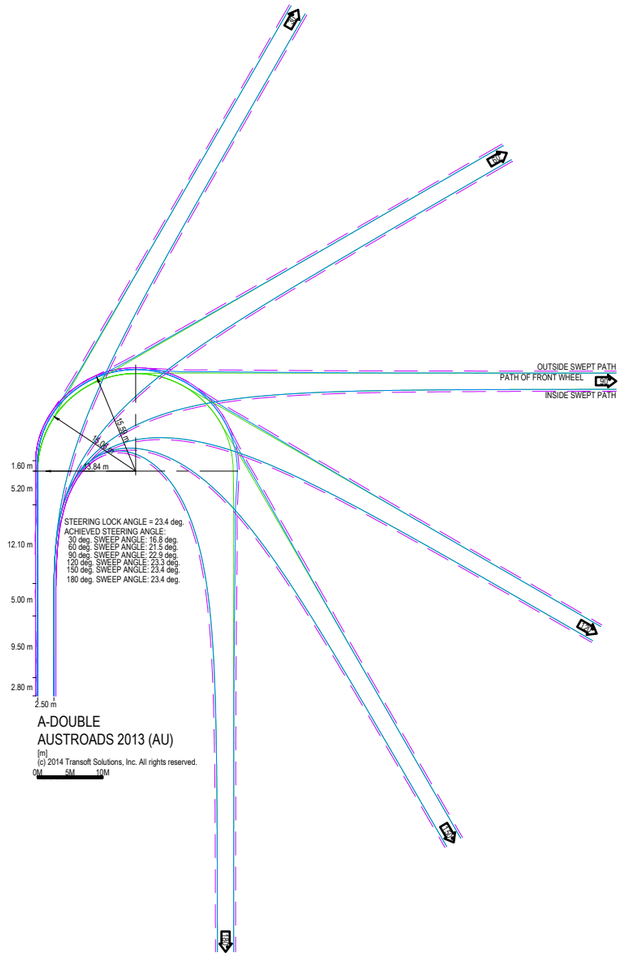
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BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

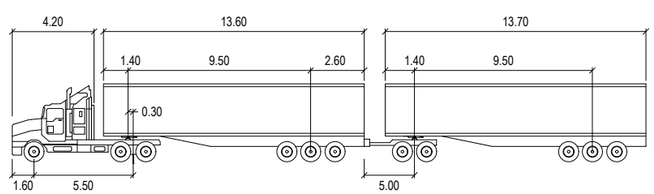
PROJECT No.:	DRAWING No. :	VERSION:
BE250152	SK0004	A

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

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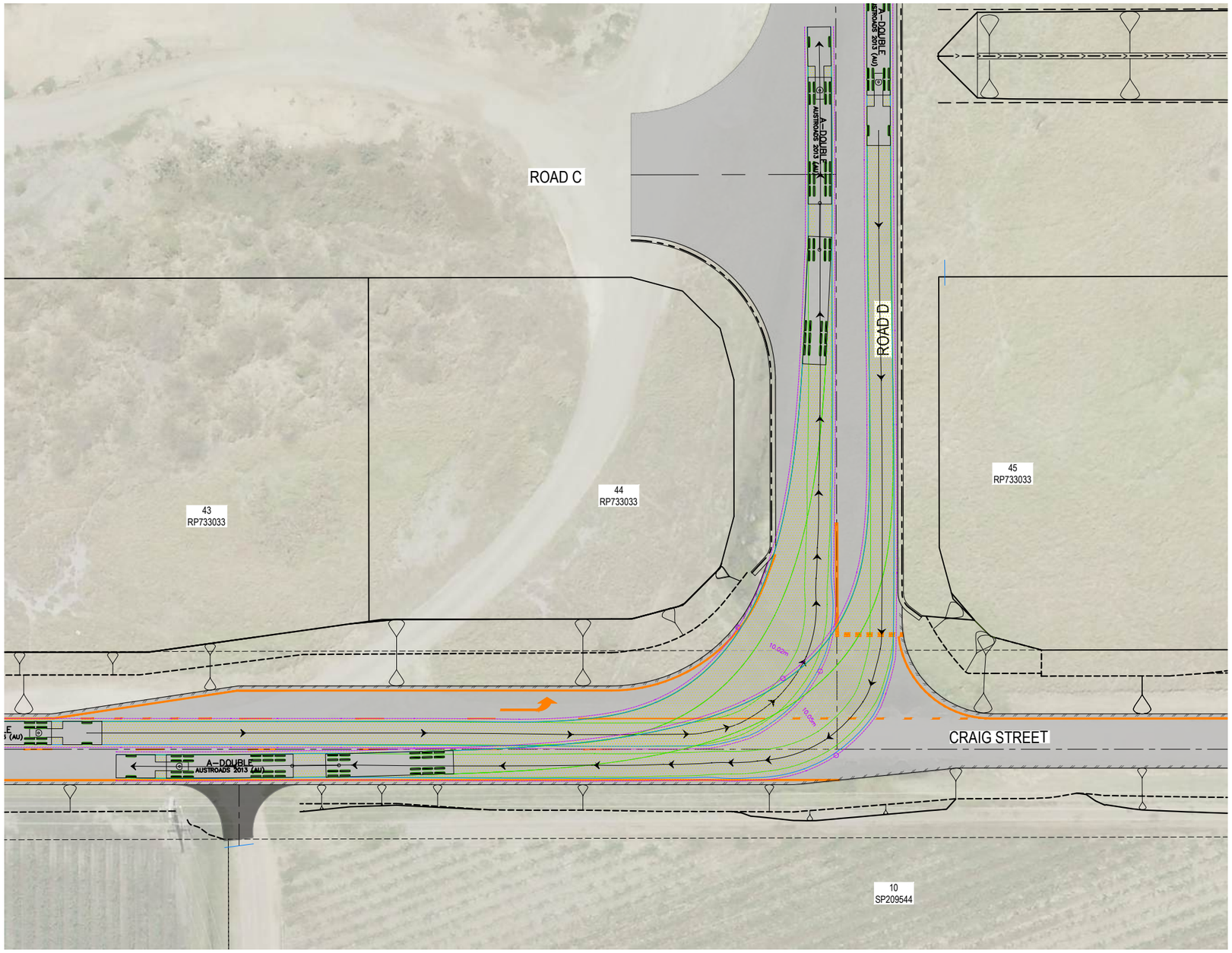
- 300mm CLEARANCE
- VEHICLE BODY ENVELOPE
- PROPOSED CROSSOVER WHEELS
- PROPOSED ASPHALT PAVEMENT





A-DOUBLE — meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



CHECK VEHICLE TURN PATH PLAN - SHEET 5

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VER.	DESCRIPTION	DATE
A	FINAL PRELIMINARY DESIGN	25-04-25

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GOLD COAST | BRISBANE | TOOWOOMBA
IPSWICH | MORETON BAY
PHONE: +61 7 5509 6400
FAX: +61 7 5509 6411
EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : CHECK VEHICLE TURN PATH PLAN - SHEET 4

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) : 1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 25-04-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

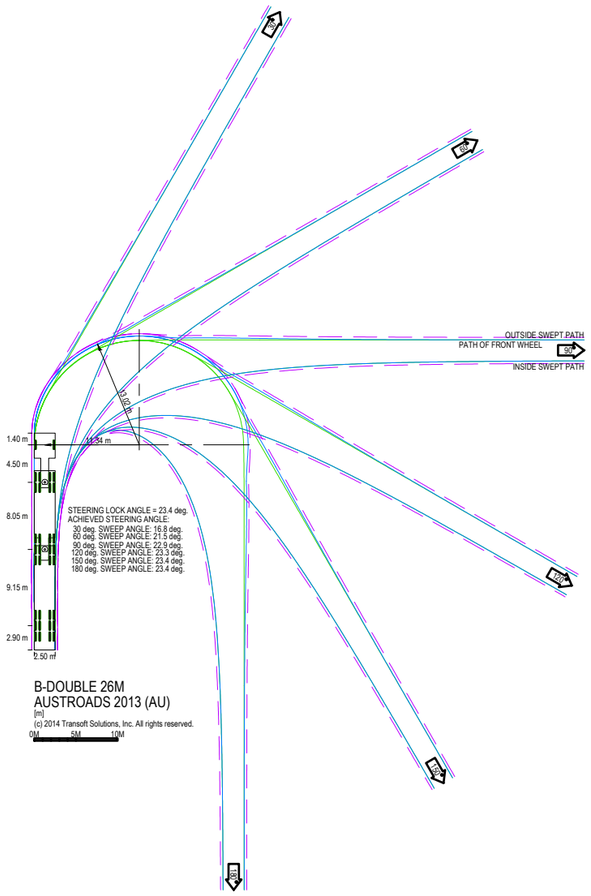
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

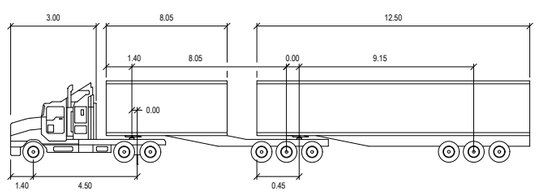
PROJECT No.:	DRAWING No. :	VERSION:
BE250152	SK0005	A

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

LEGEND

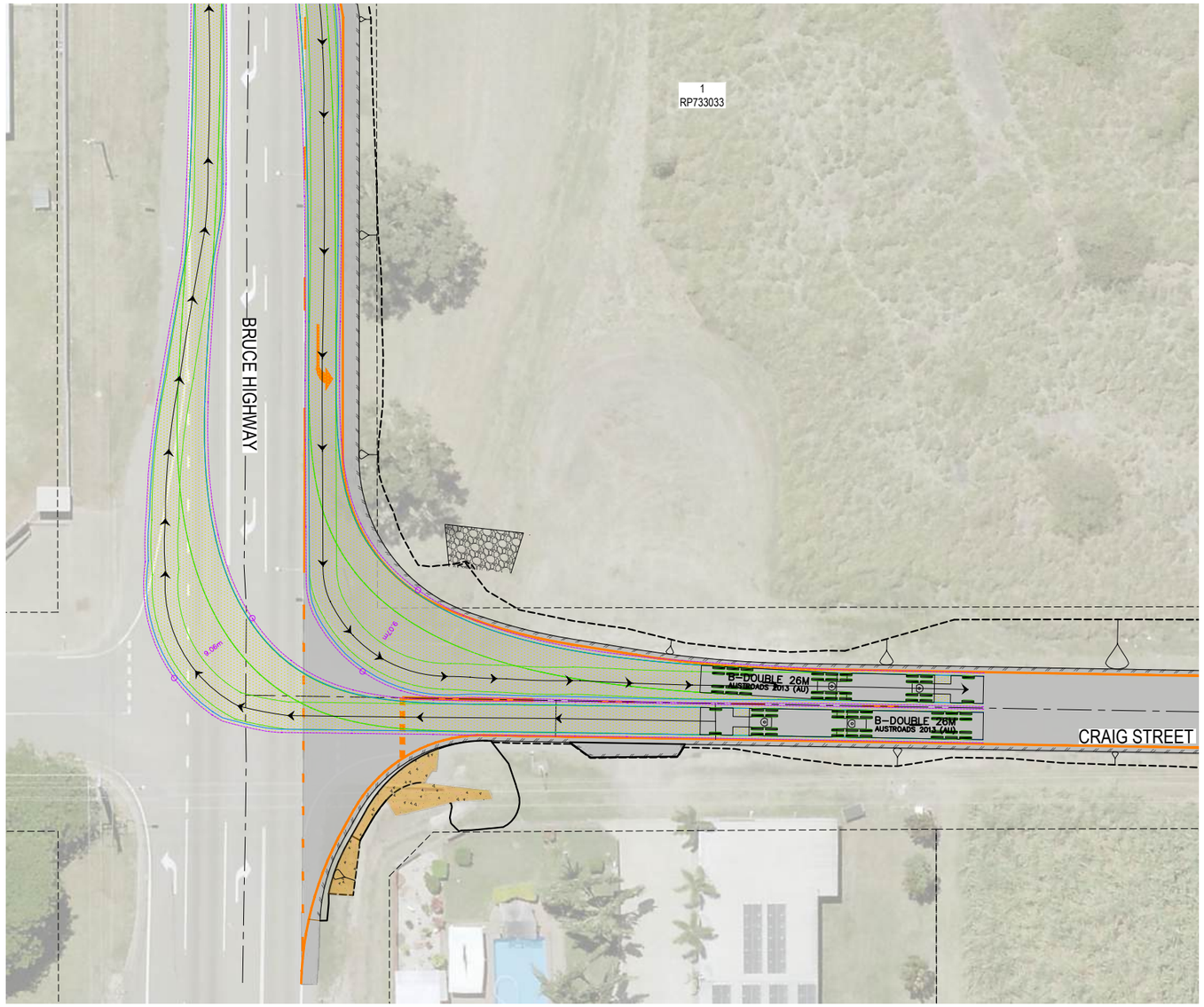
- 300mm CLEARANCE
- VEHICLE BODY ENVELOPE
- PROPOSED CROSSOVER WHEELS
- PROPOSED ASPHALT PAVEMENT





B-DOUBLE 26M — meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



CHECK VEHICLE TURN PATH PLAN - SHEET 6

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VER.	DESCRIPTION	DATE
A	FINAL PRELIMINARY DESIGN	07-05-25

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GOLD COAST | BRISBANE | TOOWOOMBA
IPSWICH | MORETON BAY
PHONE: +61 7 5509 6400
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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : CHECK VEHICLE TURN PATH PLAN - SHEET 6

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) : 1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 07-05-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

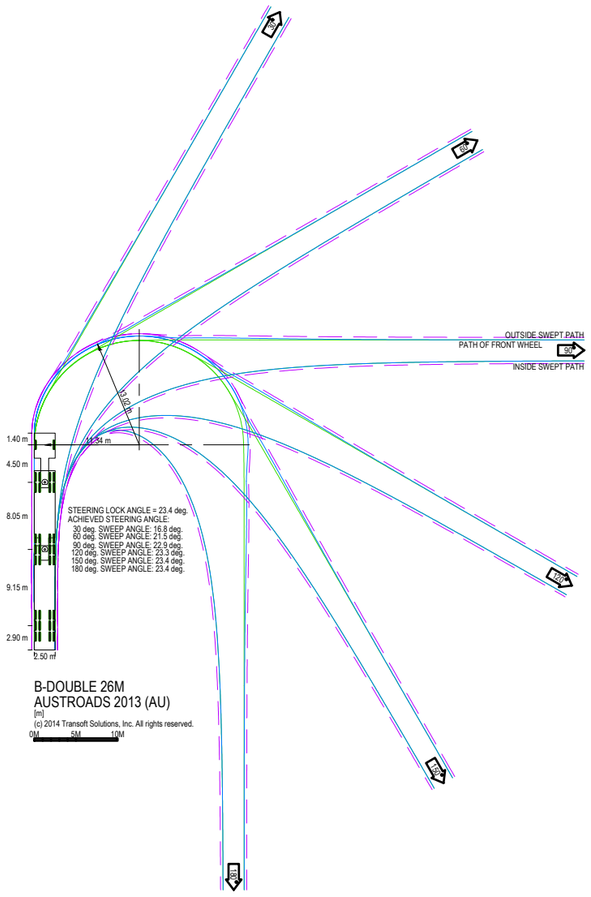
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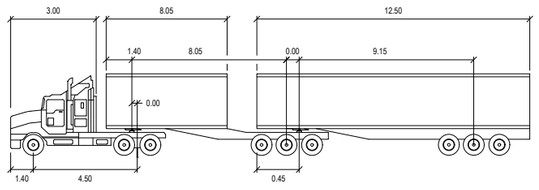
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LEGEND

- 300mm CLEARANCE
- VEHICLE BODY ENVELOPE
- PROPOSED CROSSOVER WHEELS
- PROPOSED ASPHALT PAVEMENT

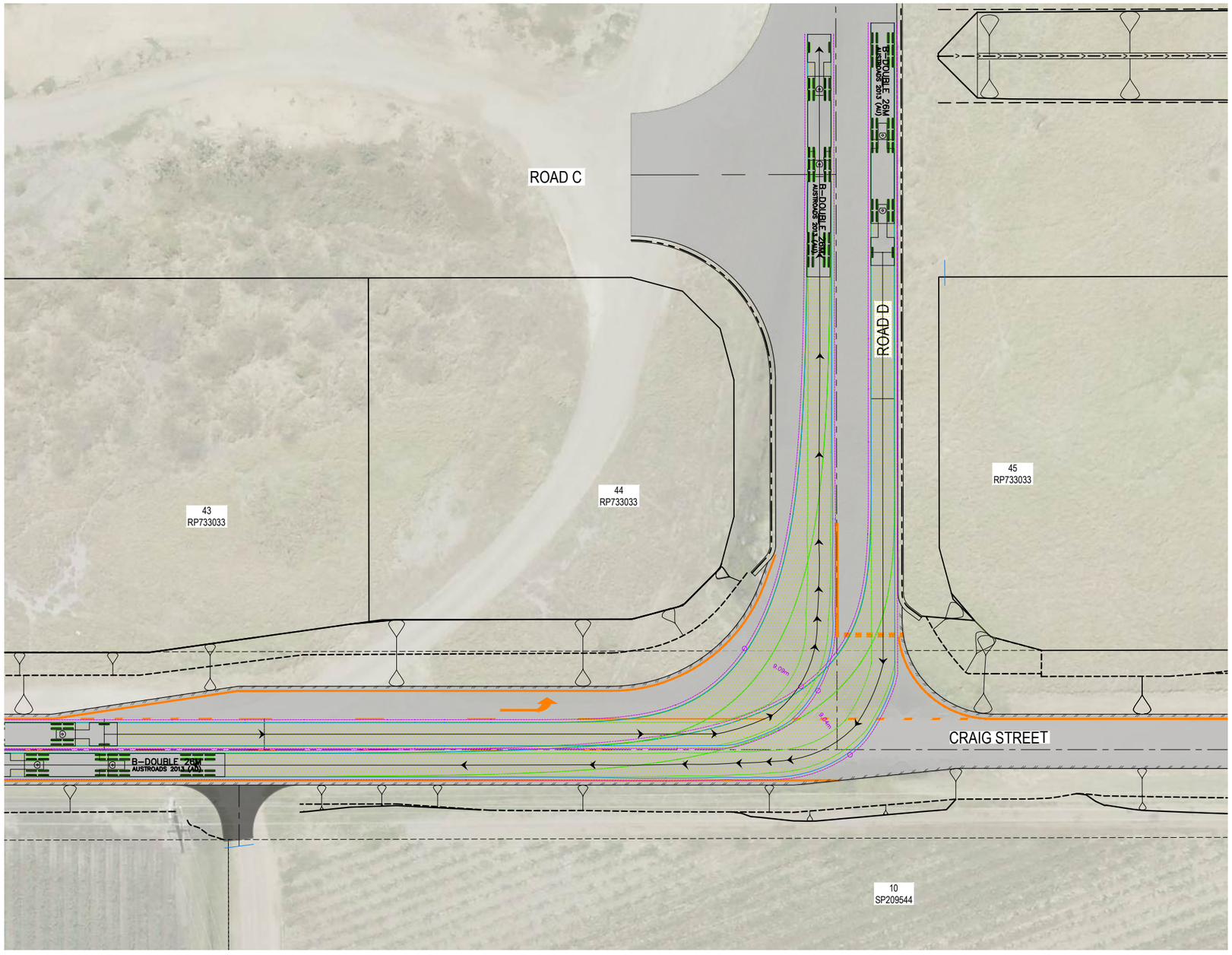




B-DOUBLE 26M

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



CHECK VEHICLE TURN PATH PLAN - SHEET 7

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CLIENT : Burdekin Shire Council

DRAWING TITLE : CHECK VEHICLE TURN PATH PLAN - SHEET 7

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) : 5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 07-05-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

APPROVED FOR AND ON BEHALF OF
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PROJECT No.:	DRAWING No. :	VERSION:
BE250152	SK0007	A

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

Report

06 December 2024

To	Kevin Byers – Manager Technical Services, Burdekin Shire Council	**Contact No.**	+61 7 4783 9941
Copy to	Coralie Mannea – Cadet Engineer	**Email**	Denton.liu@ghd.com
From	Denton Liu – Senior Civil Engineer	**Project No.**	12645670 (GHD)
Project Name	Ayr Industrial Estate Traffic Impact Assessment		
Subject	Stage 1: Access Design Feasibility Check (Craig Street)		

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Dear Kevin Byers

1. Introduction

GHD Pty Ltd (GHD) have been engaged by the Burdekin Shire Council (BSC) to undertake a traffic impact assessment (TIA) regarding a new proposed industrial development on lots 1/RP733033 and 16/RP745329.

Initially, a TIA was undertaken on a new access to and from the industrial estate connecting directly with the Bruce Highway between Bird Street and Craig Street, however following engagement with the Department of Transport and Main Roads (TMR), the access to the industrial precinct was relocated to the Burdekin Shire Council road network via Craig Street.

1.1 Purpose of this report

The purpose of this report is to document GHD's findings regarding Stage 1 of the TIA to understand if access to the Bruce Highway (part of the National Land Transport Network) from Craig Street is suitable for the identified heavy vehicles servicing the new industrial development. This will form a critical input towards Stage 2 of the TIA regarding potential impacts to the adjacent local and state road corridors.

2. Scope and limitations

2.1 Scope of work

GHD's scope of work under this engagement includes:

– The conditions of GHD's fee proposal dated 04/07/2024 and further email correspondence between Mark Tomarchio (GHD) and Kevin Byers dated 01/10/2024.

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– Desktop review of swept paths of the proposed access to the new industrial development from Craig Street, and between the Bruce Highway and Craig Street
– Desktop review of potential impacts and road safety considerations regarding the proposed access, including potential constraints.

2.2 Limitations

This report: has been prepared by GHD for Burdekin Shire Council and may only be used and relied on by Burdekin Shire Council for the purpose agreed between GHD and Burdekin Shire Council as set out in Section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than Burdekin Shire Council arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer Section(s) 3 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

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3. Assumptions

GHD's analysis in this report is based on information provided by BSC as follows:

– The proposal is for A-double and B-double traffic to enter the industrial estate from the north (left-in) via Craig Street as shown in Figure 2
– Movements for A-double and B-double vehicles leaving the industrial estate on Craig Street are limited to right turn movements only. Left-out from the estate from Craig Street will be limited to general access vehicles only. No checks have been conducted for left out movements as it assumed the right-out movements will dictate the generic spacing and sizing of the access design.
– It is assumed that access from the Bruce Highway on to Craig Street is to accommodate right in movements for vehicles up to the size of a 19m semi-trailer.
– Heavy vehicles larger than a 19m semi-trailer, accessing the industrial precinct from Craig Street are assumed to be turning left from the Bruce Highway. Similarly, heavy vehicles larger than a 19m semi-trailer exiting the precinct will turn right out from Craig Street onto the Bruce Highway.
– Left-in to Craig Street from the Bruce Highway has been based off a 70km/h design speed. No speed surveys have been used to confirm this and assumption is based on 10km/hr above the existing posted speed of the Bruce Highway.
– Left in to the new industrial precinct off Craig Street has been based off a 40km/h design speed. This assumption is to be verified during future design stages however, has been based off of the short travel distance between the proposed new access and the Bruce Highway.
– Turn warrant assessments based on traffic volumes and generation are documented in the Stage 2 - Traffic Impact Assessment Report.
– For the purposes of this assessment, it is assumed that the Figure 1 configuration will still apply for upgrades to the Bruce Highway and Craig Street intersection. This includes retention of the existing Channelised Right Turn Lane into Craig Street and the provision of a full length Auxiliary Left Turn. The only change is that the turn out from Craig Street onto the Bruce Highway will be via a shared left and right turn lane.

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Figure 1 *Example of previous proposed access configuration to industrial precinct from Bruce Highway*

4. Existing geometry review

4.1 Project location

The proposed industrial development is located on the northern extents of the Ayr Central Business District (CBD), adjacent to an existing industrial subdivision currently with access from the Bruce Highway via Bird Street. The additional access to the development is proposed to be formed via a new access road along the northern frontage of the precinct, allowing traffic to utilise Craig Street for access to and from the Bruce Highway. Craig Street is currently a four way, unsignalised cross intersection with dedicated channelised right turn lanes from the Bruce Highway on both approaches. The proposed development is shown in Figure 2.

Craig Street currently services a residence to the north of the proposed industrial development, and a motel abutting the Bruce Highway on the eastern corner of the intersection.

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Figure 2 Locality of proposed industrial development

Additional aspects of the existing project site include:

- The current posted speed where Craig Street intersects the Bruce Highway is 60km/hr, following a Township Entry Treatment north west of the site. The treatment results in speed reduction from 80km/hr approximately 190m to the north. Operating speeds from the Bruce Highway at the intersection with Craig Street are therefore assumed to be 70km/hr, in accordance with the Austroads Guide to Road Design Part 3. This is in lieu of available speed surveys to confirm the 85th percentile current travel speeds to establish an exact operating speed.
- Operating speeds on Craig Street between the Bruce Highway to the proposed access location are assumed to be 40km/hr due to the general road environment being un-linemarked, likely low traffic volume and single carriageway.
- From the Department of Transport and Main Roads' (TMR) 2022 publicly available traffic census, the Bruce Highway fronting the site has an approximate average annual daily bi-directional traffic volume of 5,168 vehicles, with a heavy vehicle percentage of 8.27%.
- The existing site along the Bruce Highway comprises of a single traffic lane of travel in both directions and double barrier line marking. The southbound lane at the intersection with Craig Street consists of a basic left turn (BAL), and a channelised right turn (CHR) on to Craig Street. The northbound lane consists of an auxiliary left turn (AUL) and CHR on to Craig Street. The current roadside environment along the Bruce Highway along the frontage of the site is shown in Figure 3.

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– The site's topography is semi-rural, flat terrain and roadsides consist of some non-frangible vegetation, road lighting and electrical infrastructure such as overhead power. The roadside also consists of grassed gentle batters with open swale table drains and a culvert crossing beneath Craig Street.
– Any property boundaries shown in this report are from publicly available digital cadastral database information only.
– Craig Street is currently an unmarked road and sealed at the approach only. From aerial imagery, the road is approximately 6.6m wide.



Figure 3 Bruce Highway looking north at intersection with Craig Street

4.2 Sight distance checks

To understand the available sight distance for vehicle access via Craig Street and the Bruce Highway, safe intersection sight distance (SISD) checks were done looking left and right from Craig Street. From the Austroads Guide to Road Design (AGRD) Part 4A, safe intersection sight distance (SISD) was found to be governing, based on the conditions onsite, rather than minimum gap sight distance. For this assessment, a SISD requirement of 164m for trucks was identified for the intersection of Craig Street onto the Bruce Highway, based on clause 3.2.2 of AGRD Part 4A.

For Craig Street onto the Bruce Highway, SISD requirements could potentially be interrupted when looking north west by vehicles using the new proposed auxiliary left turn lane to turn into Craig Street. While an offset channelised left turn lane could be installed to further enhance sight distance, it is unlikely to fit within the available state road corridor as a proposed new left turn auxiliary lane would already require truncation of the southern corner of the new industrial precinct to accommodate B-double and A-double movements. As such, it is recommended to retain the assumed auxiliary left turn lane rather than installing an offset channelised left turn lane. It is noted that the Stage 2 traffic impact assessment's turn warrant checks indicate a basic left turn will be sufficient to accommodate turning volumes. However, an auxiliary left turn was considered for this Stage 1 assessment to maintain consistency with the previously recommended access arrangements from the Bruce Highway and maximising safety for the National Land Transport Network. Any existing potential vegetation impacting sight distance is assumed to be removed as part of pavement widening works for the AUL. Figure 4 presents the SISD checks looking towards the north west direction.

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When looking to the south east, the existing channelised right turn lane (short) into the residential properties are likely to partially obscure sight distance requirements for a truck turning right out of Craig Street as shown in Figure 4. Even applying extended design domain criteria, Figure 5 highlights the CHR(S) will still pose a potential sight distance obstruction for any queued vehicle waiting to turn into the residential property. Through discussions with BSC, retention of the access is required due to historical stakeholder engagement by the council. Historical engagement by BSC suggests that the number of vehicles utilising the access per day is likely to be under ten with no forecasted change. While it is acknowledged that the channelised right turn lane could be removed, there is the potential for the stakeholder to continue turning right into the access anyway, regardless of revised linemarking provisions. This will not only continue to restrict SISD for right turns out of Craig Street, but also present an increased risk of rear end and intersection related crashes at the residential access on the state road network. Constant police enforcement would need to occur to mitigate this risk, which is unlikely to be feasible. Finally, it is noted that sight distance is only partially obstructed at the start of the sight triangle requirements and a vehicle turning right out of Craig Street will still be able to see larger vehicles behind a propped vehicle turning into the property. As such, based on a combination of the likely low right turn in volumes to the residential property and heightened risk of alternative crash types if the right turn in was removed, the right turn out provisions from Craig Street have been deemed suitable.

The access from Craig Street requires a SISD of 78m for trucks which found no major sight distance obstructions. Similar to the Bruce Highway intersection, it is assumed vegetation will be cleared onsite within the sight triangle as needed and detailed survey is to be obtained to check vertical sight distance requirements. Refer Figure 6 for the sight distance checks for the new access off Craig Street.



Figure 4 *SISD check for outbound movements from Craig Street onto the Bruce Highway – Normal Design Domain for Trucks*



Figure 5 *SISD check for outbound movements from Craig Street onto the Bruce Highway – Extended Design Domain for Trucks*

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Figure 6 SISD check at proposed industrial precinct access onto Craig Street at the northern front of the development

For the purposes of this assessment, a two second reaction time rather than 2.5 seconds, has been adopted under the assumption that drivers at the project site would be considered more alert. This is due to the site's vicinity to Ayr, as well as for those travelling from Townsville, the presence of rest area opportunities on the Bruce Highway prior to the site. This is in accordance with Table 5.2 of the Austroads Guides to Road Design Part 3.

4.3 Swept path assessments

Aerial imagery was used to conduct desktop swept path assessments of potential turning movements for a mixture of A-double, B-double and 19m semi-trailer vehicles accessing the precinct from Craig Street, and from Craig Street onto the Bruce Highway.

It is noted that the Bruce Highway is currently not designated as an A-double route and as such, movements will occur under a heavy vehicle permit process, to be approved by TMR. Swept path assessments were completed utilising AutoTURN, predominantly from stop conditions except for left-in movements. Standard vehicle swept paths and sizing was adopted, with turning radii having targeted minimums. For the design vehicle, swept path checks have been developed to achieve lane compliance while check vehicles have been allowed to break lanes or oversteer where needed.

The proposed precinct's access from Craig Street will be a new three way intersection. It is assumed that the B-double is the design vehicle with an A-double (also referred to as a Type 1 road train) as the check vehicle.

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Based on the expected permitted movements at the access from Craig Street, it was found that if oversteering of the right out occurs, an A-double can turn left in and right out concurrently. Similar findings were observed for B-double concurrent movements as the design vehicles. These checks are on the basis of providing an AUL into the precinct. Oversteering would be achieved by providing a basic right turn intersection upgrade at the proposed new access location.

Refer Figure 7 for swept path checks conducted at proposed new access from Craig Street.



Figure 7 A-double check vehicle swept path checks at Craig Street intersection with Oakes Street extension

The Craig Street intersection with the Bruce Highway has assumed the following vehicles for the desktop swept path assessments:

– Concurrent left-in (using a new AUL) and right-out with B-doubles (design vehicle movements)
– Concurrent left-in (using a new AUL) and right-out with A-doubles (check vehicle movements)
– Right-in (using the existing CHR) with a 19m semi-trailer (check vehicle)

Based on the expected permitted movements, it was found that:

– All swept path movements have the 0.5m clearances provided in AutoTURN. Some 0.5m clearances overlap with concurrent, however the tyre paths do not.
– The right-in using a 19m semi-trailer will cross over the centreline of Craig Street, however is able to make use of the pavement created for the AUL to prevent crossing over the centreline on Craig Street. This will, however, be restricted by southbound cars queuing in the CHR to turn right on to Craig Street on the Bruce Highway. Refer Figure 8 for an example of the right turn into Craig Street utilising a 19m semi-trailer check vehicle and the oversteering required.
– Concurrent left-in and right-out A double movements have swept paths that overlap each other within the 0.5m clearance zone, meaning that further modifications are required at the intersection. Over-widening on the new AUL is required, resulting in additional pavement, embankment and extension to the reinforced box culvert currently under Craig Street. Over widening of the intersection would result in further truncation of the southern corner of the precinct. Refer Figure 9 for swept paths of the concurrent left out and right out turning movements for the A-double check vehicle.

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Figure 8 *19m semi-trailer using CHR(s) into Craig Street, non-contained*

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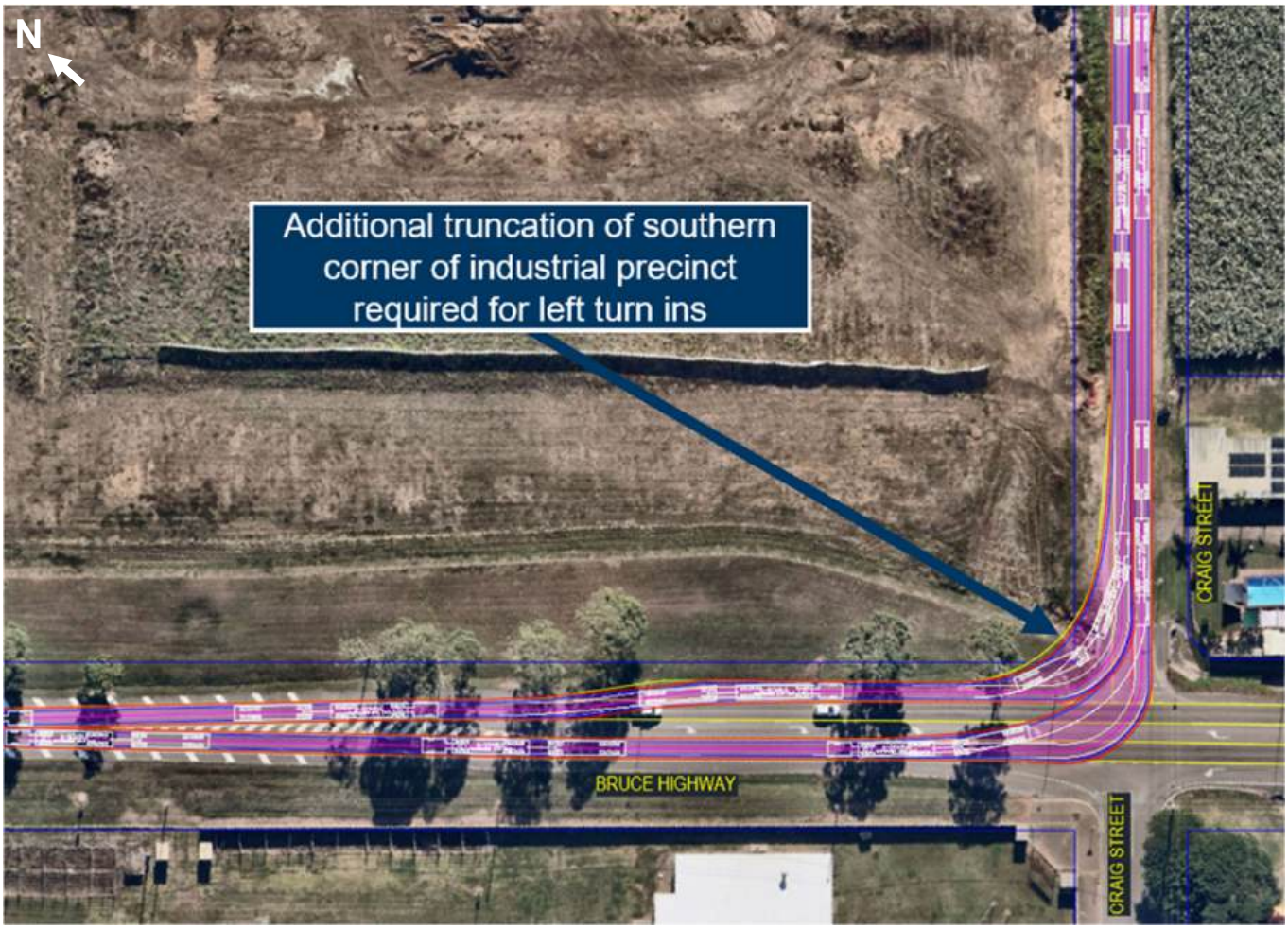


Figure 9 *A-double check vehicle swept path at Bruce Highway intersection with Craig Street using right turn out lane.*

An additional check was conducted as part of this assessment to confirm the adequacy of the length of the existing channelised right turn into Craig Street. The existing turn lane is presented in Figure 10 and is 72m in length, including taper. This is considered a short channelised right turn lane as a minimum of 75m is required, as well as storage for the necessary queued vehicles. This is per AGRD Part 4A clause 5.2.2 for a comfortable 2.5m/s^2 deceleration to a stop condition. In this case assuming a queued vehicle is a 19m semi-trailer, a minimum of 94m would be required to achieve Normal Design Domain requirements, which requires deceleration of the design/check vehicle within the turn lane. However from Stage 2 of this project's TIA, the turn warrant assessments identified that a CHR(S) would suffice. The existing 72 m long channelised right turn lane pictured in Figure 10 would therefore satisfy current turning volumes and no further extension to the turn lane is required.



Figure 10 *Existing CHR(S) on the Bruce Highway turning into Craig Street*

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From the findings of the swept path analysis, the following recommendations are made:

– At the precinct's proposed access from Craig Street:
  - Left-in and right-out A-double movements become the design movements for the intersection. To facilitate this, over widening of the intersection is required with chevron markings on the inside left corner of the intersection to provide a traversable surface for left-in A-doubles.
  - Right out movements for A-doubles can be accommodated by oversteering and additional pavement widening to replicate a basic right turn treatment.
  - Linemarking is to be developed to cater for concurrent B-double turning movements.
– At the Craig Street intersection with the Bruce Highway:
  - Left-in and right-out A-double movements become the design movements for the intersection. To facilitate this, over widening of the intersection is required with chevron markings on the inside left corner of the intersection to provide a traversable surface for left-in A-doubles. Further truncation and resumptions of the southern corner of the precinct are required to facilitate left turn movements from the Bruce Highway.
  - Right in movements are able to be accommodated within the existing CHR(S) based on the turn warrant assessments from Stage 2 of this TIA.

5. Conclusion and recommendations

From the analysis presented in this report, the following conclusions are made regarding the entry and egress to the new industrial development on lots 1/RP733033 and 16/RP745329 utilising Craig Street:

– At the Craig Street intersection with the Bruce Highway
  - Concurrent A-double movements performing a left-in and right-out become the critical movement, resulting in over widening and truncation of the southern corner of the industrial precinct. This also includes extension of the existing box culvert under Craig Street with linemarking to suitable A-double movements as the check vehicle.
  - For right turns out of Craig Street onto the Bruce Highway, safe intersection sight distance will be partially impacted by a queued vehicle in the upstream CHR(S). However, the likelihood of this occurring was deemed rare due to the limited daily use of the existing CHR(S) based on past stakeholder engagement from BSC. In addition, removal of the CHR(S) may not completely eliminate the stakeholder turning right into the residential property, resulting in an unforeseen additional safety risk to the existing site.
– At the industrial precinct access from Craig Street:
  - Concurrent A-double movements performing a left-in and right-out become the critical movement, resulting in over widening of the intersection. However there are no noted sight distance obstructions and as such, the precinct's proposed access location from Craig Street appears suitable.
– During future design stages, gather detailed survey of both sites to further confirm vertical SISD and spatial constraints.

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Ayr Industrial Estate

Traffic Impact Assessment

Burdekin Shire Council

06 December 2024

→ **The Power of Commitment**



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S4	P02	A. Luo / S Philip	V. Chan	*V. Chan**	S. Handalage	*S. Handalage**	
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Appendices

Appendix A Traffic Survey
Appendix B SIDRA Outputs

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1. Introduction

1.1 Background

Burdekin Shire Council (Council) has commissioned GHD Pty Ltd (GHD) to prepare this traffic impact assessment to assist with the master planning of the Ayr Industrial Estate, located on Lot 1/RP733033, Bruce Highway, Ayr. The proposed estate is owned by Council and will supply industrial land for mixed use.

GHD was previously engaged by Council to prepare a Traffic Impact Assessment (TIA) for the site in 2017, which was followed by a separate engagement (in 2019) to undertake a sensitivity analysis of the Bruce Highway / Bird Street / Jones Street intersection when applying a positive growth rate to traffic along the Bruce Highway.

1.2 Purpose of this report

This TIA report documents the traffic and transport related impacts likely to result from the development of the Stage 1 expansion of the Ayr Industrial Estate which has been assessed in accordance with the Department of Transport and Main Road's (TMR) Guide to Traffic Impact Assessment, 2018 (GTIA).

The assessment aimed to provide an adequate understanding of the transport impacts, whether the existing road infrastructure will be able to support the development and the proposed access arrangements and discuss any mitigations (if required) for the development to proceed.

This report presents an assessment of an amendment to the site plan, which introduces an additional access via Craig Street into the Ayr Industrial Estate.

1.3 Scope and limitations

This report has been prepared by GHD for Burdekin Shire Council and may only be used and relied on by Burdekin Shire Council for the purpose agreed between GHD and Burdekin Shire Council as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Burdekin Shire Council arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

1.4 Reference documents

The following reference documents informed the preparation of the TIA:

– Guide to Traffic Impact Assessment, Department of Transport and Main Roads, dated December 2018
– Guide to Traffic Impact Assessment Practice Note: Pavement Impact Assessment, Department of Transport and Main Roads, dated December 2018.

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2. Existing conditions

2.1 Land use and zoning

Lot 1/RP733033 is currently zoned as Industry and is currently vacant. As part of a previous TIA completed by GHD for Council, GHD also investigated the impacts of also developing the adjacent Lot 19/SP279592 and Lot 18/RP742492.

2.2 Adjacent land use

The proposed estate area borders an existing industrial development accessed from the Bruce Highway via Bird Street which appears to be fully utilised. Land surrounding the proposed development is currently zoned as industry, low-density residential or as community facilities as per the latest Burdekin Shire Planning Scheme (2022). An indicative figure is provided in Figure 1.

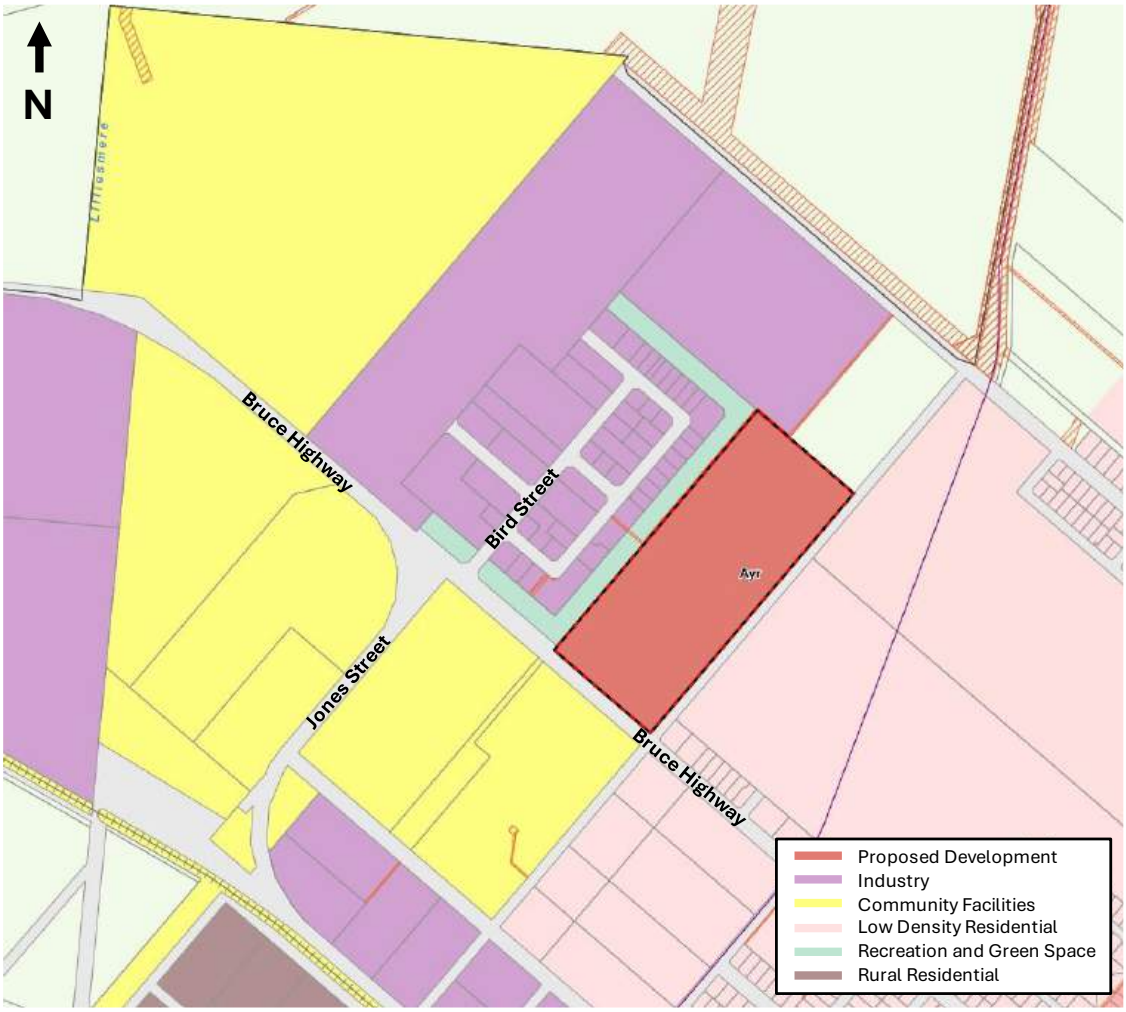


Figure 1: Adjacent land use

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2.3 Surrounding road network details

The proposed development is located north of the state-controlled Bruce Highway, on the outer edge of the Ayr urban extents and adjacent to the existing industrial estate accessed via Bird Street. Jones Street is located off the Bruce Highway and is used as a heavy vehicle bypass route. It also forms a staggered priority T-intersection arrangement with Bird Street.

The southern extent of the proposed development is fronted by Craig Street, which is a local access street with an eastern and western approach joining with the Bruce Highway.

The Jones Street / Bird Street intersections have channelised turn treatments on all turning movements along the Bruce Highway and an acceleration lane onto the Bruce Highway from the left turn from Jones Street. The intersections also have a concrete median between them and are both priority controlled on the minor road approaches.

In between the Jones Street / Bird Street intersections and Craig Street is a town entry treatment which introduces a 60km/h posted speed limit heading southbound towards the Ayr CBD, and an 80km/h posted speed limit heading northbound. An indicative figure summarising the surrounding road network details is provided in Figure 2.



Figure 2: Surrounding road network

2.4 Site access

The existing Ayr Industrial Estate is accessed from the Bruce Highway via Bird Street, 45m south of the Jones Street intersection which forms part of a heavy vehicle bypass route for the township of Ayr. The proposed access via Craig Street is an indicative location, with the final location to be determined during the detailed design phase.

2.5 Existing traffic volumes

2.5.1 Bruce Highway

The 2023 Average Annual Daily Traffic (AADT) of the Bruce Highway for the section including the Bird Street intersection (Tdist 0.00 to 2.25km) was sourced from TMR and is 5708 vehicles per day.

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Figure 3 shows a summary of the historical bidirectional AADT volumes on the section including the Bruce Highway / Bird Street / Jones Street intersection (Tdist 0.00 to 2.25km) and the adjacent section of the Bruce Highway to the north (Tdist 2.25 to 6.0km).

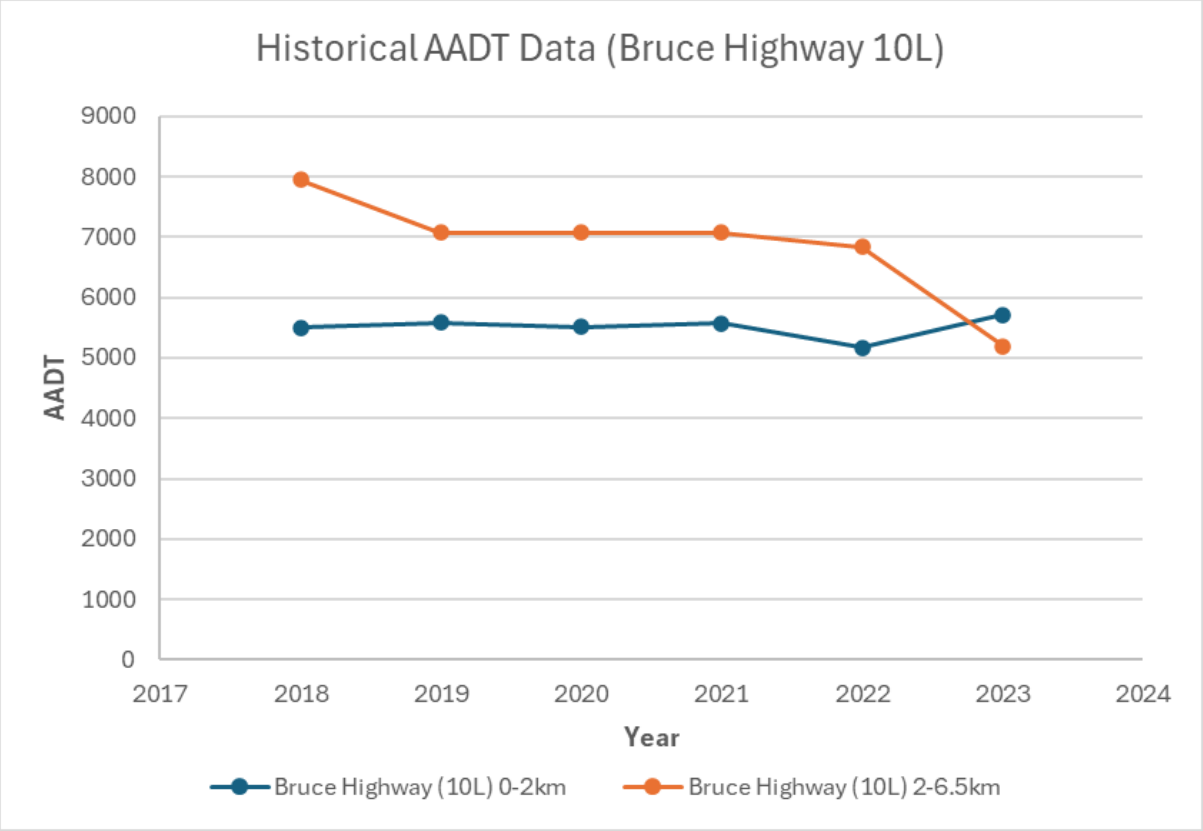


Figure 3: Historical AADT distribution on Bruce Highway (10L)

2.5.2 Bruce Highway / Bird Street / Jones Street

GHD commissioned a 24-hour traffic survey undertaken on Thursday 18th July 2024 for the Bruce Highway / Bird Street / Jones Street intersection. From the hourly volume distribution as shown in Figure 4, the AM peak hour corresponds to 8:00 – 9:00 AM and the PM peak hour corresponds to 3:15 – 4:15 PM. Detailed traffic survey information is attached in Appendix A.

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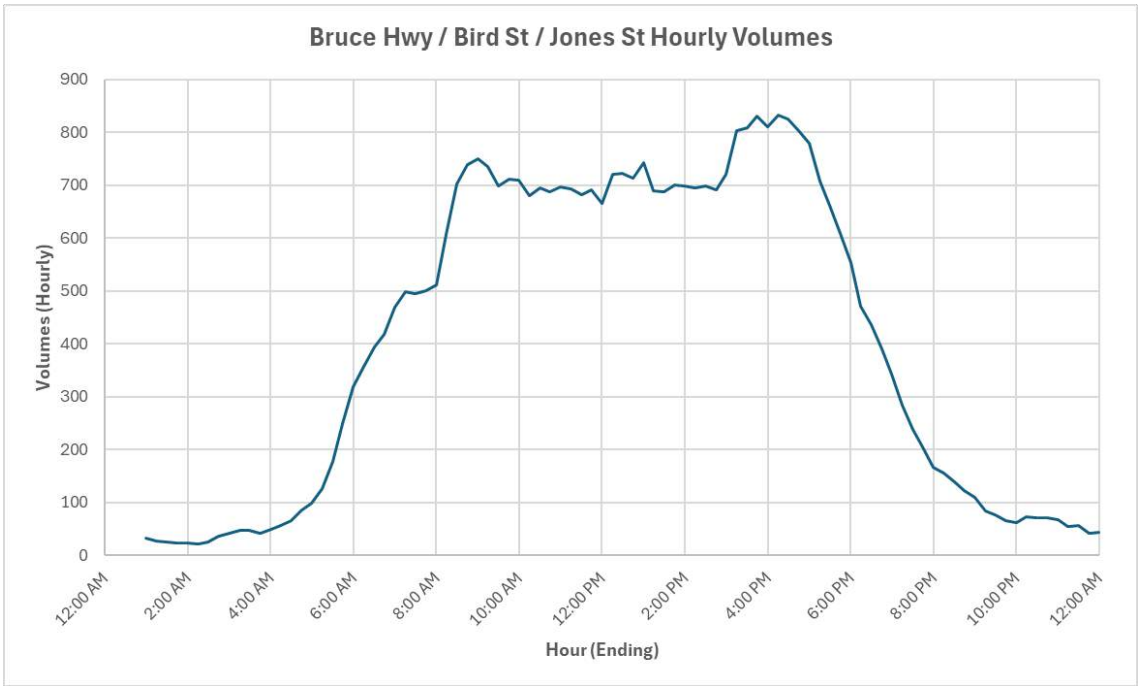


Figure 4: Bruce Highway / Bird Street / Jones Street Hourly Volumes

2.5.3 Bruce Highway / Craig Street

GHD commissioned a 24-hour traffic survey undertaken on Thursday 18th July 2024 for the Bruce Highway / Craig Street intersection. From the hourly volume distribution as shown in Figure 5, the AM peak hour corresponds to 8:00 – 9:00 AM and the PM peak hour corresponds to 3:15 – 4:15 PM. Detailed traffic survey information is attached in Appendix A.

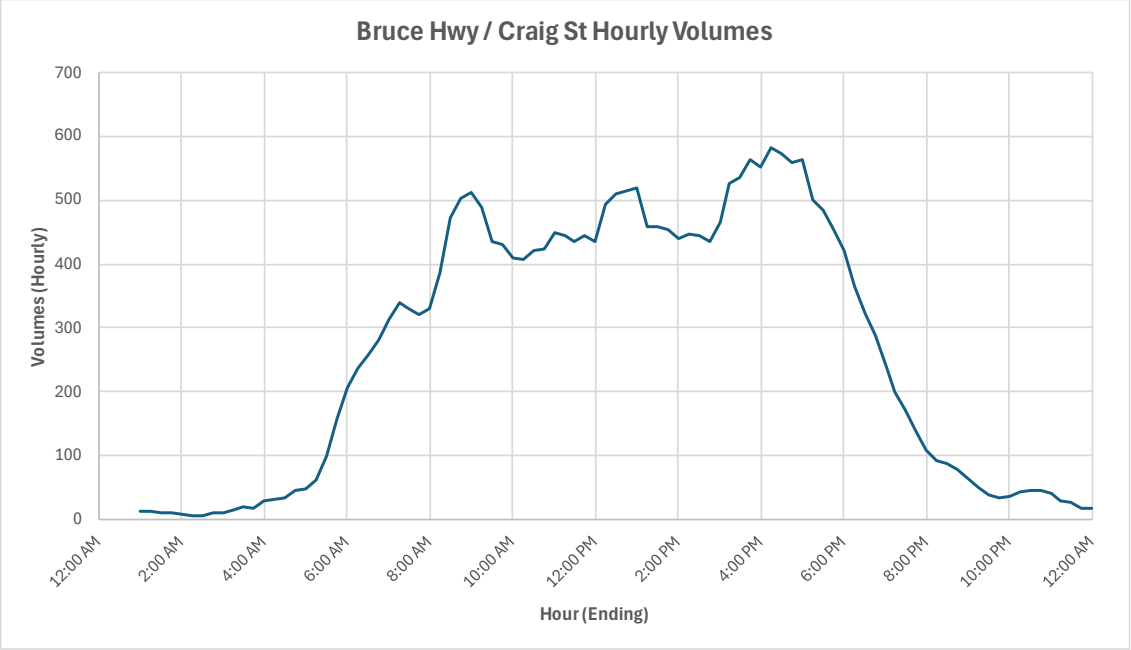


Figure 5: Bruce Highway / Craig St Hourly Volumes

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2.6 Existing intersection performance

2.6.1 Peak hour traffic volumes (without development)

The peak hour volumes (without development) for the Bruce Highway / Bird Street / Jones Street staggered intersection and the adjacent Bruce Highway / Craig Street intersection are shown in Figure 6.

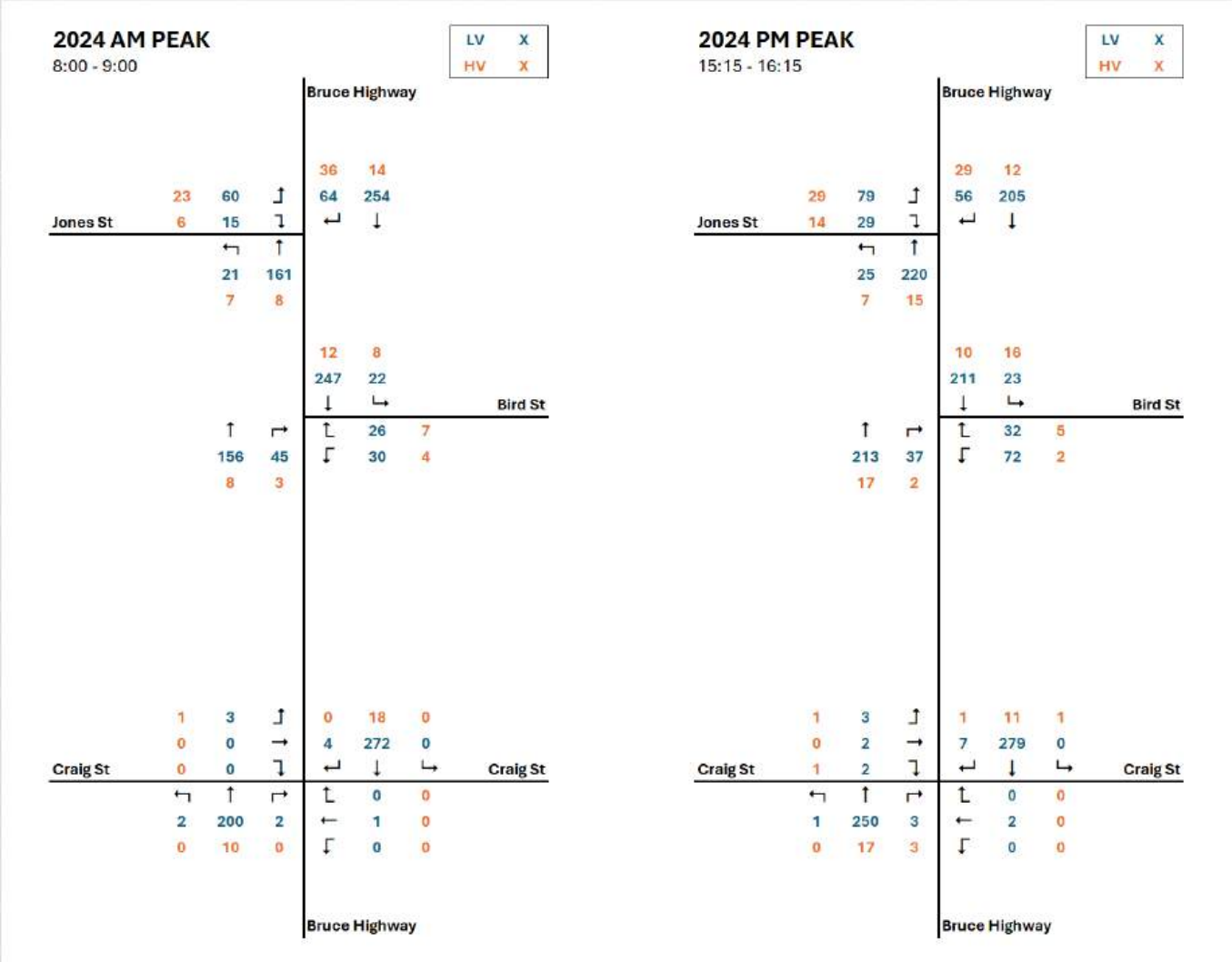


Figure 6: 2024 peak hour volume diagram

2.6.2 Existing intersection performance

The existing configuration was modelled in SIDRA Intersection (version 9.1) to assess the performance of the intersection peak hours under the existing traffic. The intersection configurations have been modelled as a network as the new proposed access on Craig Street is in the vicinity of intersections such as Bruce Highway / Bird Street / Jones Street and Bruce Highway / Craig Street. An indicative SIDRA layout of the assessed network is provided in Figure 7.

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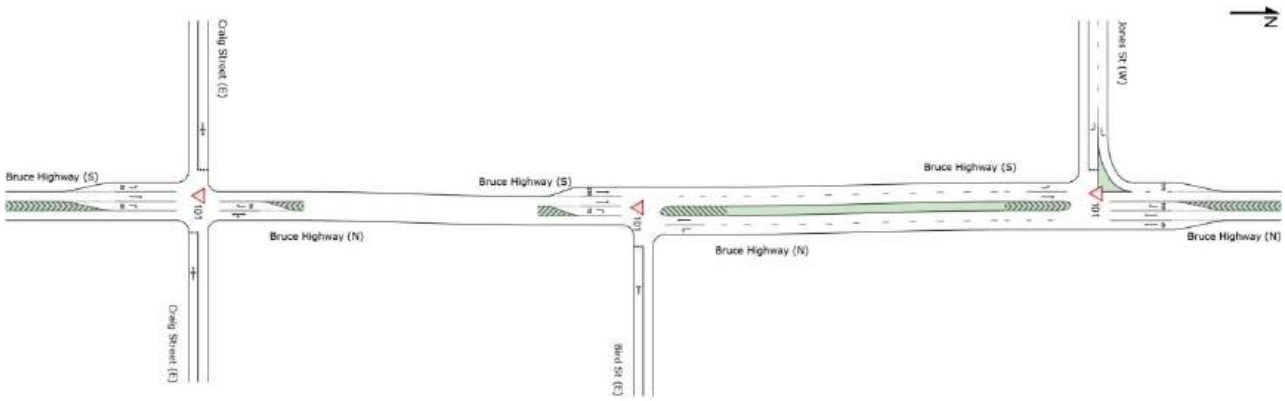


Figure 7: Indicative SIDRA network assessment

2.6.2.1 Output definition

To quantify the intersection performance, the following performance measures were adopted:

– Degree of Saturation (DOS) – ratio of demand flow to capacity of the intersection
– Average delay (seconds) – average delay per vehicle in seconds incurred by vehicles over the modelled time period for any signalised intersection, or the worst average delay per vehicle in seconds for any given movement for any priority-controlled intersection
– Queue length (m) – 95th percentile queue length represents the queues that may only be exceeded during less than 5% of occasions during the modelled period. This provides a quantitative metric to ensure that the appropriate turn lane capacities have been provided.
– Level of service (LOS) – an index of the traffic operation performance based on average delay
– LOS is a measure of traffic operating conditions whereby a letter grade “A” to “F” is assigned to an intersection or roadway segment. The delay range corresponding to the letter grades (based on RMS guidance, consistent with the GTIA) are provided in Table 1.

Table 1: Intersection LOS Definition

Level of Service	Sign Control
A	d ≤ 14.5
B	14.5 < d ≤ 28.5
C	28.5 < d ≤ 42.5
D	42.5 < d ≤ 56.5
E	56.5 < d ≤ 70.5
F	70.5 < d

Practical saturation is defined as a “target” or the maximum degree of saturation that corresponds to an acceptable level of traffic performance. In accordance with Austroads’ *Guide to Traffic Management, Part 3: Traffic Studies and Analysis,* intersection operation is considered to reach practical saturation when the Degree of Saturation (DOS) exceeds 0.80 for priority-controlled intersections, 0.85 for roundabouts and 0.90 for signalised intersections.

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2.6.2.2 Performance outputs

Table 2 provides a summary of the existing network performance in the 2024 AM and PM peak periods.

Table 2: 2024 Existing intersection performance

Intersection	Approach	2024 AM				2024 PM			
		DOS (v/c)	Delay (s)	LOS	Queue (m)	DOS (v/c)	Delay (s)	LOS	Queue (m)
Bruce Hwy / Jones St	Bruce Hwy (S)	0.09	1	-	0	0.13	0	-	0
	Bruce Hwy (N)	0.13	2	-	4	0.1	2	-	4
	Jones St (W)	0.08	8	A	2	0.17	10	A	5
	Intersection	**0.13**	**3**	**-**	**4**	**0.17**	**3**	**-**	**5**
Bruce Hwy / Bird St	Bruce Hwy (S)	0.08	2	-	1	0.11	1	-	1
	Bird St (E)	0.14	11	A	4	0.18	9	A	5
	Bruce Hwy (N)	0.14	0	-	0	0.12	1	-	0
	Intersection	**0.14**	**2**	**-**	**4**	**0.18**	**2**	**-**	**5**
Bruce Hwy / Craig St	Bruce Hwy (S)	0.12	0	-	0	0.15	0	-	0
	Craig St (E)	0.01	10	A	0	0.01	11	A	0
	Bruce Hwy (N)	0.16	0	-	0	0.16	0	-	0
	Craig St (W)	0.01	9	A	0	0.03	13	A	1
	Intersection	**0.16**	**0**	**-**	**0**	**0.16**	**1**	**-**	**1**

The performance outputs of the existing 2024 network shows that:

– All three intersections within the project area operates within practical saturation with extra capacity remaining in the intersections

– Side approaches such as Craig Street, Bird Street and Jones Street operate with minimal delays, achieving LOS A.

– Minimal amounts of queueing observed with the existing storage lanes able to easily accommodate the current vehicular demands.

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2.7 Crash history

Crash history data has been obtained from the TMR Open Data portal which provides road traffic crashes between 1 January 2001 to 30 November 2023. In the last 5 years of the available data (2019 – 2023), there has been a total of three recorded crashes – with two recorded with a crash severity of hospitalisation and the last one, a fatality.

The crashes are all located in the vicinity of the Bruce Highway / Bird Street / Jones Street intersections. Two of the crashes (including the fatality) involved a vehicle leaving the carriageway and colliding into an object. The last recorded crash is a right-thru collision with a vehicle from an adjacent approach. All the crashes occurred during clear and dry conditions, with the fatality occurring at night and the other crashes requiring hospitalisation occurring during the daytime.

As there were not repeated instances of the same crash type, the crash data does not point to underlying safety issues in this area.

Figure 8 provides a summary of the crash history surrounding the site.

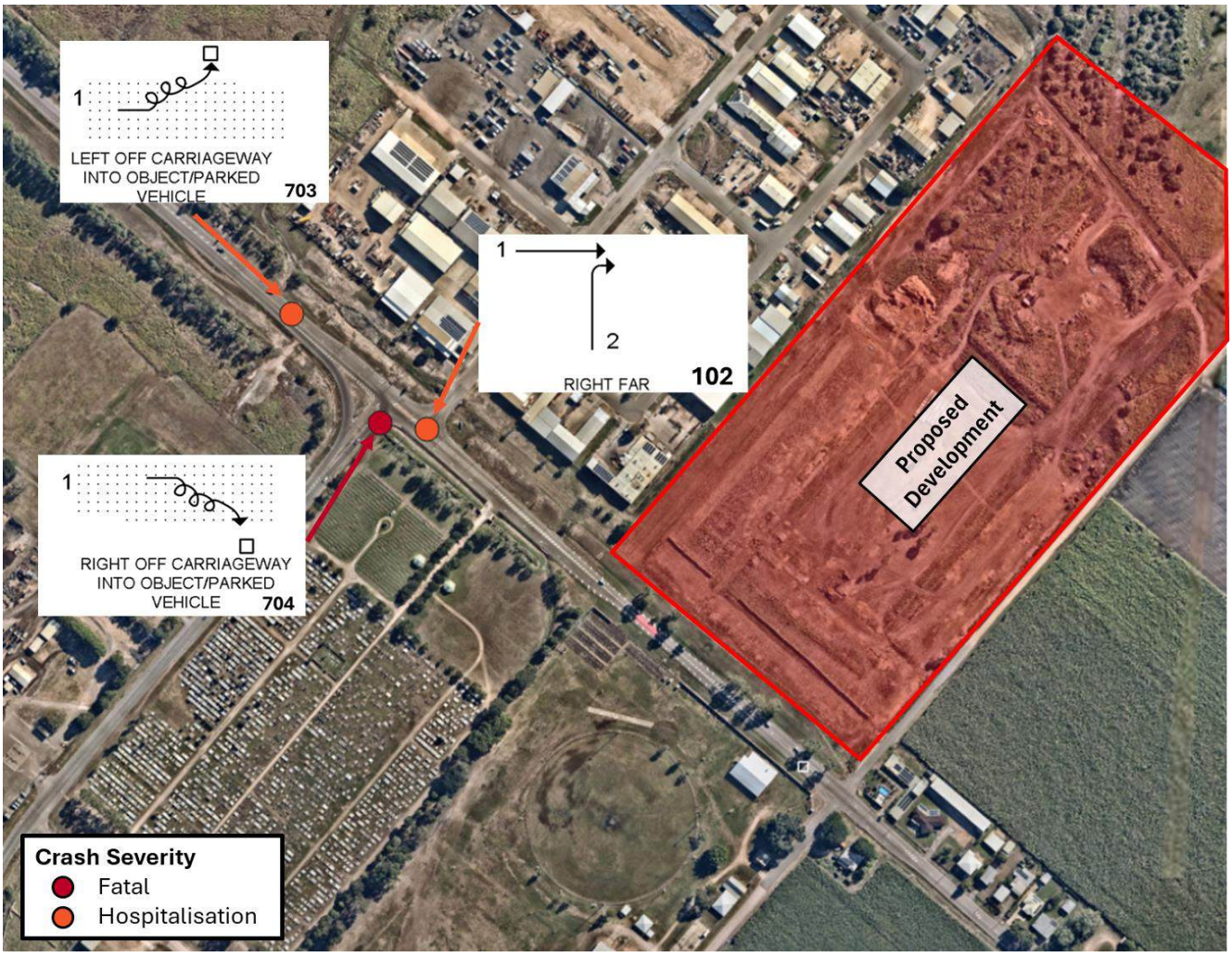


Figure 8: Crashes from past 5 years (2019 – 2023)

2.8 Public Transport

Trans North Bus and Coach operates two school bus services: one between Brandon to Ayr via the Bruce Highway that travel through the Bird Street / Jones Street and Craig Street intersections, and the other between Mt Surround to Ayr. These buses operate once (each) during the AM and PM peak periods.

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Whilst there is no local bus service for Ayr, Greyhound operates coaches between Townsville and Brisbane twice a day which pass through the section of the Bruce Highway directly adjacent to the development.

3. Future conditions

3.1 Future transport network planning

A review of the Burdekin Shire Council Local Government Infrastructure Plan (LGIP) and the associated mapping does not reveal any imminent future road upgrades within the vicinity of the proposed facility.

3.2 Background traffic growth

The historic traffic growth rates of the Bruce Highway sections - north and south of the Bird Street intersection have been relatively stagnant, largely trending negative over the last 10 years. This data has been obtained via the public TMR traffic census data available online, with the latest record being 2023. Table 3 below shows a summary of the growth rates.

Table 3: Historic growth rates

Bruce Highway (Ayr to Townsville)	AADT (Year)	Historic growth rate		
		Last Year	Last 5 years	Last 10 years
Tdist 0 to 2.15km South of Bird Street	5708 (2023)	10.45%	0.97%	-0.03%[1]
Tdist 2.15 to 6.44km North of Bird Street	5198 (2023)	-24.00%	-7.00%[2]	-3.00%[1]

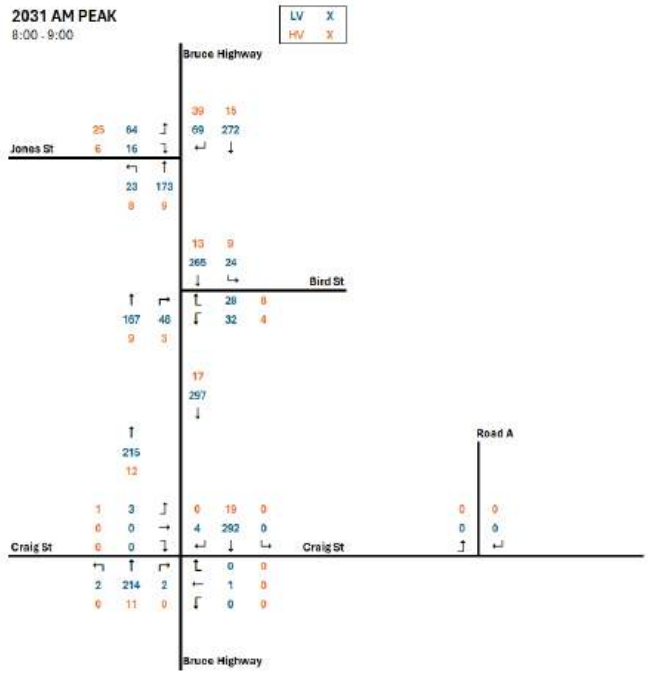
It is noted that GHD has also previously prepared a technical memorandum (2019) for Burdekin Shire Council investigating the intersection capacity of the Bruce Highway / Bird Street / Jones Street intersection when a positive growth rate is applied. The technical memorandum considered an annual compounding growth rate of 2% and 3%.

As the medium to long term historic growth rate is very low or negative, a conservative **1%** compounding annual growth rate has been applied to this traffic impact assessment which aims to strike a balance between the historical negative growth rate, and the sensitivity analysis.

It is assumed that the full staged development will open in 2031. As such, assessments were undertaken for the year of the opening and the design horizon of 2041. The assumed background traffic (without development) for both AM and PM peak periods is provided in Figure 9.

[1] *This data is based on a 12-year growth rather than 10 years due to data not being available for 2013. The growth rate was calculated using 2011 AADT data.*
[2] *This data is based on a 4-year growth rather than 5 years due to data not being available for 2018. The growth rate was calculated using 2019 AADT data.*

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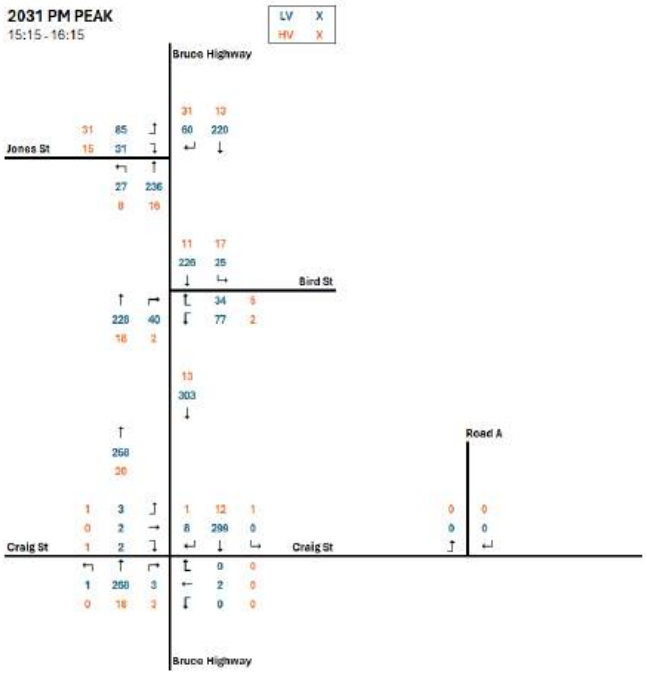
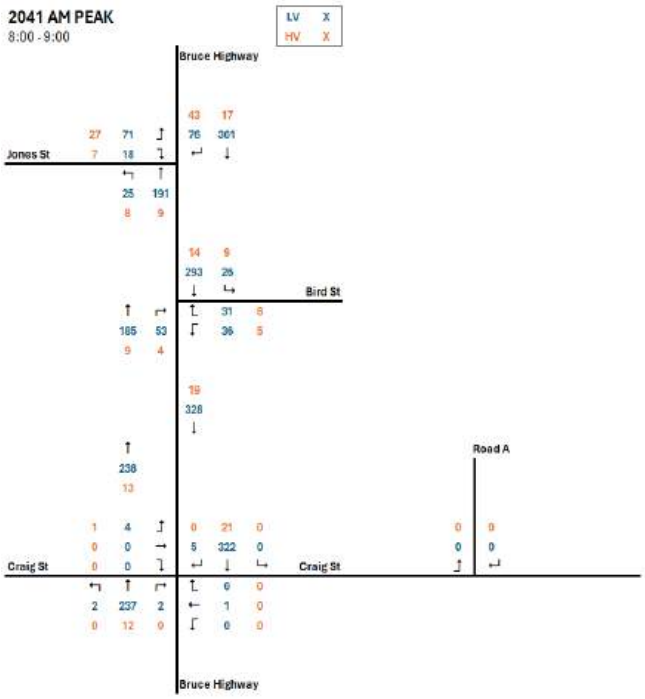


Figure 9: 2031 background traffic – without development



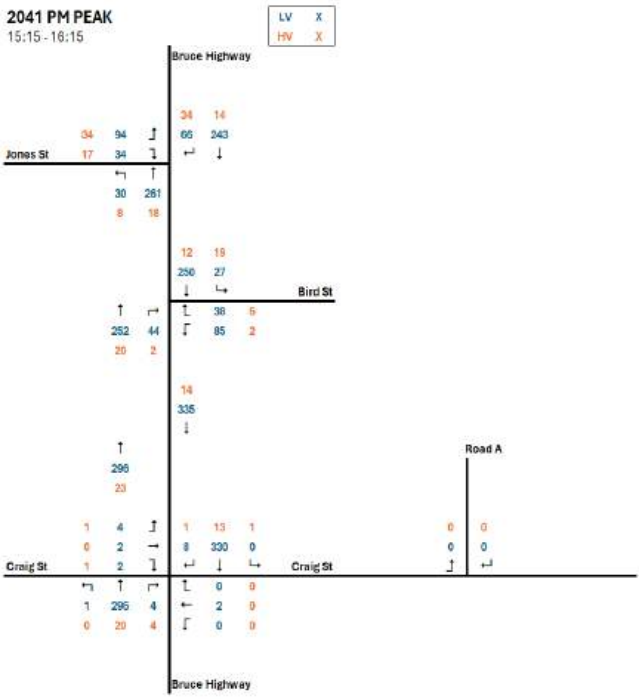


Figure 10: 2041 background traffic – without development

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4. Proposed development details

4.1 Development site plan

The proposed Stage 1 development plans have been provided to GHD by Burdekin Shire Council as per Figure 11.



Figure 11: Ayr Industrial Estate Stage 1 Plans

4.2 Operational details

As per advice from the client, it is anticipated that the Stage 1 development would be constructed in three stages (1A – 1C) with the staging sizes summarised as follows:

Table 4: Ayr Industrial Estate Stage 1 Expansion

Stage	Developable Area	Lots	Year of completion
1A	33,873 m^2	16	2025
1B	14,000 m^2	7	2025
1C	**50,272 m^2	22	2031
Total	**98,145 m^2**	**45**	

** A 500m^2 reduction in total developed area due to the additional road area has been applied based on advice from Council. The exact location of the new access has not been confirmed yet. For the purpose of this TIA it is assumed that the access will be fully contained within the Stage 1C developable area.

As the access is fully contained within the Stage 1C (to be developed after Stage 1A / 1B), it is assumed that the access and the entirety of internal road network will be constructed as part of Stage 1A / 1B to grant access to the rest of the development.

For the purpose of this TIA, the development will be assessed for 2031, symbolising the full completion of the Stage 1 Expansion.

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4.3 Proposed access

It is proposed that all traffic generated by the Stage 1 development will access the Bruce Highway via Craig Street, with a new road connecting directly to Craig Street. An indicative layout of the configuration has been provided by Council as shown in Figure 12.



Figure 12: Indicative layout of new proposed access.

In addition to the proposed location of the new access, Council has proposed the following access arrangements for Craig Street:

- A-double and B-double traffic to enter the industrial estate from the north (left-in) via Craig Street.
- Movements for A-double and B-double vehicles exiting the proposed access is via a right turn onto Craig Street and then right turn (northbound) at the Craig Street / Bruce Highway intersection.
- Left out from the estate at Craig Street will be limited to general access vehicles only. It is noted that minimal traffic is expected to make this movement as Craig Street provides access to a limited number of properties.
- Left turns for vehicles on the eastern approach of Craig Street exiting onto Bruce Highway will be limited to general access vehicles only.
- No A-double or B-doubles will be permitted south of Craig Street.

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5. Development traffic

5.1 Traffic generation and trip distribution

In order to determine the traffic generation to be expected by the development in peak periods, a trip generation assessment has been undertaken using advice provided by the Client. Advice included information such as the staging of the estate, lot sizes and developable area.

The proposed development is expected to be similar to the existing industrial estate accessed off Bird Street. Based on the traffic survey on the 18th July 2024, the daily traffic at the Bruce Highway / Bird Street / Jones Street intersection is 1873 vehicles, with an AM peak hour of 145 vehicles and PM peak hour of 189 vehicles. As this is a closed estate, it is assumed that all the traffic is generated from the estate.

From aerial imagery, the existing developed area of the existing estate is approximately 137 900 m^2. Using the approximate developed area and the survey traffic, a traffic generation rate can be calculated. Given that the land use within the proposed estate is expected to be generally similar to the existing land use, it is assumed that the calculated traffic generation rate (based on the existing estate) can also be used to determine the traffic generation rates of the new development.

A summary of the traffic generation of the existing estate and the determined trip rates are provided in Table 5 below.

Table 5: Existing estate traffic generation and determined rates

Existing Bird St Industrial Estate		
Developed area (lot area)	137 900	m^2
Daily traffic	1,873	vehicles / day
AM peak hour traffic	145	vehicles / peak hour
PM peak hour traffic	189	vehicles / peak hour
Traffic generation rates		
Daily total vehicle trip rate	1.36	vehicles / day / 100m^2 of developable area
AM peak vehicle trip rate	0.105	vehicles / AM peak hour / 100m^2 of developable area
PM peak vehicle trip rate	0.137	vehicles / PM peak hour / 100m^2 of developable area

Based on the above traffic generation rates, the estimated traffic generation of the proposed development based on the developable area is summarised in Table 6.

Table 6: Proposed development traffic generation

Stages	**Developable Area (m^2)**	**Daily Trips**	**AM peak hour**	**PM peak hour**
1A	33,873	460	36	46
1B	14,000	190	15	19
1C	50,272	683	53	69
Total	**98,145**	**1333**	**103**	**135**

From the survey that was undertaken, the average distribution of the in and out volumes of the existing estate is summarised in Table 7. Although the split of volume-in and volume-out across the total daily is an even split (50% / 50%) it is acknowledged that there would be some minor differences between the peak periods (e.g. users going to and from work). It is assumed that the same distribution will be applied to the proposed development.

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Table 7: Trip distribution based on survey

Period	% of Volume In	Volume in	% of Volume Out	Volume Out
AM Peak	55%	57	45%	46
PM Peak	40%	54	60%	81
Total Daily	50%	667	50%	667

Similar to the trip distribution, it is anticipated that the light vehicle and heavy vehicle percentage is likely to vary throughout the day, as such it is assumed that a similar distribution to that observed from the traffic surveys will be applicable to the proposed development. The summary of the approximate heavy vehicle distribution is provided in Table 8.

Table 8: Heavy vehicle % based on the traffic survey

Period	Volume In		Volume Out	
	LV%	HV%	LV%	HV%
AM Peak	85%	15%	85%	15%
PM Peak	75%	25%	95%	5%
Total Daily	85%	15%	85%	15%

The traffic survey of the existing development has been used to derive approximate traffic distributions of the proposed development as it is assumed that due to the similar land uses, the traffic distributions would also largely be similar.

It has been assumed that all vehicle trips generated by the development will enter and leave using the proposed “Road A” access onto Craig Street which directly connects to Bruce Highway. The assumed trip distribution proportions from the new development are provided in Figure 13 with the resultant overall trip distribution presented in Figure 14.

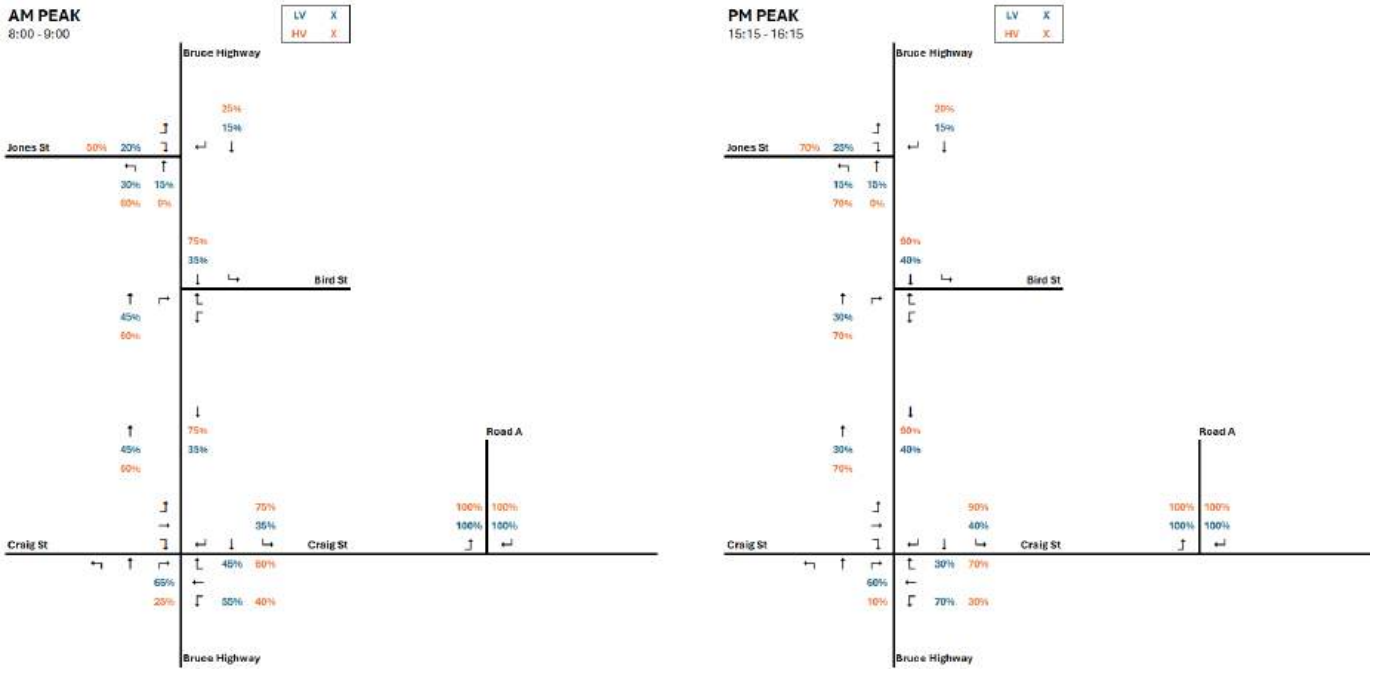


Figure 13: Assumed trip distribution of new proposed development

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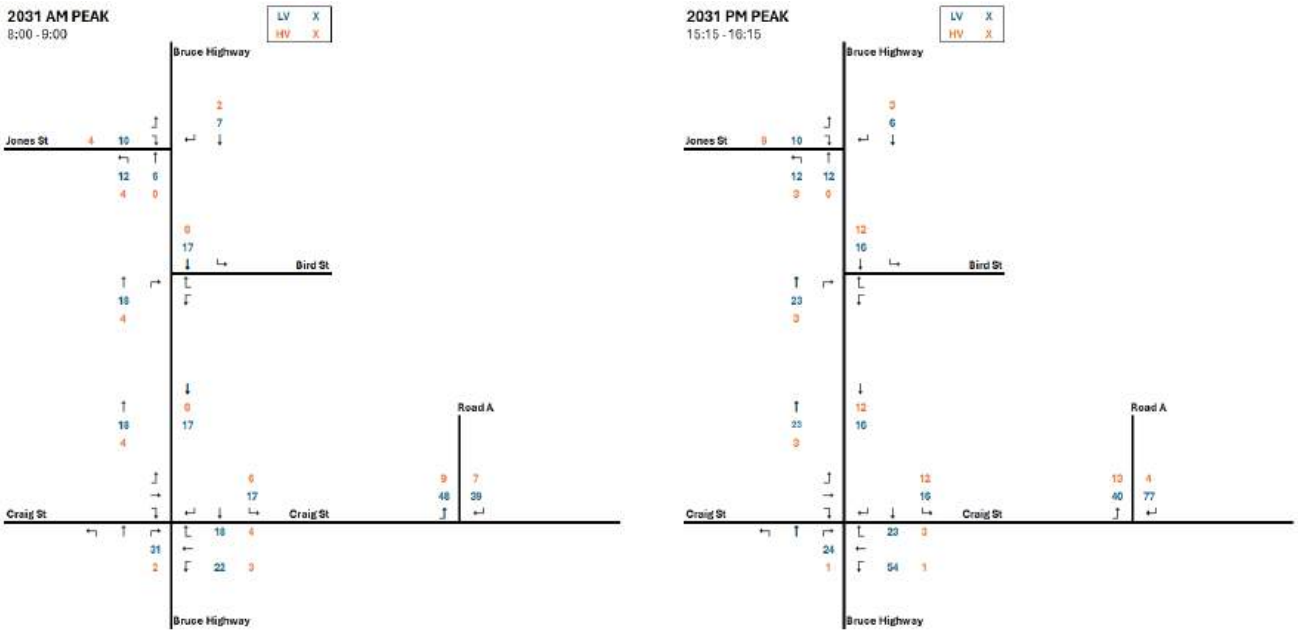


Figure 14: Development trip generation

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6. Impact assessment and mitigation

6.1 Impact study area

As per the *Guide to Traffic Impact Assessment* (GTIA), the impact assessment is required to consider all the road links and intersections that development traffic exceeds 5% of the base traffic. The calculated impact based on the peak construction and operational traffic volumes are illustrated in Figure 15.

These figures indicate where these thresholds are exceeded in turning movements on State-Controlled Roads. As a result, the intersection delay impact and road link assessment has been limited to the State-Controlled Road intersections with more than a 5% movement, as per TMR GTIA requirements. Intersections further south of Craig Street were not considered as:

- The analysis of the Craig Street intersection indicated very limited impacts (refer to Section 6.4)
- The percentage impacts are due to the very low base traffic volumes (under 400 vehicles per peak hour per direction), and do not reflect a high absolute number of vehicles
- The background traffic volumes with the development are expected to remain low at under 400 vehicles per peak hour in each direction, or less than one vehicle per nine seconds on average. This is expected to have an insignificant impact to intersection operation
- The development traffic is expected to only significantly affect the through movement (not turn movements) which limits the impact to intersection delays.

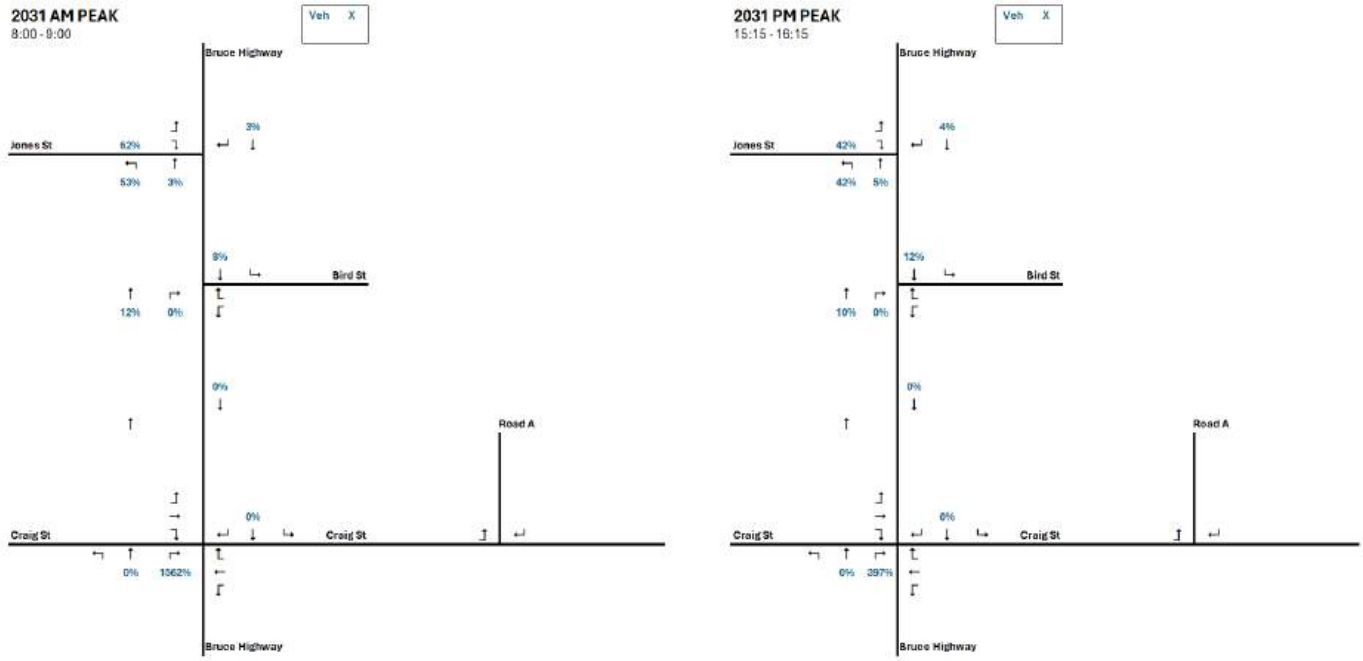


Figure 15: Operational traffic impacts

6.2 Road safety impact assessment

A road safety impact assessment has been carried out to determine if there is likely to be any significant change to the level of road safety risk on the surrounding road network attributable to the Project. The desired outcome is to ensure no significant worsening of road safety at any location on the network as a result of the Project. “Significantly worsened” is defined within the GITA as a change to the level of safety risk.

In order to achieve the desired outcomes for safety, the road safety assessment process involved:

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– Identifying the current safety risks relevant to the development impact assessment area.
– Identifying the likely new risks or modified risks resulting from the proposed development and the relevant road environment, including the safety risk rating.
– Recommending management and mitigation works to ensure the existing safety risk rating for the road is not worsened a result of the project and that any unacceptable safety risk is addressed.

The safety risk for all road users were identified and scored in accordance with the GTIA risk scoring matrix, as shown in Figure 16.

		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 16: Safety risk score matrix

The findings from the road safety assessment are summarised in Table 9. It is noted that in addition to the summary table below, GHD has also prepared an *Access Design Feasibility Check* technical note which covers swept path assessments, sight distance and other access design checks in more detail.

The road safety impact assessment considered the crash history of the area (refer to Section 2.7), which included two hospitalisations and a fatality. These crashes included two run-off road crashes and one through-right crash. The road safety assessment findings highlight crash risks which relate to the fatality/hospitalisation crash types with an asterisk *.

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Table 9: Road safety assessment findings

Review finding	Pre-Development			With Development			Mitigation Measures	With Development & Mitigations		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score		Likelihood	Consequence	Risk Score
There are multiple barrel culverts on the southern approach to the Bird St intersection with no safety barrier. Batters to table drains along this section of the highway are steep. These may increase the severity of run-off road type crashes. *Two of the crashes recorded in the past five years were run-off road type crashes, including the fatality.	2	5	M	2	5	M	The proposed development does not significantly worsen the risks (the consequence is already the highest score, and this development is not anticipated to change the likelihood of this crash type from unlikely to moderate). As such, no mitigation is required. However, consider a risk assessment of the existing culvert and table drains should be undertaken to determine if safety barriers or flattening of batters is required in accordance with the Bruce Highway Scope Management and Design Guidelines.	1	2	L
Culvert end walls to access off the highway do not have sloping end walls. This may increase the severity of run-off road type crashes. *Two of the crashes recorded in the past five years were run-off road type crashes, including the fatality.	2	5	M	2	5	M	The proposed development does not significantly worsen the risks (the consequence is already the highest score, and this development is not anticipated to change the likelihood of this crash type from unlikely to moderate). As such, no mitigation is required. However, as above, a risk assessment should be considered to determine if the installation of sloping face end walls is required.	1	2	L
B-Doubles are unable to turn right-out (from Bird Street) and head northbound without traversing onto existing concrete median (at Bird / Jones Street intersection) ^Refer *Access Design Feasibility Check* Note	4	1	M	4	1	M	Proposed development does not worsen the manoeuvre, however median can be potentially flattened to assist with this movement.	1	1	L
Increase in the number of vehicles making high-speed turning movements increases the probability of a collision involving a turning vehicle.	2	4	M	2	4	M	No further mitigation required. The proposed intersection is located within the 60km/h zone to reduce impact velocity (compared to where the previous crash was located, which was in the 80km/h speed zone). Intersection	-	-	-

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Review finding	Pre-Development			With Development			Mitigation Measures	With Development & Mitigations		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score		Likelihood	Consequence	Risk Score
*One of the crashes recorded in the past five years was a through-right type crash.							analysis confirms suitability of intersection configurations.			
Trees north of the Craig Street intersection slightly restricts the visibility of southbound vehicles along the Bruce Highway which increases the probability of a collision.	2	4	M	2	4	M	The proposed development does not significantly worsen the risks (the consequence is already the highest score, and this development is not anticipated to change the likelihood of this crash type from unlikely to moderate). As such, no mitigation is required. However, it is recommended that any trees close to the road carriageway which obstruct vision be removed or relocated to ensure clear line of sight for vehicles turning from Craig Street.	1	3	L
Additional vehicle turning conflict because of additional right turns from Bruce Highway to Craig Street	1	4	M	2	4	M	No further mitigation required. The proposed intersection already has dedicated right turn bays provided.	2	4	M
Culvert on Craig Street immediately adjacent to Bruce Highway – potential for vehicles to drive off, especially with increase right turn demand	1	4	M	2	4	M	Craig Street intersection to be upgraded to accommodate turning movements for all design vehicles	1	4	M

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6.3 Access and frontage impact assessment

6.3.1 Turn Warrant Assessment

As part of the proposed development, a new access onto the Craig Street is proposed. To inform the appropriate intersection layout to service the proposed development, a turn warrant assessment has been undertaken in accordance with *Road Planning and Design Manual Edition 2: Volume 3* (RPDM) published by TMR. This has been undertaken using the Normal Design Domain warrants and summarised in Table 10 and Table 11 below.

Table 10: Bruce Highway / Craig Street intersection turn warrant assessment

Scenario	Movement	AM Peak			PM Peak		
		Q_m*	$Q_{L./R}$**	Warrant	Q_m*	$Q_{L./R}$**	Warrant
2031 – 60km/h Posted Speed	NB Right	559	36	CHR(s)	626	32	CHR(s)
	SB Left	311	23	BAL	311	29	BAL
2041 – 60km/h Posted Speed	NB Right	615	36	CHR(s)	688	33	CHR(s)
	SB Left	343	23	BAL	343	29	BAL

Q_m – Traffic flow on major stream **$Q_{L/R}$ – Turning traffic flow*

Table 11: Craig Street / Road A intersection turn warrant assessment

Scenario	Movement	AM Peak			PM Peak		
		Q_m*	$Q_{L./R}$**	Warrant	Q_m*	$Q_{L./R}$**	Warrant
2031 – 60km/h Posted Speed	EB Right	61	2	BAR	58	2	BAR
	WB Left	2	57	BAL	2	54	BAL
2041 – 60km/h Posted Speed	EB Right	61	2	BAR	58	2	BAR
	WB Left	2	57	BAL	2	54	BAL

A turn warrant assessment was conducted for the Craig Street / Bruce Highway intersection in response to the expected increase in vehicle volume from vehicles turning into Craig Street from the Bruce Highway to access the proposed development. The assessment found that the proposed turn warrant treatment for vehicles turning from the Bruce Highway onto Craig Street includes a Channelised Right Turn (short) (CHR(s)) for northbound traffic and a Basic Left Turn (BAL) for southbound traffic. This setup is identical to the existing turn treatments at the intersection, so the added traffic from the proposed development is not expected to significantly affect operational performance. While no changes to the geometric layout of the intersection are proposed from a traffic demand perspective, design reviews suggest that an AUL treatment is recommended for southbound traffic from Bruce Highway instead of a BAL.

As the expected increase in volume due to the proposed development is not significantly high, a basic turn treatment has been proposed from Craig Street onto the proposed development.

6.3.2 Access intersection analysis outputs

The intersection was modelled in SIDRA as per Figure 17, and was assessed with the adjacent intersections as part of a network due to the close spacing.

Assessments were undertaken for the year of opening 2031. The results for the intersection performance are provided in Table 12.

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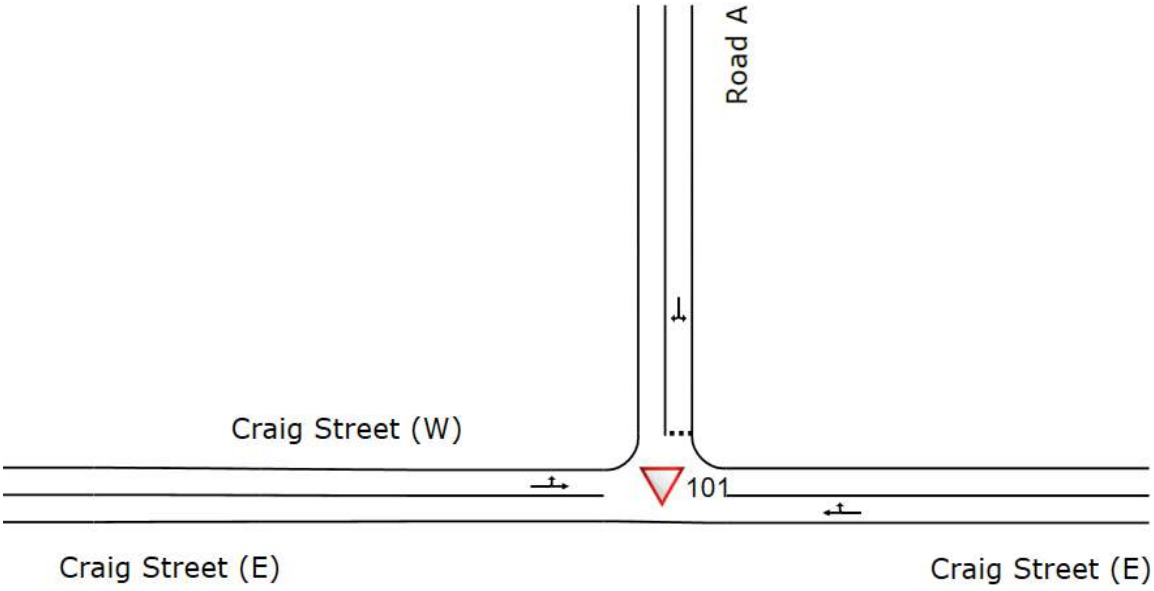


Figure 17: Proposed development access

Table 12: 2031 Craig Street / Proposed Access intersection performance

Intersection	Approach	2031 AM				2031 PM			
		DOS (v/c)	Delay (s)	LOS	Queue (m)	DOS (v/c)	Delay (s)	LOS	Queue (m)
Craig Street / Road A	Craig Street (E)	0	2.9	-	0	0	2.9	-	0
	Road A (N)	0.04	5.8	A	1.1	0.07	5.6	A	1.7
	Craig Street (W)	0.04	5.6	-	0	0.04	5.7	-	0
	Intersection	**0.04**	**5.6**	**-**	**1.1**	**0.07**	**5.6**	**-**	**1.7**

The analysis of the proposed access shows that:

– The intersection operates within practical capacity for both peak periods with additional capacity remaining.
– No queueing issues were observed for both periods
– Intersection operates at LOS A in all scenarios.
– The proposed intersection layout for the proposed development access is suitable to cater for the demands without worsening the safety and efficiency of the adjacent State-Controlled Road network.

Indicative layouts for the BAL and BAR are provided in Figure 18 and Figure 19.

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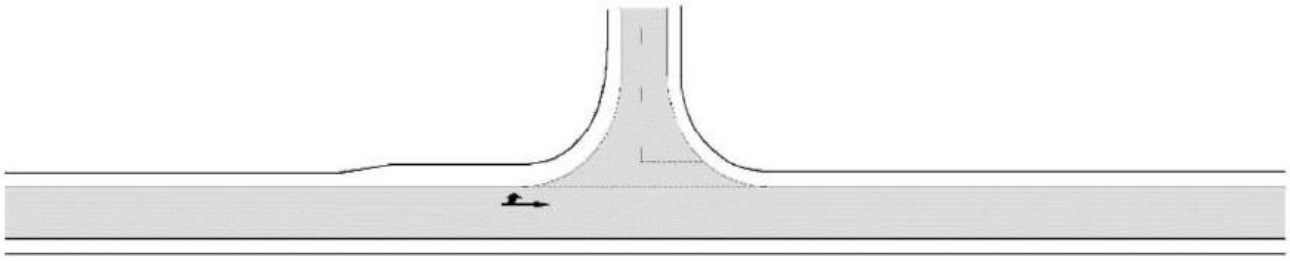


Figure 18: Required BAL configuration
Base Image Source – AGRD19 Part 6

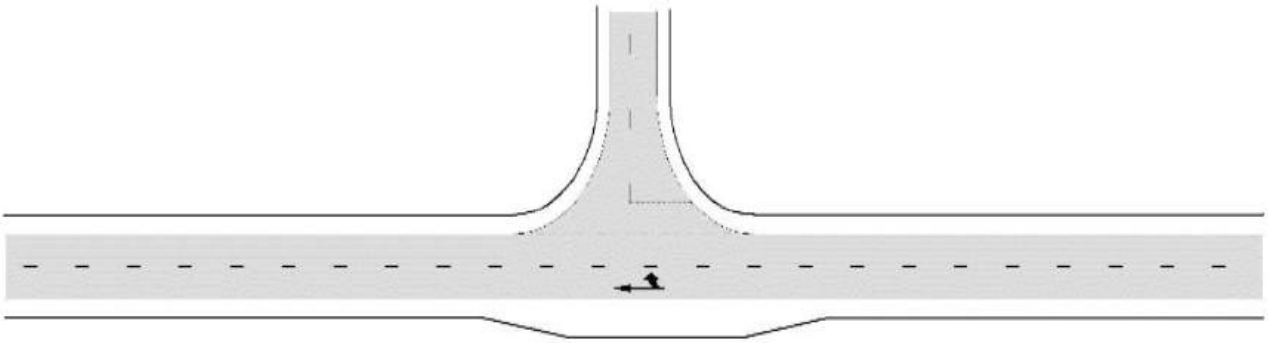


Figure 19: Required BAR configuration
Base Image Source – AGRD19 Part 6

6.4 Intersection delay impacts

As per the GTIA, the impacts to adjacent intersections (excluding development access intersections) where the development traffic exceeds 5% of the base traffic for any movement in the design peak periods must be quantified. Based on the above threshold requirements, the following State-Controlled intersections have been analysed for potential delay impacts due to the proposed development:

1. Bruce Highway / Jones Street
2. Bruce Highway / Bird Street
3. Bruce Highway / Craig Street

Table 13: Intersection delay impacts summary

Intersection	Pre-Development		Post-Development	
	AM (veh. min)	PM (veh. min)	AM (veh. min)	PM (veh. min)
Bruce Highway / Jones Street	33	44	34	48
Bruce Highway / Bird Street	23	27	24	29
Bruce Highway / Craig Street	2	5	3	5
% Impact			**4.5%**	**7.5%**
% Impact (combined peaks)			**6%**	

6.4.1 Mitigation measures

The assessment of the intersection delay impacts has found that the proposed development could have impacts of around 6% to the surrounding network during the peak periods, mostly centred around the Bruce Highway / Jones Street and Bruce Highway / Bird Street intersections.

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It is noted that although the percentage increase exceeds the 5% threshold, the nominal value of the increase is still very low – in the order of 6 – 12minutes in the peak periods. This is largely the result of the extremely low volumes in this area, wherein any increase in volumes results in a high percentage increase.

6.4.1.1 Addressing sources of delay impact

To identify potential measures to mitigate the delay impact, it is important to identify the movements which experience increased delay. Intersection upgrades that target movements that are not expected to experience significant increases in delay due to the development will have limited ability to mitigate the delay impacts.

As shown in Table 13, the overall increase in intersection delay is approximately three vehicle minutes in the AM peak and six vehicle minutes in the PM peak. The main sources of increased delay are:

– Bruce Highway / Jones Street intersection, particularly during the PM peak hour (accounting for four of the six vehicle minutes of delay impact)
– Bruce Highway / Bird Street intersection, which accounts for two vehicle minute of delay impact during the PM peak hour.

Reviewing the Bruce Highway / Jones Street intersection in the PM peak hour, the only movement that experiences significant increased delay is the right turn from Jones Street (to Bruce Highway southbound). This movement already has a dedicated right turn lane provided.

Similarly, consideration of the Bird Street intersection noted that the delay impact is primarily due to the right turn from Bird Street.

In terms of potential measures that could mitigate the increase in delay for the right turn movements, three possibilities were explored, however all were found to be inadequate:

1. Provide additional right turn capacity through a second right turn lane: This is not an appropriate treatment at an unsignalised priority-controlled intersection. Conversion of this intersection to a roundabout or signals was also explored (refer to points 2 and 3 below).
2. Reduce delays for the right turns by upgrading the intersection to a roundabout: While this could reduce the delay for the right turn movements, it would introduce delays to the through movement on the Bruce Highway which is a significantly higher volume. If the through movement at the Jones Street intersection experienced just 0.5 seconds of delay (negligible), the overall intersection delay would increase by over four minutes in the PM peak period (485 vehicles x 0.5 seconds / 60 seconds per minute), which exceeds any potential time saving for the right turn movement. Furthermore, a roundabout treatment would require a significant amount of land which would require resumption of nearby properties, particularly due to the need to connect to the offset side streets.
3. Reduce delays for the right turns by upgrading the intersection to signals: While this could reduce the delay for the right turn movements, it would introduce delays to the through movement on the Bruce Highway which is a significantly higher volume. It is likely that the delays to the through traffic would be even higher than for the roundabout layout.

Noting the above, it was concluded that the there are no reasonable mitigations for the delay impact. Further assessment (refer to Section 6.4.1.2) was undertaken to determine whether mitigations may be needed to address excess delays on specific movements.

6.4.1.2 Future performance

The performance of the adjacent intersections in 2031 with the development has been provided in Table 14. The results shows that there is still a significant amount of capacity remaining in all intersections with minimal delays (less than 10 seconds average intersection delay) and minimal queueing observed.

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Table 14: 2031 intersection performance

Intersection	Approach	2031 AM				2031 PM			
		DOS (v/c)	Delay (s)	LOS	Queue (m)	DOS (v/c)	Delay (s)	LOS	Queue (m)
Bruce Hwy / Jones St	Bruce Hwy (S)	0.1	1	-	0	0.15	1	-	0
	Bruce Hwy (N)	0.14	2	-	5	0.12	2	-	4
	Jones St (W)	0.16	10	A	4	0.31	13	A	10
	Intersection	**0.16**	**3**	**-**	**5**	**0.31**	**4**	**-**	**10**
Bruce Hwy / Bird St	Bruce Hwy (S)	0.09	2	-	2	0.13	1	-	1
	Bird St (E)	0.17	12	A	5	0.22	10	A	6
	Bruce Hwy (N)	0.17	0	-	0	0.15	1	-	0
	Intersection	**0.17**	**2**	**-**	**5**	**0.22**	**2**	**-**	**6**
Bruce Hwy / Craig St	Bruce Hwy (S)	0.12	1	-	1	0.16	1	-	1
	Craig St (E)	0.13	13	A	4	0.2	12	A	5
	Bruce Hwy (N)	0.19	1	-	0	0.19	1	-	0
	Craig St (W)	0.01	9	A	0	0.03	16	B	1
	Intersection	**0.19**	**2**	**-**	**4**	**0.2**	**2**	**-**	**5**

The above data shows that despite the network delay increasing by more than 5%, the intersections are expected to continue to operate well within capacity with low delays in the future.

As there are no reasonable mitigation measures that are suitable to reduce the delay and the increase in delay is not expected to impact the operation of the intersections, no additional mitigation measures are proposed as part of the proposed development.

6.5 Road link capacity assessment

The impact on the state-controlled network due to the traffic generated by the estate is shown in Table 15 below. It should be noted that the development daily traffic is based on a peak day and would likely be lower when accounting for non-peak days such as weekends.

Table 15: Road link capacity assessment – 2031 peak year

Description	0 – 1.6km T-Dist Bruce Highway (between town centre - Craig Street)	1.6 – 2.1km T-Dist Bruce Highway (between Craig - Jones Street)	Jones Street (Heavy Vehicle Bypass)	2.1 – 6.45km T-Dist Bruce Highway (North of Bird Street)
Avg. AADT (5 years)	5,507	5,507	Not Applicable	6,655
Forecast 2031 AADT	5,904	5,904	Not Applicable	7,135
Development Daily Traffic	771	562	336	226
Impact based on AADT	13.1%	9.5%	-	3.2%

As shown in the table above, the proposed industrial estate does impact the immediate surrounding road network with the proportion of traffic above 5% of the background traffic. However, the AADT expected with the development are well within capacity of a two-lane two-way road and no further analysis has been undertaken.

It is noted that the makeup of the development traffic for the section south of Bird Street is largely light vehicles (Class 1) or short vehicle towing (Class 2), and larger heavy vehicles such as B-Doubles are not permitted further south beyond the new proposed access.

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6.6 Transport impact infrastructure assessment

The State-Controlled Road of the Bruce Highway have the following gazetted routes:

– North of Jones Street
  - 1-Tonne Mass Transfer network
  - Higher Mass Limits network
– North of Bird Street
  - B-Double 23m network
  - B-Double 25m/26m network

Due to the gazettal of these heavy and long vehicle types, it is expected that no impacts to structures on the State-Controlled Road, such as culverts, bridges, etc. will be introduced as a result of the development north of Bird Street. The existing section between Bird Street and the proposed access is currently not gazetted for any of the above heavy vehicle routes. This development will seek to extend the existing B-Double network to include the section of the Bruce Highway between Bird Street and the new development as per Figure 20.

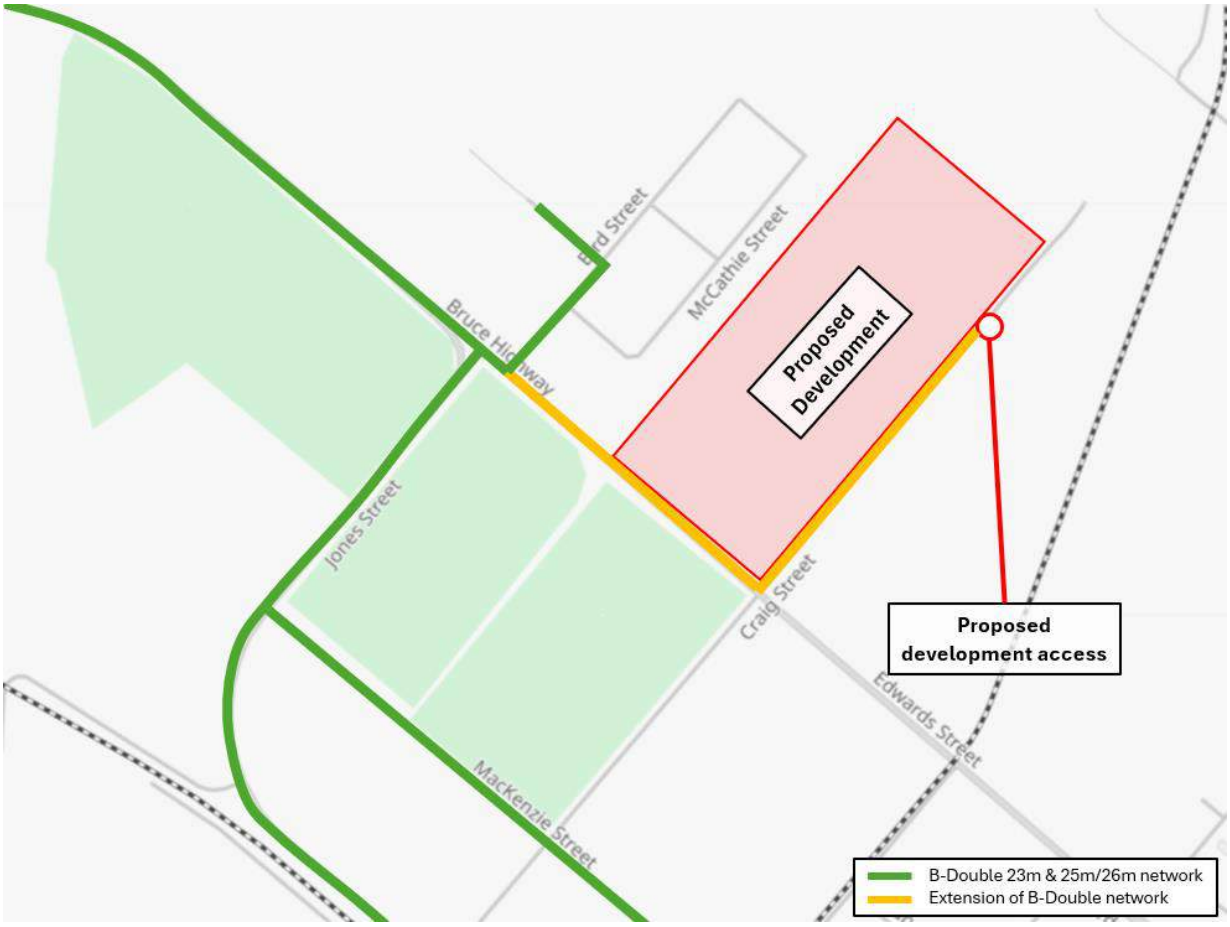


Figure 20: Existing B-Double 23m network

7. Pavement impact assessment

It is assumed that heavy vehicle composition of Bird Street is consistent with what was reported in the 2018 Traffic Impact Assessment for the Ayr Industrial Estate previously prepared by GHD. For the purpose of the pavement impact assessment a 50%/50% split between incoming and outgoing loaded and unloaded heavy vehicles has

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been applied. For this assessment, the loaded vehicles are considered to be carrying 100% of the allowed payload.

The expected heavy vehicle movements per day from the proposed development is provided in Table 16.

Table 16: Industrial estate expected vehicle movements per day

Vehicle Classification	Percentage	HV / Day
Two Axle Truck (Class 3)	68.3%	144
Three Axle Truck (Class 4)	17.4%	37
Four Axle Truck (Class 5)	4.1%	9
Three Axle Articulated Vehicle (Class 6)	0.5%	1
Four Axle Articulated Vehicle (Class 7)	0.9%	2
Five Axle Articulated Vehicle (Class 8)	1.4%	3
Six Axle Articulated Vehicle (Class 9)	3.7%	8
B-Double (Class 10)	3.7%	8
Total Heavy Vehicles	**100%**	**211**

The loading distribution and vehicle SAR's calculations for each heavy vehicle type is provided in Table 17 below.

Table 17: SAR calculation by Austroads heavy vehicle classification (TMR)

Austroads vehicle class	3	4	5	6	7	8	9	10	11	12
Legal Loading (t)	15.0	22.5	27.5	24.0	31.5	39.0	42.5	62.5	79.0	115.5
Base Load per SAR4	13.6	19.2	23.0	21.8	27.4	33.0	37.7	56.2	70.0	102.3
Unloaded Axle Group Load (t)	8.5	9.5	12.5	12.5	13.5	14.5	16.0	22.5	27.5	39.0
Unloaded SAR4	0.54	0.50	0.46	0.60	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)	15.0	22.5	27.5	24.0	31.5	39.0	42.5	62.5	79.0	115.5
Loaded SAR4	2.98	3.57	4.09	4.43	5.02	5.61	4.93	6.30	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	6.60	12.08	17.07	9.65	15.13	20.61	14.63	17.17	25.71	36.79
Payload (t)	6.5	13.0	15.0	11.5	18.0	24.5	26.5	40.0	51.5	76.5

7.1 Impact on State-controlled Road network

A Road Asset Data Request was submitted to TMR in order to obtain more granular and updated AADT information and also marginal cost rates in order to inform the pavement impact assessment. Similar to the previous sections, a conservative 1% growth rate has been used to scale the SAR4 to the design year.

Table 18 below shows the impact of the proposed industrial estate on the Bruce Highway, north and south of the proposed access. For most sections of the Bruce Highway, the developmental impacts are <5%. The only section which exceeds the 5% threshold is the section between the Craig Street and the Jones Street intersection. This is also the same section that the development would be seeking an extension of the B-Double network to cover.

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Table 18: Bruce Highway heavy vehicle impact

Road Name	Direction	Tdist Start	Tdist End	Background SAR4	Development SAR4	Development Impact	5% Impact?
Bruce Highway	Northbound	0	1.6	1416	54	3.8%	No
	Southbound	1.6	0	1341	54	4.0%	No
	Northbound	1.6	2.15	1416	154	**10.8%**	**Yes**
	Southbound	2.15	1.6	1341	154	**11.5%**	**Yes**
	Northbound	2.15	6.45	1674	52	3.1%	No
	Southbound	6.45	2.15	1806	52	2.9%	No

7.2 Pavement contribution

The pavement contribution is determined using the following formula for sections of road where the development SAR's are greater than 5% of the existing background SAR's.

$$Pavement\ Contribution\ (cents) = Marginal\ Cost\ Rate\ \times Length\ of\ Road\ \times Development\ SAR$$

Based Austroads Guide to Traffic Management Part 3, the approximate conversion factor for a daily count to AADT for a rural strategic road is approximately 1.0. This has been used to uplift the daily development SAR4 to a yearly value. The summary of the pavement contribution is provided in Table 19 and is estimated to be **$2,556.78 per year.**

Table 19: Development contribution

#	Direction	Section	Length (km)	Pavement Type	Load damage exponent	Marginal Cost	Development SAR / Year	Development Contribution ($)
1	Northbound	1.6 - 1.7	0.1	AC	5	5.79	56,045	$324.50
2	Northbound	1.7 – 1.8	0.1	AC	5	4.07	56,045	$228.10
3	Northbound	1.8 – 1.9	0.1	AC	5	3.4	56,045	$190.55
4	Northbound	1.9 - 2	0.1	AC	5	4.41	56,045	$247.16
5	Northbound	2 - 2.1	0.1	AC	5	5.14	56,045	$288.07
6	Southbound	1.6 – 1.7	0.1	AC	5	5.79	56,045	$324.50
7	Southbound	1.7 – 1.8	0.1	AC	5	4.07	56,045	$228.10
8	Southbound	1.8 - 1.9	0.1	AC	5	3.4	56,045	$190.55
9	Southbound	1.9 - 2	0.1	AC	5	4.41	56,045	$247.16
10	Southbound	2 - 2.1	0.1	AC	5	5.14	56,045	$288.07
Total Pavement Contribution								**$2,556.78**

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8. Conclusion and recommendations

This report summarises the findings from the TIA undertaken to inform and understanding of traffic impacts of the proposed Stage 1 development at the Ayr Industrial Estate. The critical findings from the assessment include:

- The typical traffic generation for the proposed development is expected to be approximately 103 vehicles in the AM peak, 135 vehicles in the PM peak and 1,333 daily vehicles.
- All intersections within the impact area of the proposed development currently operate within capacity and acceptable performance thresholds and will still do so even with the proposed development.
- The safety assessment identified a key safety risk item on the network at the proposed access location. Recommended mitigation measures are expected to lower the likelihood or severities identified; these include:
    - Trees along the Bruce Highway may cause potential sight distance issues from the eastern approach of Craig Street, however addressable in detailed design with appropriate surveys
- The turn warrant assessment for the Craig Street / Bruce Highway intersection shows that the proposed turn treatments is a Channelised Right Turn (CHR(s)) for the northbound direction and a Basic Left Turn (BAL) for southbound traffic. This aligns with existing treatments at the Craig Street / Bruce Highway intersection and the intersection analysis indicates that the additional development traffic will not significantly affect the operational performance.
- However, based on the design review, an Auxiliary Left Turn (AUL) is recommended instead of a BAL for the southbound direction due to the design vehicle swept path checks.
- For the Craig Street / Proposed Development Access, given the moderate traffic increase, a basic turn treatment is proposed for vehicles turning from Craig Street into the development.
- The intersection delay impact assessment reveals that the impact of the development is approximately 6%. Although this exceeds the 5% threshold, the nominal value of the increase is still very low, in the order of 6 to 12 minutes in the peak periods. The per cent increase is largely due to the extremely low volumes in the road network. A series of potential upgrades have also been evaluated, however none of which are reasonable mitigation measures from a land resumption or additional delay perspective.
- The road link assessment identified that the Bruce Highway section between Queen Street and the Jones Street intersection (Tdist 0 – 2.15km) is likely to experience an increase in traffic of greater than 5%, however the extra demand is well within the capacity of a two-lane two-way road.
- The transport infrastructure assessment found that there is a culvert along the Bruce Highway between Road A and Jones Street. Given that the Bruce Highway (north of Bird Street / Jones Street) is already a gazetted B-Double route, the proposed development is not expected to cause any additional impacts in that section. It is noted that the proposed development would be seeking to extend the B-Double route from the Bruce Highway / Jones Street intersection to the proposed access on Craig Street, and a conditions assessment should be undertaken for this section.
- The pavement impact assessment reveals that the developmental impacts will be higher than 5% for the section of the Bruce Highway between the Bruce Highway / Craig Street intersection and the Bruce Highway / Jones Street intersection. The pavement contribution is estimated to be $2,556.78 per year.

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Appendices

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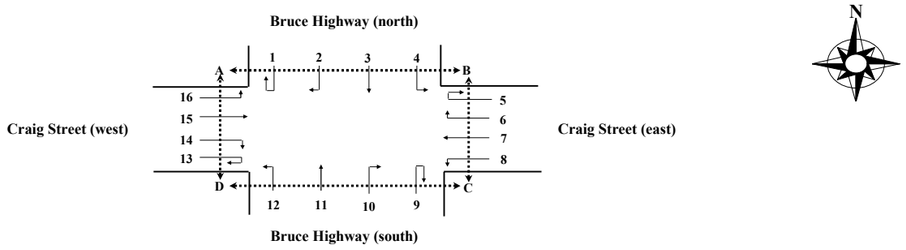
Appendix A

Traffic Survey

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AUSTRAFFIC INTERSECTION COUNT

Site No.: 2 **Weather:** Fine
Location: Bruce Highway/Craig Street, Ayr
Day/Date: Thursday, 18 July 2024
AM Peak: *Hour ending - 9:00 AM*
PM Peak: *Hour ending - 4:15 PM*



TIME (1/4 hr end)	Movement 1				Movement 2				Movement 3				Movement 4				Movement 5				Movement 6				Movement 7				Movement 8			
	Light Vehicles	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*
12:15 AM	0	0	**0**	0	0	0	**0**	0	3	0	**3**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
12:30 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
12:45 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
1:00 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
1:15 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
1:30 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
1:45 AM	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
2:00 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
2:15 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
2:30 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
2:45 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
3:00 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
3:15 AM	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
3:30 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
3:45 AM	0	0	**0**	0	0	0	**0**	0	1	1	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
4:00 AM	0	0	**0**	0	0	0	**0**	0	7	0	**7**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
4:15 AM	0	0	**0**	0	0	0	**0**	0	2	2	**4**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
4:30 AM	0	0	**0**	0	0	0	**0**	0	3	0	**3**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
4:45 AM	0	0	**0**	0	0	0	**0**	0	6	0	**6**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
5:00 AM	0	0	**0**	0	0	0	**0**	0	5	0	**5**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
5:15 AM	0	0	**0**	0	0	0	**0**	0	6	0	**6**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
5:30 AM	0	0	**0**	0	0	0	**0**	0	9	3	**12**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
5:45 AM	0	0	**0**	0	0	1	**1**	0	11	1	**12**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
6:00 AM	0	0	**0**	0	0	0	**0**	0	12	1	**13**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
6:15 AM	0	0	**0**	0	0	0	**0**	0	12	2	**14**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
6:30 AM	0	0	**0**	0	1	0	**1**	0	18	3	**21**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0
6:45 AM	0	0	**0**	0	0	0	**0**	0	23	1	**24**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	2	0	**2**	0	1	2	**3**	0
7:00 AM	0	0	**0**	0	0	0	**0**	0	28	1	**29**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0
7:15 AM	0	0	**0**	0	0	0	**0**	0	24	5	**29**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0
7:30 AM	0	0	**0**	0	1	0	**1**	0	25	3	**28**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
7:45 AM	0	0	**0**	0	0	2	**2**	0	31	5	**36**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	1	0	**1**	0
8:00 AM	0	0	**0**	0	1	0	**1**	0	51	7	**58**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
8:15 AM	0	0	**0**	0	1	0	**1**	0	75	4	**79**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
8:30 AM	0	0	**0**	0	2	0	**2**	0	79	10	**89**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
8:45 AM	0	0	**0**	0	1	0	**1**	0	57	2	**59**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0
9:00 AM	0	0	**0**	0	0	0	**0**	0	61	2	**63**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
9:15 AM	0	0	**0**	0	2	1	**3**	0	47	3	**50**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
9:30 AM	0	0	**0**	0	1	1	**2**	0	49	1	**50**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
9:45 AM	0	0	**0**	0	2	1	**3**	0	51	2	**53**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
10:00 AM	0	0	**0**	0	1	0	**1**	0	46	2	**48**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
10:15 AM	0	0	**0**	0	2	1	**3**	0	50	3	**53**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
10:30 AM	0	0	**0**	0	1	0	**1**	0	45	4	**49**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
10:45 AM	0	0	**0**	0	2	0	**2**	0	51	4	**55**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
11:00 AM	0	0	**0**	0	0	0	**0**	0	59	3	**62**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
11:15 AM	0	0	**0**	0	2	0	**2**	0	61	6	**67**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
11:30 AM	0	0	**0**	0	1	0	**1**	0	51	3	**54**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
11:45 AM	0	0	**0**	0	1	0	**1**	0	56	3	**59**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
12:00 PM	0	0	**0**	0	1	1	**2**	0	51	4	**55**	0	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	0	0	**0**	0
12:15 PM	0	0	**0**	0	4	0	**4**	0	74	5	**79**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
12:30 PM	0	0	**0**	0	2	0	**2**	0	48	2	**50**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0
12:45 PM	0	1	**1**	0	1	0	**1**	0	54	0	**54**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
1:00 PM	0	0	**0**	0	1	0	**1**	0	53	3	**56**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
1:15 PM	0	0	**0**	0	1	0	**1**	0	51	2	**53**	1	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0
1:30 PM	0	0	**0**	0	0	0	**0**	0	49	5	**54**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
1:45 PM	0	0	**0**	0	1	2	**3**	0	55	4	**59**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0
2:00 PM	0	0	**0**	0	0	0	**0**	0	51	7	**58**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
2:15 PM	0	0	**0**	0	0	0	**0**	0	38	6	**44**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
2:30 PM	0	0	**0**	0	2	1	**3**	0	46	6	**52**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0

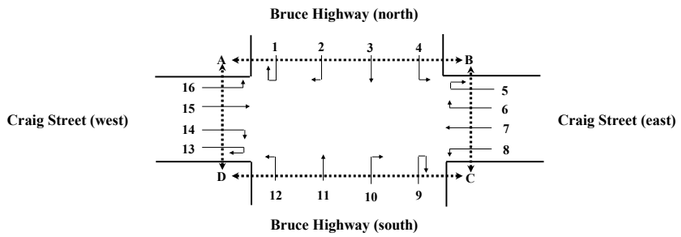
Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

2:45 PM	0	0	**0**	0	1	0	**1**	0	51	5	**56**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
3:00 PM	0	0	**0**	0	4	0	**4**	0	73	5	**78**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
3:15 PM	0	0	**0**	0	3	0	**3**	0	94	2	**96**	1	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
3:30 PM	0	0	**0**	0	3	0	**3**	0	49	0	**49**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
3:45 PM	0	0	**0**	0	1	1	**2**	1	60	4	**64**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0
4:00 PM	0	0	**0**	0	2	0	**2**	0	53	4	**57**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0
4:15 PM	0	0	**0**	0	1	0	**1**	0	117	3	**120**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
4:30 PM	0	0	**0**	0	1	0	**1**	0	59	4	**63**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
4:45 PM	0	0	**0**	0	0	0	**0**	0	67	1	**68**	0	1	0	**1**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	1	**1**	0
5:00 PM	0	0	**0**	0	2	0	**2**	0	59	4	**63**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0
5:15 PM	0	0	**0**	0	3	0	**3**	0	76	1	**77**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0
5:30 PM	0	0	**0**	0	2	0	**2**	0	47	1	**48**	1	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0
5:45 PM	0	0	**0**	0	0	0	**0**	0	55	1	**56**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
6:00 PM	0	0	**0**	0	1	0	**1**	0	50	1	**51**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
6:15 PM	0	0	**0**	0	0	0	**0**	0	46	2	**48**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
6:30 PM	0	0	**0**	0	1	0	**1**	0	34	1	**35**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
6:45 PM	0	0	**0**	0	0	0	**0**	0	33	2	**35**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
7:00 PM	0	0	**0**	0	0	0	**0**	0	24	2	**26**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
7:15 PM	0	0	**0**	0	0	0	**0**	0	13	1	**14**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
7:30 PM	0	0	**0**	0	0	0	**0**	0	11	1	**12**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
7:45 PM	0	0	**0**	0	0	0	**0**	0	13	1	**14**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
8:00 PM	0	0	**0**	0	0	0	**0**	0	12	0	**12**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
8:15 PM	0	0	**0**	0	0	0	**0**	0	11	0	**11**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
8:30 PM	0	0	**0**	0	0	0	**0**	0	11	0	**11**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
8:45 PM	0	0	**0**	0	0	0	**0**	0	7	1	**8**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
9:00 PM	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
9:15 PM	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
9:30 PM	0	0	**0**	0	0	0	**0**	0	5	0	**5**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
9:45 PM	0	0	**0**	0	0	0	**0**	0	7	0	**7**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
10:00 PM	0	0	**0**	0	0	0	**0**	0	4	0	**4**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
10:15 PM	0	0	**0**	0	0	0	**0**	0	6	1	**7**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
10:30 PM	0	0	**0**	0	0	0	**0**	0	3	1	**4**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0
10:45 PM	0	0	**0**	0	0	0	**0**	0	6	0	**6**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
11:00 PM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
11:15 PM	1	0	**1**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
11:30 PM	0	0	**0**	0	0	0	**0**	0	3	0	**3**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
11:45 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
12:00 AM	0	0	**0**	0	0	0	**0**	0	3	1	**4**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
24 hr Total	**1**	**1**	**2**	**0**	**61**	**12**	**73**	**1**	**2860**	**184**	**3044**	**3**	**6**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**4**	**3**	**7**	**0**	**9**	**1**	**10**	**0**	**20**	**5**	**25**	**0**
AM Peak	**0**	**0**	**0**	**0**	**4**	**0**	**4**	**0**	**272**	**18**	**290**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
PM Peak	**0**	**0**	**0**	**0**	**7**	**1**	**8**	**1**	**279**	**11**	**290**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

AUSTRAFFIC INTERSECTION COUNT

Site No.: 2 **Weather:** Fine
Location: Bruce Highway/Craig Street, Ayr
Day/Date: Thursday, 18 July 2024
AM Peak: *Hour ending - 9:00 AM*
PM Peak: *Hour ending - 4:15 PM*



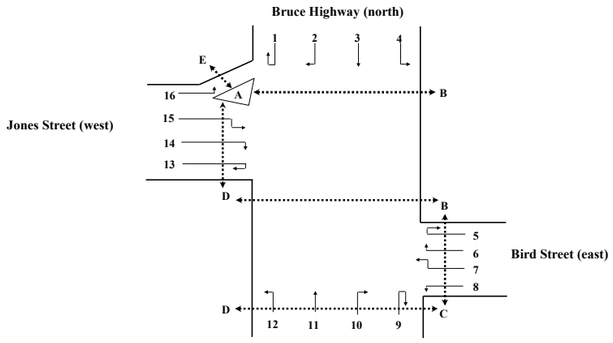
TIME (1/4 hr end)	Movement 9				Movement 10				Movement 11				Movement 12				Movement 13				Movement 14				Movement 15				Movement 16				Pedestrian Movements													
																																	A - B		B - A		B - C		C - B		C - D		D - C		D - A		A - D	
	Light Vehicles	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*
12:15 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	**0**	0	0	0	**0**	0	2	1	**3**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	**0**	0	0	0	**0**	0	3	1	**4**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	**0**	0	0	0	**0**	0	4	0	**4**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	**0**	0	0	0	**0**	0	5	0	**5**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	**0**	0	0	0	**0**	0	6	1	**7**	1	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	**0**	0	0	0	**0**	0	6	1	**7**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	**0**	0	0	0	**0**	0	5	1	**6**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	**0**	0	0	0	**0**	0	12	1	**13**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	**0**	0	0	0	**0**	0	14	0	**14**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	**0**	0	0	0	**0**	0	32	2	**34**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	**0**	0	0	0	**0**	0	56	0	**56**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	**0**	0	0	0	**0**	0	53	0	**53**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	**0**	0	0	0	**0**	0	35	1	**36**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	**0**	0	0	0	**0**	0	40	0	**40**	1	0	0	**0**	0	0	0	**0**	0	1	0	**1**	1	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	**0**	0	0	0	**0**	0	58	3	**61**	1	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	3	**3**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	**0**	0	1	0	**1**	0	67	1	**68**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	**0**	0	0	0	**0**	0	43	2	**45**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	1	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	**0**	0	0	0	**0**	0	25	4	**29**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	**0**	0	0	0	**0**	0	34	7	**41**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	**0**	0	1	0	**1**	0	43	4	**47**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	2	1	**3**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	**0**	0	0	0	**0**	0	50	2	**52**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	**0**	0	0	0	**0**	0	49	3	**52**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	**0**	0	0	0	**0**	0	51	1	**52**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	**0**	0	2	0	**2**	0	50	4	**54**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	**0**	0	0	0	**0**	0	53	2	**55**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	**0**	0	0	0	**0**	0	38	0	**38**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	**0**	0	1	0	**1**	0	49	1	**50**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	**0**	0	1	0	**1**	0	44	2	**46**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	**0**	0	0	0	**0**	0	48	3	**51**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	**0**	0	1	0	**1**	0	50	2	**52**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	**0**	0	0	0	**0**	0	48	4	**52**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	1	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	**0**	0	1	0	**1**	0	53	6	**59**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	**0**	0	0	0	**0**	0	32	3	**35**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	**0**	0	1	0	**1**	0	38	2	**40**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	**0**	0	0	0	**0**	0	51	6	**57**	0	1	0	**1**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	**0**	0	0	0	**0**	0	52	2	**54**	0	1	0	**1**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	**0**	0	0	0	**0**	0	72	3	**75**	0	1	0	**1**	0	0	0	**0**	0	1	0	**1**	0	0	2	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	**0**	0	3	0	**3**	0	48	6	**54**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	**0**	0	1	0	**1**	0	61	3	**64**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	**0**	0	0	0	**0**	0	54	7	**61**	0	1	1	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	**0**	0	0	0	**0**	0	45	0	**45**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	**0**	0	0	0	**0**	0	54	4	**58**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	**0**	0	0	0	**0**	0	49	2	**51**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	**0**	0	0	0	**0**	0	44	0	**44**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	0	3	**3**	1	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	**0**	0	0	0	**0**	0	58	5	**63**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	1	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	**0**	0	1	0	**1**	0	47	5	**52**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	2	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	**0**	0	0	0	**0**	0	44	5	**49**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	1	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

| | | |

AUSTRAFFIC INTERSECTION COUNT

Site No.: 1 **Weather:** Fine
Location: Bruce Highway/Jones Street/Bird Street, Ayr
Day/Date: Thursday, 18 July 2024
AM Peak: *Hour ending - 9:00 AM*
PM Peak: *Hour ending - 4:15 PM*





TIME (1/4 hr end)	Movement 1				Movement 2				Movement 3				Movement 4				Movement 5				Movement 6				Movement 7				Movement 8			
	Light Vehicles	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*
12:15 AM	0	0	**0**	0	0	3	**3**	0	3	0	**3**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
12:30 AM	0	0	**0**	0	2	2	**4**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
12:45 AM	0	0	**0**	0	0	2	**2**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
1:00 AM	0	0	**0**	0	0	2	**2**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
1:15 AM	0	0	**0**	0	0	3	**3**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0
1:30 AM	0	0	**0**	0	1	2	**3**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
1:45 AM	0	0	**0**	0	2	0	**2**	0	0	1	**1**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
2:00 AM	0	0	**0**	0	0	2	**2**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
2:15 AM	0	0	**0**	0	0	3	**3**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
2:30 AM	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	2	**2**	0	1	0	**1**	0
2:45 AM	0	0	**0**	0	1	1	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0
3:00 AM	0	0	**0**	0	0	3	**3**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
3:15 AM	0	0	**0**	0	1	1	**2**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
3:30 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0
3:45 AM	0	0	**0**	0	0	2	**2**	0	1	1	**2**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0
4:00 AM	0	0	**0**	0	1	1	**2**	0	7	0	**7**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0
4:15 AM	0	0	**0**	0	6	1	**7**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0
4:30 AM	0	0	**0**	0	2	2	**4**	0	2	0	**2**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
4:45 AM	0	0	**0**	0	7	2	**9**	0	5	0	**5**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0
5:00 AM	0	0	**0**	0	2	4	**6**	0	5	0	**5**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0
5:15 AM	0	0	**0**	0	8	5	**13**	0	6	0	**6**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
5:30 AM	0	0	**0**	0	4	6	**10**	0	9	3	**12**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0
5:45 AM	0	0	**0**	0	6	6	**12**	0	9	1	**10**	0	2	1	**3**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	2	0	**2**	0
6:00 AM	0	0	**0**	0	3	7	**10**	0	14	1	**15**	0	2	0	**2**	0	0	0	**0**	0	0	1	**1**	0	1	3	**4**	0	1	0	**1**	0
6:15 AM	0	0	**0**	0	8	7	**15**	0	9	2	**11**	0	2	2	**4**	0	0	0	**0**	0	0	1	**1**	0	1	2	**3**	0	0	1	**1**	0
6:30 AM	0	0	**0**	0	7	8	**15**	0	17	3	**20**	0	2	0	**2**	0	0	0	**0**	0	0	1	**1**	0	2	3	**5**	0	3	0	**3**	0
6:45 AM	0	0	**0**	0	10	6	**16**	0	22	0	**22**	0	7	1	**8**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0
7:00 AM	0	0	**0**	0	10	10	**20**	0	25	0	**25**	0	4	0	**4**	0	0	0	**0**	0	0	2	**2**	0	4	0	**4**	0	3	1	**4**	0
7:15 AM	0	0	**0**	0	6	3	**9**	0	21	4	**25**	0	1	0	**1**	0	0	0	**0**	0	0	1	**1**	0	1	2	**3**	0	3	1	**4**	0
7:30 AM	0	0	**0**	0	9	8	**17**	0	23	1	**24**	0	4	0	**4**	0	0	0	**0**	0	1	0	**1**	0	1	3	**4**	0	2	0	**2**	0
7:45 AM	0	0	**0**	0	10	7	**17**	0	26	3	**29**	0	2	1	**3**	0	0	0	**0**	0	1	1	**2**	0	0	1	**1**	0	5	2	**7**	0
8:00 AM	0	0	**0**	0	12	7	**19**	0	46	4	**50**	0	6	1	**7**	0	0	0	**0**	0	3	0	**3**	0	0	1	**1**	0	7	1	**8**	0
8:15 AM	0	0	**0**	0	15	12	**27**	0	68	4	**72**	0	4	1	**5**	0	0	0	**0**	0	5	0	**5**	0	2	3	**5**	0	6	1	**7**	0
8:30 AM	0	0	**0**	0	14	3	**17**	0	79	5	**84**	0	3	1	**4**	0	0	0	**0**	0	2	0	**2**	0	9	3	**12**	0	4	2	**6**	0
8:45 AM	0	0	**0**	0	24	6	**30**	0	43	1	**44**	0	2	0	**2**	0	0	0	**0**	0	2	0	**2**	0	3	1	**4**	0	12	1	**13**	0
9:00 AM	0	0	**0**	0	11	15	**26**	0	54	1	**55**	0	1	1	**2**	0	0	0	**0**	0	1	0	**1**	0	2	0	**2**	0	8	0	**8**	0
9:15 AM	0	0	**0**	0	17	7	**24**	0	41	1	**42**	0	3	1	**4**	0	0	0	**0**	0	3	0	**3**	0	4	2	**6**	0	8	3	**11**	0
9:30 AM	0	0	**0**	0	15	13	**28**	0	38	1	**39**	0	4	0	**4**	0	0	0	**0**	0	1	1	**2**	0	1	5	**6**	0	11	1	**12**	0
9:45 AM	0	0	**0**	0	20	10	**30**	0	48	2	**50**	0	1	1	**2**	0	0	0	**0**	0	2	1	**3**	0	3	1	**4**	0	7	1	**8**	0
10:00 AM	0	0	**0**	0	12	8	**20**	0	53	2	**55**	0	2	0	**2**	0	0	0	**0**	0	2	2	**4**	0	2	1	**3**	0	8	0	**8**	0
10:15 AM	0	0	**0**	0	18	6	**24**	0	44	1	**45**	0	3	1	**4**	0	0	0	**0**	0	3	0	**3**	0	1	0	**1**	0	7	2	**9**	0
10:30 AM	0	0	**0**	0	17	8	**25**	0	39	3	**42**	0	2	2	**4**	0	0	0	**0**	0	7	1	**8**	0	3	1	**4**	0	11	1	**12**	0
10:45 AM	0	0	**0**	0	16	7	**23**	0	44	2	**46**	0	1	0	**1**	0	0	0	**0**	0	2	0	**2**	0	2	0	**2**	0	4	1	**5**	0
11:00 AM	0	0	**0**	0	12	7	**19**	0	45	1	**46**	0	5	1	**6**	0	0	0	**0**	0	1	1	**2**	0	3	1	**4**	0	13	2	**15**	0
11:15 AM	0	0	**0**	0	22	5	**27**	0	51	5	**56**	0	2	1	**3**	0	0	0	**0**	0	0	0	**0**	0	3	2	**5**	0	11	1	**12**	0
11:30 AM	0	0	**0**	0	20	9	**29**	0	38	1	**39**	0	4	0	**4**	0	0	0	**0**	0	2	0	**2**	0	2	2	**4**	0	10	1	**11**	0
11:45 AM	0	0	**0**	0	13	2	**15**	0	46	2	**48**	0	5	0	**5**	0	0	0	**0**	0	2	1	**3**	0	5	2	**7**	0	11	0	**11**	0
12:00 PM	0	0	**0**	0	9	9	**18**	0	45	0	**45**	0	3	1	**4**	0	0	0	**0**	0	1	1	**2**	0	3	0	**3**	0	8	2	**10**	0
12:15 PM	0	0	**0**	0	18	6	**24**	0	47	3	**50**	0	2	0	**2**	0	0	0	**0**	0	5	1	**6**	0	5	0	**5**	0	28	1	**29**	0
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12:45 PM	0	0	**0**	0	10	5	**15**	0	38	1	**39**	0	2	2	**4**	0	0	0	**0**	0	2	0	**2**	0	1	1	**2**	0	15	0	**15**	0
1:00 PM	0	0	**0**	0	13	7	**20**	0	49	2	**51**	0	4	1	**5**	0	0	0	**0**	0	2	1	**3**	0	2	2	**4**	0	5	1	**6**	0
1:15 PM	0	0	**0**	0	14	8	**22**	0	41	2	**43**	0	0	1	**1**	0	0	0	**0**	0	4	1	**5**	0	2	0	**2**	0	11	0	**11**	1
1:30 PM	0	0	**0**	0	12	6	**18**	0	43	4	**47**	0	3	1	**4**	0	0	0	**0**	0	2	0	**2**	0	2	1	**3**	0	7	0	**7**	0
1:45 PM	0	0	**0**	0	21	9	**30**	0	45	3	**48**	0	2	0	**2**	0	0	0	**0**	0	3	1	**4**	0	1	2	**3**	0	10	2	**12**	0
2:00 PM	0	0	**0**	0	20	10	**30**	0	39	5	**44**	0	2	0	**2**	0	0	0	**0**	0	3	0	**3**	0	5	2	**7**	0	12	1	**13**	0
2:15 PM	0	0	**0**	0	13	3	**16**	0	29	6	**35**	0	0	2	**2**	0	0	0	**0**	0	1	1	**2**	0	5	0	**5**	0	7	1	**8**	0
2:30 PM	0	0	**0**	0	13	3	**16**	0	37	5	**42**	0	1	3	**4**	0	0	0	**0**	0	2	0	**2**	0	5	0	**5**	0	8	1	**9**	0
2:45 PM	0	0	**0**	0	11	12	**23**	0	40	4	**44**	0	6	2	**8**	0	0	0	**0**	0	3	3	**6**	0	3	1	**4**	0	15	1	**16**	0
3:00 PM	0	0	**0**	0	13	7	**20**	0	57	3	**60**	0	0	0	**0**	0	0	0	**0**	0	5	3	**8**	0	5	1	**6**	0	15	2	**17**	0
3:15 PM	0	0	**0**	0	13	8	**21**	0	64	0	**64**	0	1	1	**2**	0	0	0	**0**	0	9	3	**12**	0	7	1	**8**	0	30	0	**30**	0
3:30 PM	0	0	**0**	0	6	7	**13**	0	40	0	**40**	0	3	2	**5**	0	0	0	**0**	0	2	0	**2**	0	4	0	**4**	0	9	0	**9**	0
3:45 PM	0	0	**0**	0	16	7	**23**	0	49	4	**53**	0	2	0	**2**	0	0	0	**0**	0	4	0	**4**	0	2	2	**4**	0	14	1	**15**	1

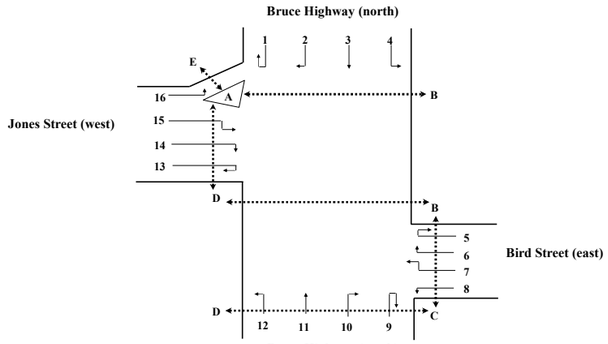
Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

4:00 PM	0	0	**0**	0	20	12	**32**	0	36	3	**39**	0	1	0	**1**	0	0	0	**0**	0	3	0	**3**	0	4	1	**5**	0	21	1	**22**	0
4:15 PM	0	0	**0**	0	14	3	**17**	0	72	2	**74**	0	2	1	**3**	0	0	0	**0**	0	4	0	**4**	0	9	2	**11**	0	28	0	**28**	0
4:30 PM	0	0	**0**	0	17	3	**20**	0	49	3	**52**	0	2	1	**3**	0	0	0	**0**	0	4	0	**4**	0	2	0	**2**	0	11	1	**12**	0
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5:15 PM	0	0	**0**	0	8	1	**9**	0	55	1	**56**	0	1	0	**1**	0	0	0	**0**	0	9	0	**9**	0	7	1	**8**	0	23	0	**23**	0
5:30 PM	0	0	**0**	0	11	3	**14**	0	40	1	**41**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	7	0	**7**	1
5:45 PM	0	0	**0**	0	10	4	**14**	0	50	0	**50**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	6	1	**7**	0
6:00 PM	0	0	**0**	0	7	2	**9**	0	44	2	**46**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	1	1	**2**	0	6	0	**6**	0
6:15 PM	0	0	**0**	0	5	7	**12**	0	43	0	**43**	0	1	1	**2**	0	0	0	**0**	0	3	0	**3**	0	0	0	**0**	0	3	1	**4**	0
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6:45 PM	0	0	**0**	0	2	7	**9**	0	27	1	**28**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	6	1	**7**	0
7:00 PM	0	0	**0**	0	4	4	**8**	0	21	2	**23**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	3	0	**3**	0
7:15 PM	0	0	**0**	0	4	4	**8**	0	12	1	**13**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0
7:30 PM	0	0	**0**	0	3	4	**7**	0	9	1	**10**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	2	0	**2**	0
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8:00 PM	0	0	**0**	0	4	2	**6**	0	10	0	**10**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
8:15 PM	0	0	**0**	0	1	2	**3**	0	11	0	**11**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	1	0	**1**	0
8:30 PM	0	0	**0**	0	1	2	**3**	0	10	0	**10**	0	1	0	**1**	0	0	0	**0**	0	0	1	**1**	0	1	0	**1**	0	0	0	**0**	0
8:45 PM	0	0	**0**	0	3	2	**5**	0	5	1	**6**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	2	0	**2**	0
9:00 PM	0	0	**0**	0	1	4	**5**	0	0	2	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
9:15 PM	0	0	**0**	0	2	1	**3**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
9:30 PM	0	0	**0**	0	2	2	**4**	0	4	0	**4**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
9:45 PM	0	0	**0**	0	5	2	**7**	0	5	0	**5**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0
10:00 PM	0	0	**0**	0	1	3	**4**	0	4	0	**4**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
10:15 PM	0	0	**0**	0	2	1	**3**	0	6	0	**6**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	1	**1**	0	0	0	**0**	0
10:30 PM	0	0	**0**	0	2	0	**2**	0	3	1	**4**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0
10:45 PM	0	0	**0**	0	3	1	**4**	0	6	0	**6**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
11:00 PM	0	0	**0**	0	0	2	**2**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
11:15 PM	0	0	**0**	0	1	1	**2**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
11:30 PM	0	0	**0**	0	1	2	**3**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0
11:45 PM	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
12:00 AM	0	0	**0**	0	4	2	**6**	0	1	1	**2**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	2	0	**2**	0
24 hr Total	**0**	**0**	**0**	**0**	**759**	**454**	**1213**	**0**	**2373**	**126**	**2499**	**0**	**121**	**39**	**160**	**0**	**0**	**0**	**0**	**0**	**120**	**38**	**158**	**0**	**152**	**66**	**218**	**0**	**519**	**43**	**562**	**3**
AM Peak	**0**	**0**	**0**	**0**	**64**	**36**	**100**	**0**	**244**	**11**	**255**	**0**	**10**	**3**	**13**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**10**	**0**	**16**	**7**	**23**	**0**	**30**	**4**	**34**	**0**
PM Peak	**0**	**0**	**0**	**0**	**56**	**29**	**85**	**0**	**197**	**9**	**206**	**0**	**8**	**3**	**11**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**13**	**0**	**19**	**5**	**24**	**0**	**72**	**2**	**74**	**1**

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

AUSTRAFFIC INTERSECTION COUNT

Site No.: 1 **Weather:** Fine
Location: Bruce Highway/Jones Street/Bird Street, Ayr
Day/Date: Thursday, 18 July 2024
AM Peak: *Hour ending - 9:00 AM*
PM Peak: *Hour ending - 4:15 PM*





TIME (1/4 hr end)	Movement 9				Movement 10				Movement 11				Movement 12				Movement 13				Movement 14				Movement 15				Movement 16				Pedestrian Movements																	
																															A - B		B - A		B - C		C - B		C - D		D - C		D - A		A - D		A - E		E - A		D - B		B - D	
	Light Vehicles	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*
12:15 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	5	**7**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	1	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	**0**	0	0	0	**0**	0	2	1	**3**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	1	**3**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	1	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	**0**	0	1	0	**1**	0	2	1	**3**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	2	5	**7**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	7	0	**7**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	**0**	0	1	0	**1**	0	3	0	**3**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	1	**3**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	**0**	0	1	0	**1**	0	4	0	**4**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	2	**4**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	**0**	0	1	0	**1**	0	5	1	**6**	0	0	0	**0**	1	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	4	**4**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	3	1	**4**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	**0**	0	0	0	**0**	0	5	1	**6**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	4	**4**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	**0**	0	0	0	**0**	0	6	1	**7**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	3	**3**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	**0**	0	4	0	**4**	0	7	1	**8**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	4	6	**10**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	**0**	0	2	0	**2**	0	10	0	**10**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	6	4	**10**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	**0**	0	4	0	**4**	0	29	2	**31**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	7	4	**11**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	**0**	0	8	0	**8**	0	46	0	**46**	0	1	0	**1**	0	0	0	**0**	0	0	1	**1**	0	3	0	**3**	0	11	4	**15**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	**0**	0	16	0	**16**	0	33	0	**33**	0	5	0	**5**	0	0	0	**0**	0	0	0	**0**	0	6	0	**6**	0	7	3	**10**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	**0**	0	6	0	**6**	0	26	1	**27**	0	3	0	**3**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	8	4	**12**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	**0**	0	14	0	**14**	0	25	0	**25**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	8	0	**8**	0	7	5	**12**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	**0**	0	21	0	**21**	1	32	0	**32**	0	9	2	**11**	0	0	0	**0**	0	0	0	**0**	0	2	2	**4**	0	5	5	**10**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	**0**	0	27	1	**28**	1	28	1	**29**	0	9	1	**10**	0	0	0	**0**	0	0	0	**0**	0	8	0	**8**	0	12	7	**19**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	**0**	0	12	0	**12**	0	28	2	**30**	0	5	1	**6**	0	0	0	**0**	0	0	0	**0**	0	6	1	**7**	0	10	5	**15**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	**0**	0	8	0	**8**	0	17	1	**18**	0	0	0	**0**	0	0	0	**0**	0	1	3	**4**	0	2	0	**2**	0	13	7	**20**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	**0**	0	9	2	**11**	0	27	7	**34**	0	1	1	**2**	0	0	0	**0**	0	1	2	**3**	0	1	1	**2**	0	14	5	**19**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	**0**	0	17	1	**18**	0	26	2	**28**	0	0	1	**1**	0	0	0	**0**	0	0	1	**1**	0	8	1	**9**	0	11	9	**20**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	**0**	0	12	0	**12**	0	41	3	**44**	0	1	0	**1**	0	0	0	**0**	0	2	0	**2**	0	4	2	**6**	0	16	6	**22**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	**0**	0	13	0	**13**	0	33	3	**36**	0	2	0	**2**	0	0	0	**0**	0	1	0	**1**	0	3	2	**5**	0	10	8	**18**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	**0**	0	7	1	**8**	0	41	1	**42**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	15	4	**19**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	**0**	0	13	2	**15**	0	36	1	**37**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	4	1	**5**	0	19	5	**24**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	**0**	0	4	1	**5**	0	49	1	**50**	0	3	1	**4**	0	0	0	**0**	0	1	0	**1**	0	5	2	**7**	0	19	16	**35**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	**0**	0	7	0	**7**	0	29	0	**29**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	4	1	**5**	0	25	6	**31**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	**0**	0	7	1	**8**	0	44	0	**44**	0	3	0	**3**	0	0	0	**0**	0	1	0	**1**	0	3	2	**5**	0	17	4	**21**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	**0**	0	6	1	**7**	0	42	2	**44**	0	2	1	**3**	0	0	0	**0**	0	2	0	**2**	0	3	0	**3**	0	16	7	**23**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	**0**	0	8	1	**9**	0	36	1	**37**	0	1	0	**1**	0	0	0	**0**	0	1	0	**1**	0	2	1	**3**	0	20	6	**26**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	**0**	0	8	2	**10**	0	39	3	**42**	0	1	0	**1**	0	0	0	**0**	0	2	0	**2**	0	2	1	**3**	0	19	8	**27**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	1	0	**1**	0	9	0	**9**	0	41	4	**45**	0	0	1	**1**	0	0	0	**0**	0	3	0	**3**	0	1	2	**3**	0	20	10	**30**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	**0**	0	14	1	**15**	0	37	3	**40**	0	2	1	**3**	0	0	0	**0**	0	1	0	**1**	0	3	3	**6**	0	15	11	**26**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	**0**	0	8	0	**8**	0	25	1	**26**	0	1	3	**4**	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	14	3	**17**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	**0**	0	6	0	**6**	0	30	2	**32**	0	1	0	**1**	0	0	0	**0**	0	2	1	**3**	0	5	3	**8**	0	21	9	**30**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	**0**	0	3	2	**5**	0	49	2	**51**	0	1	2	**3**	0	0	0	**0**	0	1	1	**2**	0	5	0	**5**	0	17	8	**25**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	**0**	0	12	1	**13**	0	38	1	**39**	0	2	0	**2**	0	0	0	**0**	0	0	3	**3**	0	0	1	**1**	0	9	7	**16**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	**0**	0	16	0	**16**	0	53	2	**55**	0	2	1	**3**	0	0	0	**0**	0	2	1	**3**	0	2	1	**3**	0	13	7	**20**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	**0**	0	14	1	**15**	0	37	4	**41**	0	2	1	**3**	0	0	0	**0**	0	0	1	**1**	0	7	1	**8**	0	17	8	**25**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	**0**	0	9	0	**9**	0	49	3	**52**	0	2	1	**3**	0	0	0	**0**	0	2	0	**2**	0	1	3	**4**	0	21	3	**24**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	**0**	0	15	0	**15**	0	38	1	**39**	0	3	6	**9**	0	0	0	**0**	0	1	0	**1**	0	3	0	**3**	0	23	7	**30**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	**0**	0	4	0	**4**	0	39	0	**39**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	3	0	**3**	0	22	9	**31**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	**0**	0	15	1	**16**	0	38	3	**41**	0	3	0	**3**	0	0	0	**0**	0	0	1	**1**	0	3	1	**4**	0	18	4	**22**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	**0**	0	10	1	**11**	0	35	1	**36**	0	3	0	**3**	0	0	0	**0**	0	1	1	**2**	0	4	2	**6**	0	21	6	**27**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	**0**	0	11	0	**11**	1	36	0	**36**	0	1	0	**1**	0	0	0	**0**	0	2	1	**3**	0	6	3	**9**	0	16	9	**25**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	**0**	0	10	0	**10**	0	46	4	**50**	0	2	0	**2**	0	0	0	**0**	0	0	1	**1**	0	4	2	**6**	0	15	7	**22**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	**0**	0	9	5	**14**	0	41	2	**43**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	2	4	**6**	0	17	12	**29**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	**0**	0	6	1	**7**	0	33	5	**38**	0	2	0	**2**	0	1	0	**1**	0	2	1	**3**	0	4	1	**5**	0	12	8	**20**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	**0**	0	7	1	**8**	0	42	6	**48**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	2	5	**7**	0	21	17	**38**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	**0**	0	12	2	**14**	0	50	0	**50**	0	3	0	**3**	0	0	0	**0**	0	2	1	**3**	0	3	0	**3**	0	24	7	**31**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	**0**	0	10	0	**10**	0	55	4	**59**	0	2	1	**3**	0	0	0	**0**	0	0	0	**0**	0	3	3	**6**	0	19	7	**26**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	**0**	0	10	0	**10**	0	48	4	**52**	0	2	1	**3**	0	0	0	**0**	0	1	0	**1**	0	5	4	**9**	0	15	7	**22**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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| | | |

Appendix B

SIDRA Outputs

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

USER REPORT FOR NETWORK

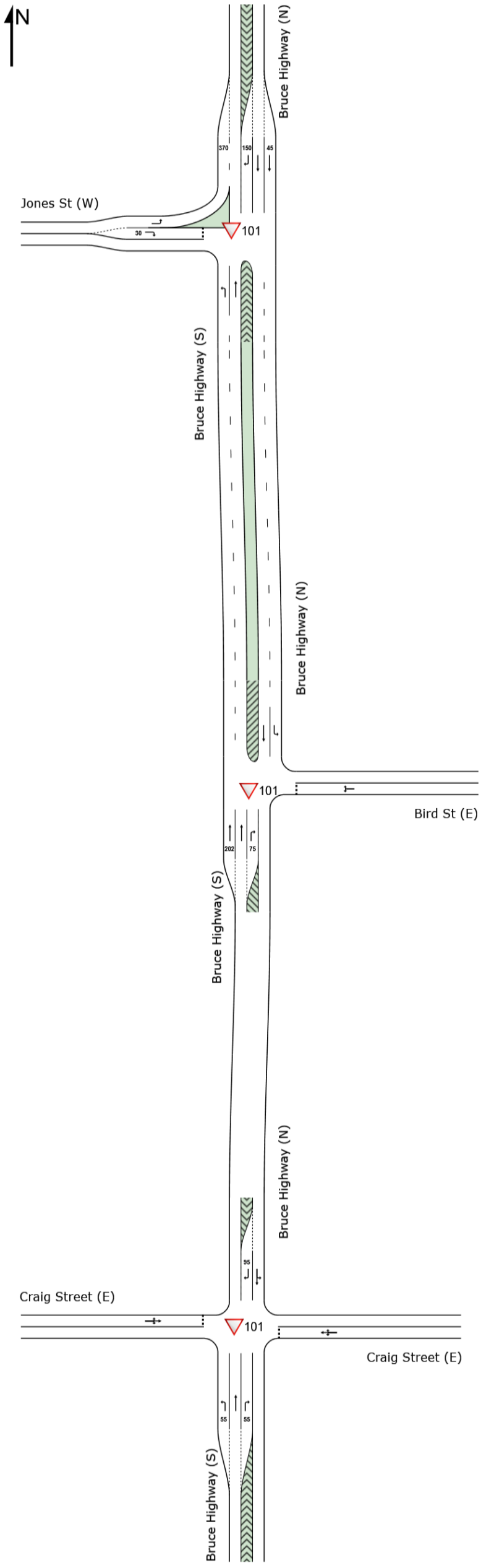
Project: Ayr Industrial Estate TIA_Rev03 **Template: Default Network User Report**

Network: N101 [Existing 2024 AM (Network Folder: General)]

New Network
Network Category: (None)

Network Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Organisation: GHD PTY LTD | Licence: NETWORK / Enterprise Level 1 | Created: Friday, 29 November 2024 5:49:27 PM
Project: \\ghdnet\ghd\AU\Townsville\Projects\41\12645670\Tech\Design\Traffic Impact Assessment\01. Work\Ayr Industrial Estate TIA_Rev03.sip9

MOVEMENT SUMMARY

Site: 101 [03. 2024AM - Bruce Hwy / Craig St (Site Folder: Existing - 2024 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Existing 2024 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	2	0.0	2	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	51.8
2	T1	All MCs	221	4.8	221	4.8	0.116	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	2	0.0	2	0.0	0.002	6.4	LOS A	0.0	0.0	0.38	0.54	0.38	50.4
Approach			225	4.7	225	4.7	0.116	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.5
East: Craig Street (E)															
4	L2	All MCs	1	0.0	1	0.0	0.007	6.8	LOS A	0.0	0.2	0.53	0.63	0.53	48.2
5	T1	All MCs	1	0.0	1	0.0	0.007	10.6	LOS A	0.0	0.2	0.53	0.63	0.53	50.0
6	R2	All MCs	1	0.0	1	0.0	0.007	12.7	LOS A	0.0	0.2	0.53	0.63	0.53	45.3
Approach			3	0.0	3	0.0	0.007	10.0	LOS A	0.0	0.2	0.53	0.63	0.53	48.3
North: Bruce Highway (N)															
7	L2	All MCs	1	0.0	1	0.0	0.162	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.3
8	T1	All MCs	305	6.2	305	6.2	0.162	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	All MCs	4	0.0	4	0.0	0.004	6.3	LOS A	0.0	0.1	0.32	0.55	0.32	51.4
Approach			311	6.1	311	6.1	0.162	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.7
West: Craig Street (E)															
10	L2	All MCs	4	25.0	4	25.0	0.010	7.0	LOS A	0.0	0.3	0.43	0.58	0.43	47.3
11	T1	All MCs	1	0.0	1	0.0	0.010	10.7	LOS A	0.0	0.3	0.43	0.58	0.43	51.2
12	R2	All MCs	1	0.0	1	0.0	0.010	12.7	LOS A	0.0	0.3	0.43	0.58	0.43	49.6
Approach			6	16.7	6	16.7	0.010	8.6	LOS A	0.0	0.3	0.43	0.58	0.43	48.8
All Vehicles			545	5.6	545	5.6	0.162	0.3	NA	0.0	0.3	0.01	0.02	0.01	59.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [01. 2024AM - Bruce Hwy / Jones St (Site Folder: Existing - 2024 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Existing 2024 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	29	25.0	29	25.0	0.019	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	49.1
2	T1	All MCs	178	4.7	178	4.7	0.093	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			207	7.6	207	7.6	0.093	0.5	NA	0.0	0.0	0.00	0.07	0.00	58.1
North: Bruce Highway (N)															
8	T1	All MCs	282	5.2	282	5.2	0.129	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	All MCs	105	36.0	105	36.0	0.112	7.3	LOS A	0.5	4.2	0.36	0.60	0.36	50.4
Approach			387	13.6	387	13.6	0.129	2.0	NA	0.5	4.2	0.10	0.16	0.10	55.5
West: Jones St (W)															
10	L2	All MCs	87	27.7	87	27.7	0.056	6.3	LOS A	0.0	0.0	0.00	0.51	0.00	52.5
12	R2	All MCs	22	28.6	22	28.6	0.078	16.2	LOS B	0.2	2.1	0.65	0.85	0.65	39.7
Approach			109	27.9	109	27.9	0.078	8.3	LOS A	0.2	2.1	0.13	0.58	0.13	50.7
All Vehicles			704	14.1	704	14.1	0.129	2.5	NA	0.5	4.2	0.07	0.20	0.07	55.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [02. 2024AM - Bruce Hwy / Bird St (Site Folder: Existing - 2024 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Existing 2024 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
2	T1	All MCs	173	4.9	173	4.9	0.075	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
3	R2	All MCs	51	6.3	51	6.2	0.050	7.0	LOS A	0.2	1.4	0.39	0.63	0.39	50.9
Approach			223	5.2	223	5.2	0.075	1.6	NA	0.2	1.4	0.09	0.14	0.09	56.1
East: Bird St (E)															
4	L2	All MCs	36	11.8	36	11.8	0.136	7.1	LOS A	0.5	3.8	0.52	0.72	0.52	45.1
6	R2	All MCs	35	21.2	35	21.2	0.136	13.9	LOS A	0.5	3.8	0.52	0.72	0.52	45.1
Approach			71	16.4	71	16.4	0.136	10.5	LOS A	0.5	3.8	0.52	0.72	0.52	45.1
North: Bruce Highway (N)															
7	L2	All MCs	32	26.7	32	26.7	0.020	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	49.0
8	T1	All MCs	273	4.6	273	4.6	0.143	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			304	6.9	304	6.9	0.143	0.3	NA	0.0	0.0	0.00	0.05	0.00	53.0
All Vehicles			598	7.4	598	7.4	0.143	2.0	NA	0.5	3.8	0.09	0.17	0.09	53.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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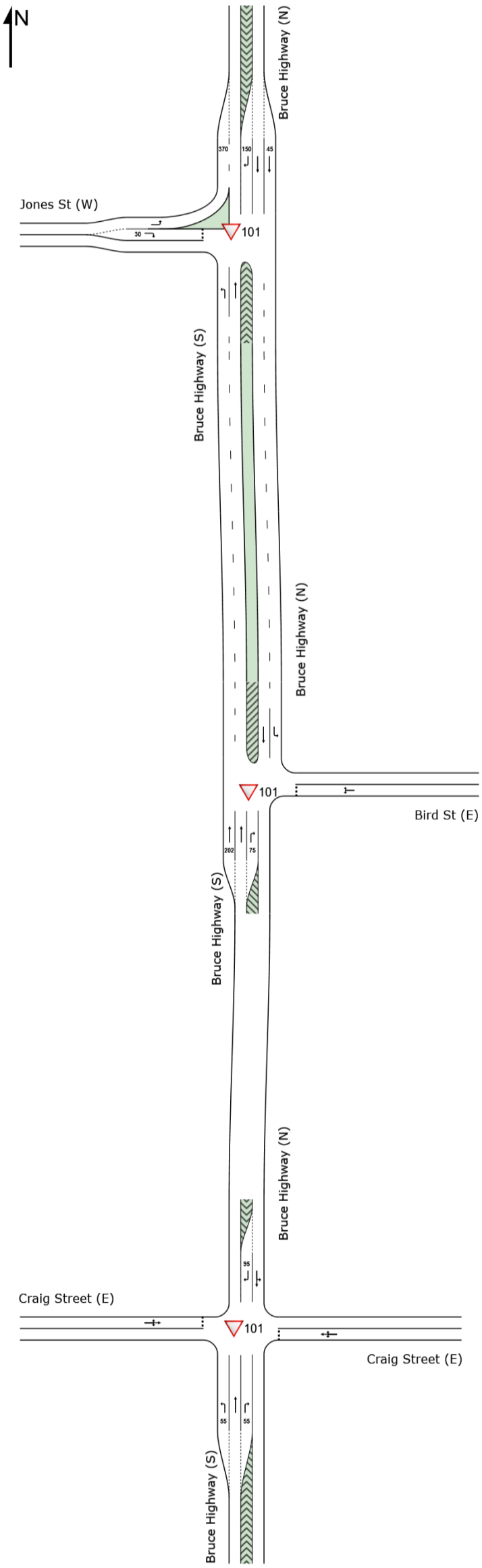
Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

NETWORK LAYOUT

Network: N101 [Existing 2024 PM (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽101	NA	01. 2024PM - Bruce Hwy / Jones St
▽101	NA	02. 2024PM - Bruce Hwy / Bird St
▽101	NA	03. 2024PM - Bruce Hwy / Craig St

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Organisation: GHD PTY LTD | Licence: NETWORK / Enterprise Level 1 | Created: Friday, 29 November 2024 5:51:40 PM
Project: \\ghdnet\ghd\AU\Townsville\Projects\41\12645670\Tech\Design\Traffic Impact Assessment\01. Work\Ayr Industrial Estate TIA_Rev03.sip9

MOVEMENT SUMMARY

Site: 101 [03. 2024PM - Bruce Hwy / Craig St (Site Folder: Existing - 2024 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Existing 2024 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	51.8
2	T1	All MCs	281	6.4	281	6.4	0.149	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	6	50.0	6	50.0	0.006	7.7	LOS A	0.0	0.3	0.43	0.58	0.43	47.9
Approach			288	7.3	288	7.3	0.149	0.2	NA	0.0	0.3	0.01	0.01	0.01	59.1
East: Craig Street (E)															
4	L2	All MCs	1	0.0	1	0.0	0.010	6.8	LOS A	0.0	0.2	0.57	0.66	0.57	47.4
5	T1	All MCs	2	0.0	2	0.0	0.010	11.8	LOS A	0.0	0.2	0.57	0.66	0.57	49.3
6	R2	All MCs	1	0.0	1	0.0	0.010	14.2	LOS A	0.0	0.2	0.57	0.66	0.57	44.1
Approach			4	0.0	4	0.0	0.010	11.2	LOS A	0.0	0.2	0.57	0.66	0.57	47.9
North: Bruce Highway (N)															
7	L2	All MCs	1	100.0	1	100.0	0.160	6.7	LOS A	0.0	0.0	0.00	0.00	0.00	52.5
8	T1	All MCs	305	3.8	305	3.8	0.160	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	All MCs	8	12.5	8	12.5	0.009	7.0	LOS A	0.0	0.2	0.38	0.58	0.38	50.7
Approach			315	4.3	315	4.3	0.160	0.2	NA	0.0	0.2	0.01	0.02	0.01	59.5
West: Craig Street (E)															
10	L2	All MCs	4	25.0	4	25.0	0.026	7.4	LOS A	0.1	0.7	0.57	0.69	0.57	42.7
11	T1	All MCs	2	0.0	2	0.0	0.026	12.0	LOS A	0.1	0.7	0.57	0.69	0.57	48.4
12	R2	All MCs	3	33.3	3	33.3	0.026	20.7	LOS B	0.1	0.7	0.57	0.69	0.57	45.3
Approach			9	22.2	9	22.2	0.026	12.9	LOS A	0.1	0.7	0.57	0.69	0.57	45.3
All Vehicles			617	6.0	617	6.0	0.160	0.5	NA	0.1	0.7	0.02	0.03	0.02	58.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [01. 2024PM - Bruce Hwy / Jones St (Site Folder: Existing - 2024 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Existing 2024 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	34	21.9	34	21.9	0.021	3.3	LOS A	0.0	0.0	0.00	0.53	0.00	49.3
2	T1	All MCs	247	6.4	247	6.4	0.131	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			281	8.2	281	8.2	0.131	0.4	NA	0.0	0.0	0.00	0.06	0.00	58.4
North: Bruce Highway (N)															
8	T1	All MCs	228	5.5	228	5.5	0.104	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
9	R2	All MCs	89	34.1	89	34.1	0.104	7.9	LOS A	0.4	3.7	0.42	0.64	0.42	50.2
Approach			318	13.6	318	13.6	0.104	2.2	NA	0.4	3.7	0.12	0.18	0.12	55.3
West: Jones St (W)															
10	L2	All MCs	114	26.9	114	26.9	0.072	6.5	LOS A	0.0	0.0	0.00	0.51	0.00	52.5
12	R2	All MCs	45	32.6	45	32.6	0.166	17.4	LOS B	0.5	4.8	0.68	0.86	0.68	38.7
Approach			159	28.5	159	28.5	0.166	9.6	LOS A	0.5	4.8	0.19	0.61	0.19	49.6
All Vehicles			758	14.7	758	14.7	0.166	3.1	NA	0.5	4.8	0.09	0.23	0.09	54.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [02. 2024PM - Bruce Hwy / Bird St (Site Folder: Existing - 2024 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Existing 2024 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
2	T1	All MCs	242	7.4	242	7.4	0.107	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
3	R2	All MCs	41	5.1	41	5.1	0.039	6.8	LOS A	0.2	1.1	0.37	0.61	0.37	51.0
Approach			283	7.1	283	7.1	0.107	1.0	NA	0.2	1.1	0.05	0.09	0.05	57.3
East: Bird St (E)															
4	L2	All MCs	78	2.7	78	2.7	0.181	6.7	LOS A	0.7	4.9	0.48	0.67	0.48	46.4
6	R2	All MCs	39	13.5	39	13.5	0.181	14.0	LOS A	0.7	4.9	0.48	0.67	0.48	46.4
Approach			117	6.3	117	6.3	0.181	9.1	LOS A	0.7	4.9	0.48	0.67	0.48	46.4
North: Bruce Highway (N)															
7	L2	All MCs	41	41.0	41	41.0	0.028	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	48.1
8	T1	All MCs	233	4.5	233	4.5	0.122	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			274	10.0	274	10.0	0.122	0.5	NA	0.0	0.0	0.00	0.08	0.00	51.3
All Vehicles			674	8.1	674	8.1	0.181	2.2	NA	0.7	4.9	0.11	0.18	0.11	53.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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Project: \\ghdnet\ghd\AU\Townsville\Projects\41\12645670\Tech\Design\Traffic Impact Assessment\01. Work\Ayr Industrial Estate TIA_Rev03.sip9

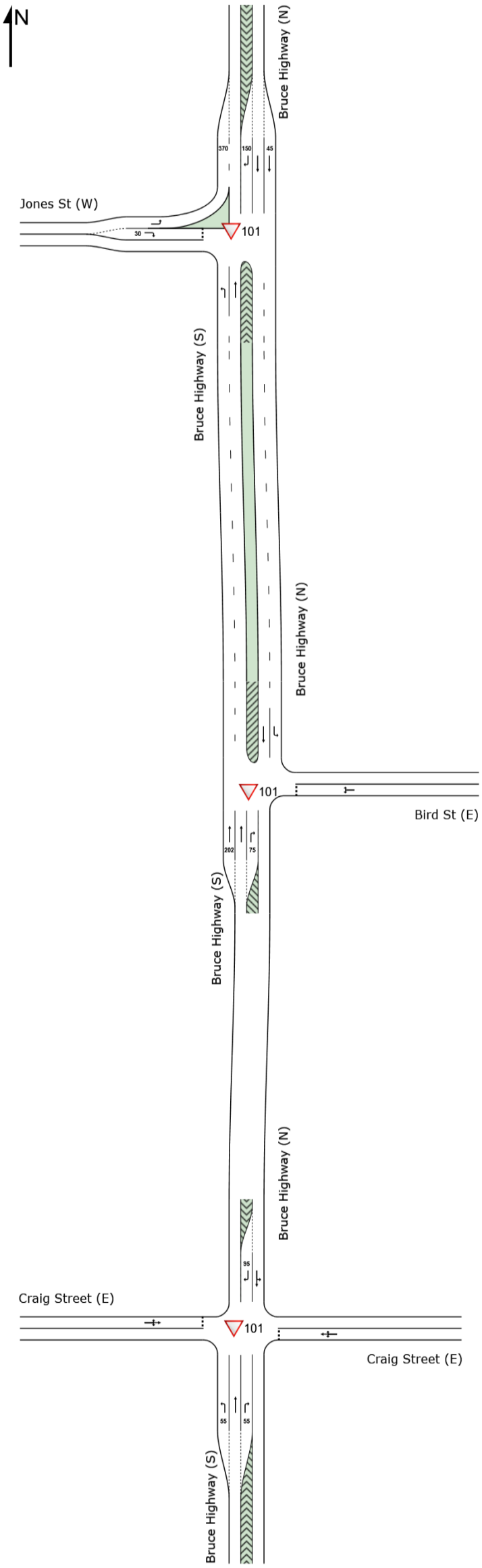
Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

NETWORK LAYOUT

Network: N101 [Base 2031 AM (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽101	NA	01. 2031AM - Bruce Hwy / Jones St
▽101	NA	02. 2031AM - Bruce Hwy / Bird St
▽101	NA	03. 2031AM - Bruce Hwy / Craig St

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Organisation: GHD PTY LTD | Licence: NETWORK / Enterprise Level 1 | Created: Friday, 29 November 2024 5:53:23 PM
Project: \\ghdnet\ghd\AU\Townsville\Projects\41\12645670\Tech\Design\Traffic Impact Assessment\01. Work\Ayr Industrial Estate TIA_Rev03.sip9

MOVEMENT SUMMARY

Site: 101 [03. 2031AM - Bruce Hwy / Craig St (Site Folder: Base - 2031 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Base 2031 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	2	0.0	2	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	51.8
2	T1	All MCs	237	4.9	237	4.9	0.124	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	2	0.0	2	0.0	0.002	6.5	LOS A	0.0	0.0	0.40	0.54	0.40	50.4
Approach			241	4.8	241	4.8	0.124	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.5
East: Craig Street (E)															
4	L2	All MCs	1	0.0	1	0.0	0.007	6.9	LOS A	0.0	0.2	0.55	0.64	0.55	47.8
5	T1	All MCs	1	0.0	1	0.0	0.007	11.3	LOS A	0.0	0.2	0.55	0.64	0.55	49.7
6	R2	All MCs	1	0.0	1	0.0	0.007	13.5	LOS A	0.0	0.2	0.55	0.64	0.55	44.7
Approach			3	0.0	3	0.0	0.007	10.6	LOS A	0.0	0.2	0.55	0.64	0.55	47.9
North: Bruce Highway (N)															
7	L2	All MCs	1	0.0	1	0.0	0.173	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.3
8	T1	All MCs	327	6.1	327	6.1	0.173	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	All MCs	4	0.0	4	0.0	0.004	6.4	LOS A	0.0	0.1	0.33	0.55	0.33	51.3
Approach			333	6.0	333	6.0	0.173	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.7
West: Craig Street (E)															
10	L2	All MCs	4	25.0	4	25.0	0.011	7.1	LOS A	0.0	0.3	0.45	0.59	0.45	46.9
11	T1	All MCs	1	0.0	1	0.0	0.011	11.4	LOS A	0.0	0.3	0.45	0.59	0.45	51.0
12	R2	All MCs	1	0.0	1	0.0	0.011	13.6	LOS A	0.0	0.3	0.45	0.59	0.45	49.4
Approach			6	16.7	6	16.7	0.011	8.9	LOS A	0.0	0.3	0.45	0.59	0.45	48.4
All Vehicles			583	5.6	583	5.6	0.173	0.3	NA	0.0	0.3	0.01	0.02	0.01	59.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [01. 2031AM - Bruce Hwy / Jones St (Site Folder: Base - 2031 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Base 2031 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	33	25.8	33	25.8	0.021	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	49.1
2	T1	All MCs	192	4.9	192	4.9	0.100	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			224	8.0	224	8.0	0.100	0.5	NA	0.0	0.0	0.00	0.08	0.00	58.1
North: Bruce Highway (N)															
8	T1	All MCs	302	5.2	302	5.2	0.138	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	All MCs	114	36.1	114	36.1	0.124	7.5	LOS A	0.5	4.6	0.38	0.61	0.38	50.4
Approach			416	13.7	416	13.7	0.138	2.1	NA	0.5	4.6	0.10	0.17	0.10	55.4
West: Jones St (W)															
10	L2	All MCs	94	28.1	94	28.1	0.060	6.4	LOS A	0.0	0.0	0.00	0.51	0.00	52.5
12	R2	All MCs	23	27.3	23	27.3	0.089	17.5	LOS B	0.3	2.4	0.68	0.86	0.68	38.6
Approach			117	27.9	117	27.9	0.089	8.6	LOS A	0.3	2.4	0.14	0.58	0.14	50.5
All Vehicles			757	14.2	757	14.2	0.138	2.6	NA	0.5	4.6	0.08	0.20	0.08	54.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [02. 2031AM - Bruce Hwy / Bird St (Site Folder: Base - 2031 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Base 2031 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
2	T1	All MCs	185	5.1	185	5.1	0.081	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
3	R2	All MCs	54	5.9	54	5.9	0.055	7.1	LOS A	0.2	1.6	0.41	0.64	0.41	50.8
Approach			239	5.3	239	5.3	0.081	1.6	NA	0.2	1.6	0.09	0.14	0.09	56.1
East: Bird St (E)															
4	L2	All MCs	38	11.1	38	11.1	0.158	7.3	LOS A	0.5	4.4	0.55	0.75	0.55	44.3
6	R2	All MCs	38	22.2	38	22.2	0.158	15.2	LOS B	0.5	4.4	0.55	0.75	0.55	44.3
Approach			76	16.7	76	16.7	0.158	11.2	LOS A	0.5	4.4	0.55	0.75	0.55	44.3
North: Bruce Highway (N)															
7	L2	All MCs	35	27.3	35	27.3	0.022	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	49.0
8	T1	All MCs	293	4.7	293	4.7	0.153	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			327	7.1	327	7.1	0.153	0.4	NA	0.0	0.0	0.00	0.06	0.00	52.9
All Vehicles			642	7.5	642	7.5	0.158	2.1	NA	0.5	4.4	0.10	0.17	0.10	52.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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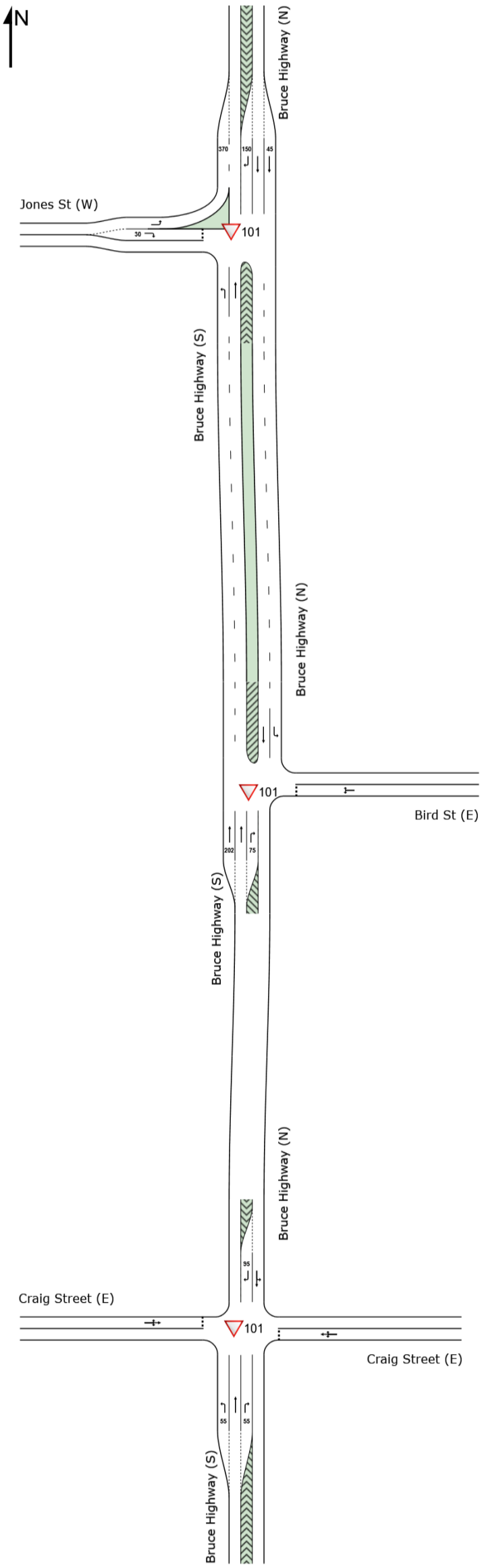
Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

NETWORK LAYOUT

Network: N101 [Base 2031 PM (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽101	NA	01. 2031PM - Bruce Hwy / Jones St
▽101	NA	02. 2031PM - Bruce Hwy / Bird St
▽101	NA	03. 2031PM - Bruce Hwy / Craig St

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Project: \\ghdnet\ghd\AU\Townsville\Projects\41\12645670\Tech\Design\Traffic Impact Assessment\01. Work\Ayr Industrial Estate TIA_Rev03.sip9

MOVEMENT SUMMARY

Site: 101 [03. 2031PM - Bruce Hwy / Craig St (Site Folder: Base - 2031 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Base 2031 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	51.8
2	T1	All MCs	301	6.3	301	6.3	0.159	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	6	50.0	6	50.0	0.007	7.9	LOS A	0.0	0.3	0.44	0.58	0.44	47.8
Approach			308	7.2	308	7.2	0.159	0.2	NA	0.0	0.3	0.01	0.01	0.01	59.1
East: Craig Street (E)															
4	L2	All MCs	1	0.0	1	0.0	0.011	6.9	LOS A	0.0	0.3	0.59	0.68	0.59	46.9
5	T1	All MCs	2	0.0	2	0.0	0.011	12.7	LOS A	0.0	0.3	0.59	0.68	0.59	48.8
6	R2	All MCs	1	0.0	1	0.0	0.011	15.3	LOS B	0.0	0.3	0.59	0.68	0.59	43.3
Approach			4	0.0	4	0.0	0.011	11.9	LOS A	0.0	0.3	0.59	0.68	0.59	47.4
North: Bruce Highway (N)															
7	L2	All MCs	1	100.0	1	100.0	0.171	6.7	LOS A	0.0	0.0	0.00	0.00	0.00	52.5
8	T1	All MCs	327	3.9	327	3.9	0.171	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	All MCs	9	11.1	9	11.1	0.010	7.0	LOS A	0.0	0.3	0.39	0.59	0.39	50.7
Approach			338	4.4	338	4.4	0.171	0.3	NA	0.0	0.3	0.01	0.02	0.01	59.5
West: Craig Street (E)															
10	L2	All MCs	4	25.0	4	25.0	0.028	7.6	LOS A	0.1	0.7	0.59	0.71	0.59	41.7
11	T1	All MCs	2	0.0	2	0.0	0.028	12.9	LOS A	0.1	0.7	0.59	0.71	0.59	47.7
12	R2	All MCs	3	33.3	3	33.3	0.028	23.0	LOS B	0.1	0.7	0.59	0.71	0.59	44.6
Approach			9	22.2	9	22.2	0.028	13.9	LOS A	0.1	0.7	0.59	0.71	0.59	44.5
All Vehicles			660	5.9	660	5.9	0.171	0.5	NA	0.1	0.7	0.02	0.03	0.02	58.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [01. 2031PM - Bruce Hwy / Jones St (Site Folder: Base - 2031 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Base 2031 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	37	22.9	37	22.9	0.023	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	49.3
2	T1	All MCs	265	6.3	265	6.3	0.140	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			302	8.4	302	8.4	0.140	0.4	NA	0.0	0.0	0.00	0.06	0.00	58.4
North: Bruce Highway (N)															
8	T1	All MCs	245	5.6	245	5.6	0.112	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
9	R2	All MCs	96	34.1	96	34.1	0.115	8.1	LOS A	0.5	4.1	0.44	0.65	0.44	50.0
Approach			341	13.6	341	13.6	0.115	2.3	NA	0.5	4.1	0.12	0.18	0.12	55.2
West: Jones St (W)															
10	L2	All MCs	122	26.7	122	26.7	0.077	6.6	LOS A	0.0	0.0	0.00	0.51	0.00	52.5
12	R2	All MCs	48	32.6	48	32.6	0.196	19.4	LOS B	0.6	5.7	0.72	0.89	0.75	37.2
Approach			171	28.4	171	28.4	0.196	10.2	LOS A	0.6	5.7	0.20	0.62	0.21	49.2
All Vehicles			814	14.7	814	14.7	0.196	3.2	NA	0.6	5.7	0.09	0.23	0.10	54.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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MOVEMENT SUMMARY

Site: 101 [02. 2031PM - Bruce Hwy / Bird St (Site Folder: Base - 2031 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Base 2031 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
2	T1	All MCs	259	7.3	259	7.3	0.115	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
3	R2	All MCs	44	4.8	44	4.8	0.043	6.9	LOS A	0.2	1.2	0.39	0.62	0.39	51.0
Approach			303	6.9	303	6.9	0.115	1.0	NA	0.2	1.2	0.06	0.09	0.06	57.3
East: Bird St (E)															
4	L2	All MCs	83	2.5	83	2.5	0.201	6.8	LOS A	0.7	5.5	0.50	0.69	0.50	45.9
6	R2	All MCs	41	12.8	41	12.8	0.201	15.1	LOS B	0.7	5.5	0.50	0.69	0.50	45.9
Approach			124	5.9	124	5.9	0.201	9.5	LOS A	0.7	5.5	0.50	0.69	0.50	45.9
North: Bruce Highway (N)															
7	L2	All MCs	44	40.5	44	40.5	0.030	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	48.1
8	T1	All MCs	249	4.6	249	4.6	0.130	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			294	10.0	294	10.0	0.130	0.5	NA	0.0	0.0	0.00	0.08	0.00	51.3
All Vehicles			721	8.0	721	8.0	0.201	2.3	NA	0.7	5.5	0.11	0.19	0.11	53.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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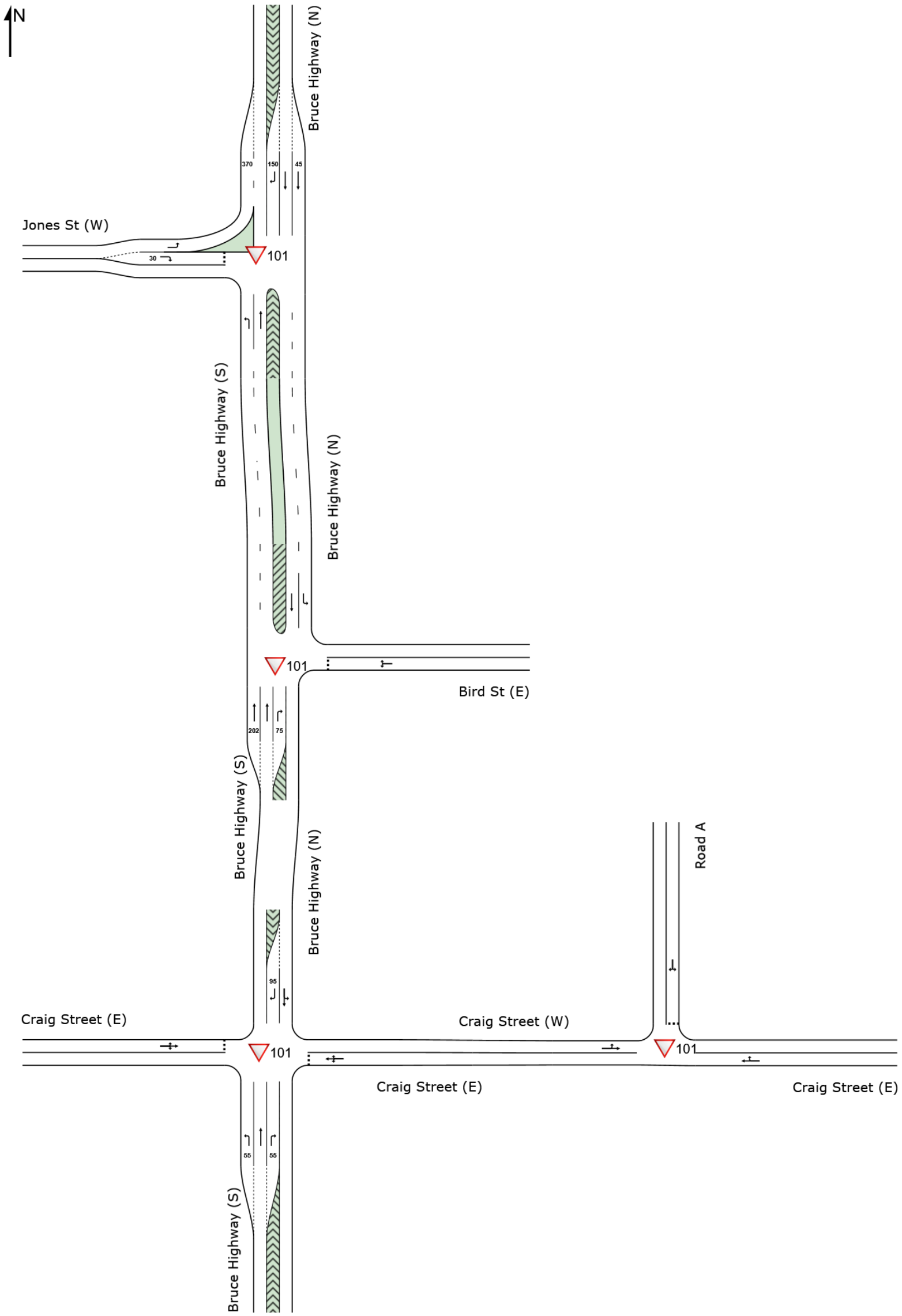
Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

NETWORK LAYOUT

Network: N101 [Stage 1 2031 AM (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽101	NA	01. 2031AM - Bruce Hwy / Jones St
▽101	NA	02. 2031AM - Bruce Hwy / Bird St
▽101	NA	03. 2031AM - Bruce Hwy / Craig St
▽101	NA	04. 2031AM - Craig St / Road A

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Project: \\ghdnet\ghd\AU\Townsville\Projects\41\12645670\Tech\Design\Traffic Impact Assessment\01. Work\Ayr Industrial Estate TIA_Rev03.sip9

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [04. 2031AM - Craig St / Road A (Site Folder: Stage 1 - 2031 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2031 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Craig Street (E)															
5	T1	All MCs	1	0.0	1	0.0	0.001	0.1	LOS A	0.0	0.0	0.13	0.29	0.13	55.1
6	R2	All MCs	1	0.0	1	0.0	0.001	5.6	LOS A	0.0	0.0	0.13	0.29	0.13	52.8
Approach			2	0.0	2	0.0	0.001	2.9	NA	0.0	0.0	0.13	0.29	0.13	53.8
North: Road A															
7	L2	All MCs	1	0.0	1	0.0	0.042	5.5	LOS A	0.1	1.1	0.07	0.57	0.07	50.7
9	R2	All MCs	48	15.2	48	15.2	0.042	5.8	LOS A	0.1	1.1	0.07	0.57	0.07	37.7
Approach			49	14.9	49	14.9	0.042	5.8	LOS A	0.1	1.1	0.07	0.57	0.07	38.6
West: Craig Street (W)															
10	L2	All MCs	60	15.8	60	15.8	0.036	5.7	LOS A	0.0	0.0	0.00	0.56	0.00	45.8
11	T1	All MCs	1	0.0	1	0.0	0.036	0.0	LOS A	0.0	0.0	0.00	0.56	0.00	54.8
Approach			61	15.5	61	15.5	0.036	5.6	NA	0.0	0.0	0.00	0.56	0.00	46.1
All Vehicles			113	15.0	113	15.0	0.042	5.6	NA	0.1	1.1	0.03	0.56	0.03	44.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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MOVEMENT SUMMARY

Site: 101 [01. 2031AM - Bruce Hwy / Jones St (Site Folder: Stage 1 - 2031 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2031 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	48	26.1	48	26.1	0.031	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	49.0
2	T1	All MCs	198	4.8	198	4.8	0.104	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			246	9.0	246	9.0	0.104	0.6	NA	0.0	0.0	0.00	0.10	0.00	57.4
North: Bruce Highway (N)															
8	T1	All MCs	313	5.7	313	5.7	0.143	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	All MCs	114	36.1	114	36.1	0.128	7.7	LOS A	0.5	4.8	0.40	0.62	0.40	50.3
Approach			426	13.8	426	13.8	0.143	2.1	NA	0.5	4.8	0.11	0.17	0.11	55.5
West: Jones St (W)															
10	L2	All MCs	94	28.1	94	28.1	0.060	6.4	LOS A	0.0	0.0	0.00	0.51	0.00	52.5
12	R2	All MCs	39	29.7	39	29.7	0.162	19.3	LOS B	0.5	4.4	0.72	0.88	0.72	37.2
Approach			133	28.6	133	28.6	0.162	10.2	LOS A	0.5	4.4	0.21	0.62	0.21	49.0
All Vehicles			805	14.8	805	14.8	0.162	3.0	NA	0.5	4.8	0.09	0.22	0.09	54.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [02. 2031AM - Bruce Hwy / Bird St (Site Folder: Stage 1 - 2031 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2031 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
2	T1	All MCs	208	6.6	208	6.6	0.092	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
3	R2	All MCs	54	5.9	54	5.9	0.057	7.3	LOS A	0.2	1.6	0.43	0.65	0.43	50.7
Approach			262	6.4	262	6.4	0.092	1.5	NA	0.2	1.6	0.09	0.13	0.09	56.3
East: Bird St (E)															
4	L2	All MCs	38	11.1	38	11.1	0.173	7.5	LOS A	0.6	4.7	0.58	0.77	0.58	43.3
6	R2	All MCs	38	22.2	38	22.2	0.173	16.8	LOS B	0.6	4.7	0.58	0.77	0.58	43.3
Approach			76	16.7	76	16.7	0.173	12.1	LOS A	0.6	4.7	0.58	0.77	0.58	43.3
North: Bruce Highway (N)															
7	L2	All MCs	35	27.3	35	27.3	0.022	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	49.0
8	T1	All MCs	317	6.3	317	6.3	0.167	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			352	8.4	352	8.4	0.167	0.3	NA	0.0	0.0	0.00	0.05	0.00	53.1
All Vehicles			689	8.5	689	8.5	0.173	2.1	NA	0.6	4.7	0.10	0.16	0.10	53.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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MOVEMENT SUMMARY

Site: 101 [03. 2031AM - Bruce Hwy / Craig St (Site Folder: Stage 1 - 2031 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2031 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	2	0.0	2	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	51.8
2	T1	All MCs	237	4.9	237	4.9	0.124	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	38	5.6	38	5.6	0.031	6.9	LOS A	0.1	1.0	0.43	0.61	0.43	45.3
Approach			277	4.9	277	4.9	0.124	1.0	NA	0.1	1.0	0.06	0.09	0.06	57.3
East: Craig Street (E)															
4	L2	All MCs	26	12.0	26	12.0	0.134	7.5	LOS A	0.4	3.5	0.60	0.79	0.60	43.2
5	T1	All MCs	1	0.0	1	0.0	0.134	13.2	LOS A	0.4	3.5	0.60	0.79	0.60	46.2
6	R2	All MCs	23	18.2	23	18.2	0.134	20.0	LOS B	0.4	3.5	0.60	0.79	0.60	37.1
Approach			51	14.6	51	14.6	0.134	13.3	LOS A	0.4	3.5	0.60	0.79	0.60	41.2
North: Bruce Highway (N)															
7	L2	All MCs	24	26.1	24	26.1	0.188	5.9	LOS A	0.0	0.0	0.00	0.04	0.00	59.2
8	T1	All MCs	327	6.1	327	6.1	0.188	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
9	R2	All MCs	4	0.0	4	0.0	0.004	6.4	LOS A	0.0	0.1	0.33	0.55	0.33	51.3
Approach			356	7.4	356	7.4	0.188	0.5	NA	0.0	0.1	0.00	0.05	0.00	59.4
West: Craig Street (E)															
10	L2	All MCs	4	25.0	4	25.0	0.011	7.1	LOS A	0.0	0.3	0.47	0.59	0.47	46.4
11	T1	All MCs	1	0.0	1	0.0	0.011	12.6	LOS A	0.0	0.3	0.47	0.59	0.47	46.4
12	R2	All MCs	1	0.0	1	0.0	0.011	15.1	LOS B	0.0	0.3	0.47	0.59	0.47	49.0
Approach			6	16.7	6	16.7	0.011	9.3	LOS A	0.0	0.3	0.47	0.59	0.47	47.0
All Vehicles			689	7.0	689	7.0	0.188	1.7	NA	0.4	3.5	0.07	0.12	0.07	57.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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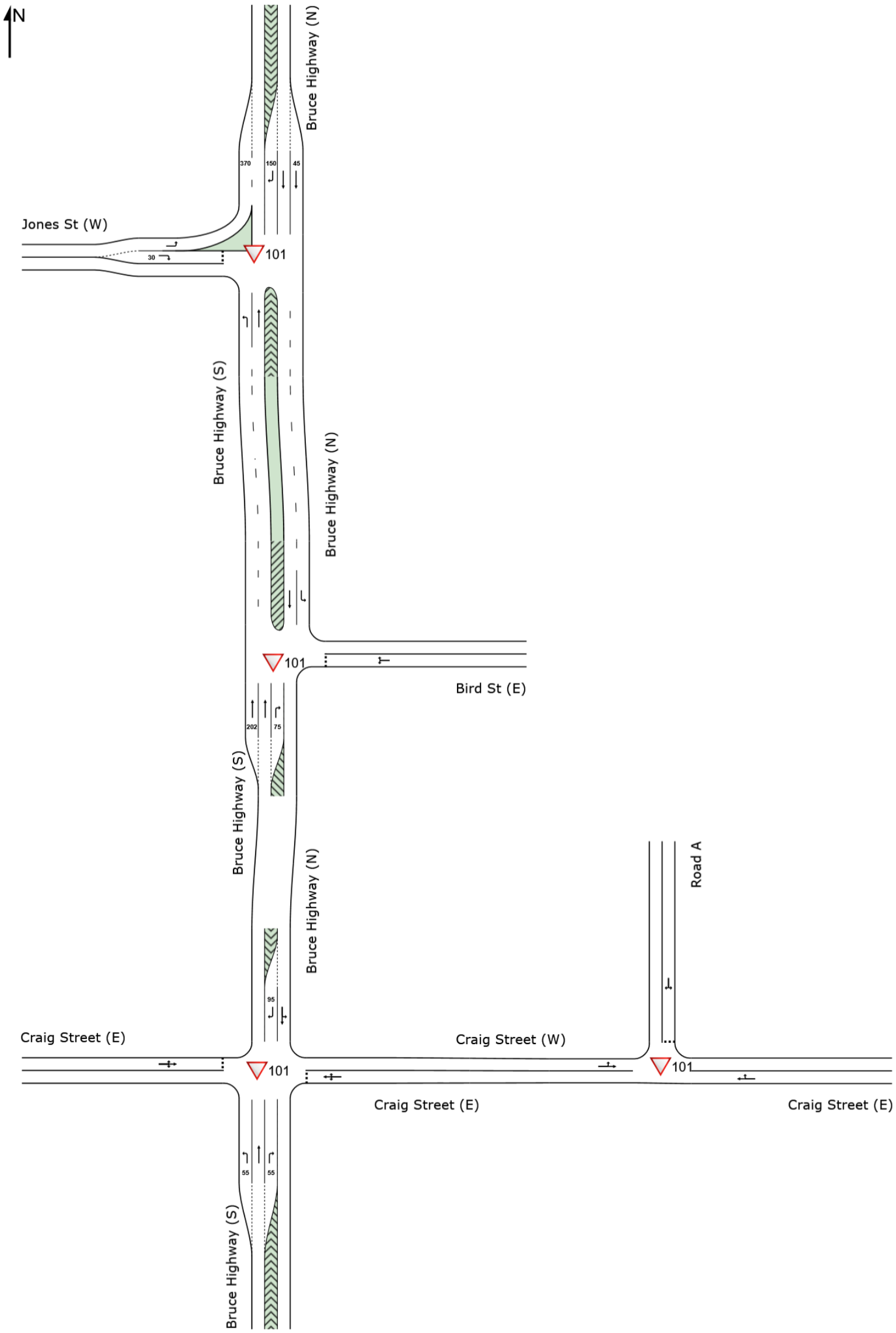
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NETWORK LAYOUT

Network: N101 [Stage 1 2031 PM (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽101	NA	01. 2031PM - Bruce Hwy / Jones St
▽101	NA	02. 2031PM - Bruce Hwy / Bird St
▽101	NA	03. 2031PM - Bruce Hwy / Craig St
▽101	NA	04. 2031PM - Craig St / Road A

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Project: \\ghdnet\ghd\AU\Townsville\Projects\41\12645670\Tech\Design\Traffic Impact Assessment\01. Work\Ayr Industrial Estate TIA_Rev03.sip9

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [01. 2031PM - Bruce Hwy / Jones St (Site Folder: Stage 1 - 2031 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2031 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	51	20.8	51	20.8	0.031	3.3	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	All MCs	277	6.1	277	6.1	0.146	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			327	8.4	327	8.4	0.146	0.5	NA	0.0	0.0	0.00	0.08	0.00	58.0
North: Bruce Highway (N)															
8	T1	All MCs	255	6.6	255	6.6	0.117	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
9	R2	All MCs	96	34.1	96	34.1	0.119	8.3	LOS A	0.5	4.2	0.46	0.67	0.46	49.9
Approach			351	14.1	351	14.1	0.119	2.3	NA	0.5	4.2	0.12	0.18	0.12	55.2
West: Jones St (W)															
10	L2	All MCs	122	26.7	122	26.7	0.077	6.6	LOS A	0.0	0.0	0.00	0.51	0.00	52.5
12	R2	All MCs	68	36.9	68	36.9	0.310	23.5	LOS B	1.1	10.2	0.77	0.95	0.94	34.4
Approach			191	30.4	191	30.4	0.310	12.7	LOS A	1.1	10.2	0.28	0.67	0.34	47.1
All Vehicles			868	15.5	868	15.5	0.310	3.9	NA	1.1	10.2	0.11	0.25	0.12	53.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [02. 2031PM - Bruce Hwy / Bird St (Site Folder: Stage 1 - 2031 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2031 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
2	T1	All MCs	286	7.7	286	7.7	0.127	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	44	4.8	44	4.8	0.045	7.1	LOS A	0.2	1.3	0.41	0.63	0.41	50.8
Approach			331	7.3	331	7.3	0.127	1.0	NA	0.2	1.3	0.05	0.08	0.05	57.4
East: Bird St (E)															
4	L2	All MCs	83	2.5	83	2.5	0.220	7.0	LOS A	0.8	5.9	0.55	0.72	0.55	45.1
6	R2	All MCs	41	12.8	41	12.8	0.220	17.0	LOS B	0.8	5.9	0.55	0.72	0.55	45.1
Approach			124	5.9	124	5.9	0.220	10.3	LOS A	0.8	5.9	0.55	0.72	0.55	45.1
North: Bruce Highway (N)															
7	L2	All MCs	44	40.5	44	40.5	0.030	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	48.1
8	T1	All MCs	279	8.7	279	8.7	0.150	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			323	13.0	323	13.0	0.150	0.5	NA	0.0	0.0	0.00	0.07	0.00	51.6
All Vehicles			778	9.5	778	9.5	0.220	2.2	NA	0.8	5.9	0.11	0.18	0.11	53.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [03. 2031PM - Bruce Hwy / Craig St (Site Folder: Stage 1 - 2031 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2031 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	51.8
2	T1	All MCs	301	6.3	301	6.3	0.159	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	34	15.6	34	15.6	0.030	7.2	LOS A	0.1	1.0	0.44	0.62	0.44	45.2
Approach			336	7.2	336	7.2	0.159	0.8	NA	0.1	1.0	0.04	0.06	0.04	58.0
East: Craig Street (E)															
4	L2	All MCs	58	1.8	58	1.8	0.196	7.2	LOS A	0.7	4.9	0.60	0.76	0.60	44.5
5	T1	All MCs	2	0.0	2	0.0	0.196	15.4	LOS B	0.7	4.9	0.60	0.76	0.60	47.0
6	R2	All MCs	27	11.5	27	11.5	0.196	22.2	LOS B	0.7	4.9	0.60	0.76	0.60	38.3
Approach			87	4.8	87	4.8	0.196	12.1	LOS A	0.7	4.9	0.60	0.76	0.60	43.2
North: Bruce Highway (N)															
7	L2	All MCs	31	44.8	31	44.8	0.192	6.1	LOS A	0.0	0.0	0.00	0.05	0.00	59.3
8	T1	All MCs	327	3.9	327	3.9	0.192	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.6
9	R2	All MCs	9	11.1	9	11.1	0.010	7.0	LOS A	0.0	0.3	0.39	0.59	0.39	50.7
Approach			367	7.4	367	7.4	0.192	0.7	NA	0.0	0.3	0.01	0.06	0.01	59.2
West: Craig Street (E)															
10	L2	All MCs	4	25.0	4	25.0	0.033	7.6	LOS A	0.1	0.8	0.62	0.73	0.62	40.0
11	T1	All MCs	2	0.0	2	0.0	0.033	14.4	LOS A	0.1	0.8	0.62	0.73	0.62	40.0
12	R2	All MCs	3	33.3	3	33.3	0.033	27.8	LOS B	0.1	0.8	0.62	0.73	0.62	43.4
Approach			9	22.2	9	22.2	0.033	15.8	LOS B	0.1	0.8	0.62	0.73	0.62	41.5
All Vehicles			800	7.2	800	7.2	0.196	2.2	NA	0.7	4.9	0.10	0.15	0.10	56.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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MOVEMENT SUMMARY

Site: 101 [04. 2031PM - Craig St / Road A (Site Folder: Stage 1 - 2031 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2031 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Craig Street (E)															
5	T1	All MCs	1	0.0	1	0.0	0.001	0.1	LOS A	0.0	0.0	0.13	0.29	0.13	55.1
6	R2	All MCs	1	0.0	1	0.0	0.001	5.6	LOS A	0.0	0.0	0.13	0.29	0.13	52.8
Approach			2	0.0	2	0.0	0.001	2.9	NA	0.0	0.0	0.13	0.29	0.13	53.8
North: Road A															
7	L2	All MCs	1	0.0	1	0.0	0.071	5.5	LOS A	0.2	1.7	0.08	0.57	0.08	50.7
9	R2	All MCs	85	4.9	85	4.9	0.071	5.6	LOS A	0.2	1.7	0.08	0.57	0.08	37.6
Approach			86	4.9	86	4.9	0.071	5.6	LOS A	0.2	1.7	0.08	0.57	0.08	38.2
West: Craig Street (W)															
10	L2	All MCs	56	24.5	56	24.5	0.036	5.8	LOS A	0.0	0.0	0.00	0.56	0.00	45.0
11	T1	All MCs	1	0.0	1	0.0	0.036	0.0	LOS A	0.0	0.0	0.00	0.56	0.00	54.8
Approach			57	24.1	57	24.1	0.036	5.7	NA	0.0	0.0	0.00	0.56	0.00	45.3
All Vehicles			145	12.3	145	12.3	0.071	5.6	NA	0.2	1.7	0.05	0.56	0.05	42.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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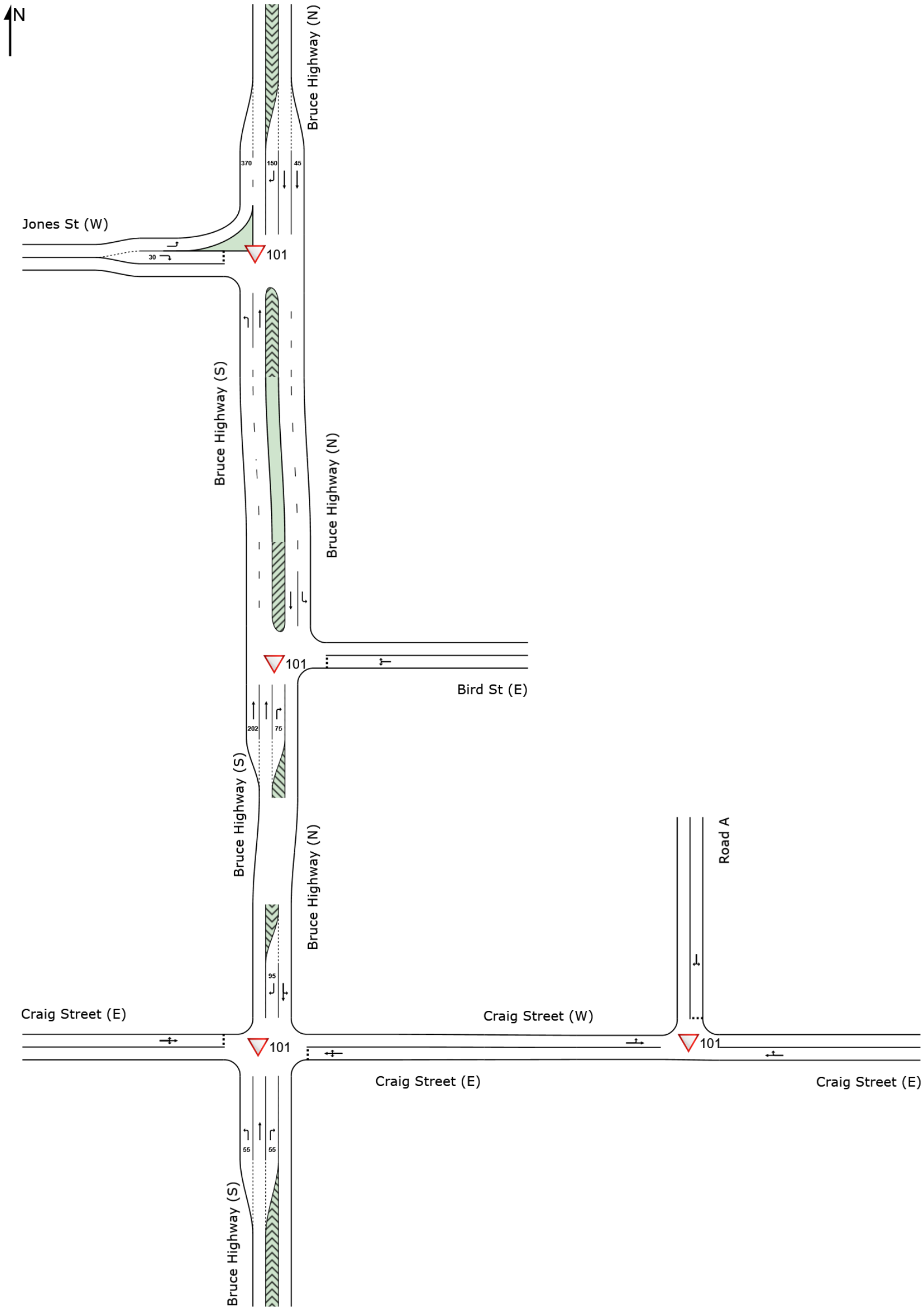
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NETWORK LAYOUT

Network: N101 [Stage 1 2041 AM (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽101	NA	01. 2041AM - Bruce Hwy / Jones St
▽101	NA	02. 2041AM - Bruce Hwy / Bird St
▽101	NA	03. 2041AM - Bruce Hwy / Craig St
▽101	NA	04. 2041AM - Craig St / Road A

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MOVEMENT SUMMARY

Site: 101 [01. 2041AM - Bruce Hwy / Jones St (Site Folder: Stage 1 - 2041 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2041 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	52	24.5	52	24.5	0.032	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	49.2
2	T1	All MCs	217	4.4	217	4.4	0.113	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			268	8.2	268	8.2	0.113	0.6	NA	0.0	0.0	0.00	0.10	0.00	57.5
North: Bruce Highway (N)															
8	T1	All MCs	344	5.8	344	5.8	0.158	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	All MCs	125	36.1	125	36.1	0.145	7.9	LOS A	0.6	5.4	0.42	0.64	0.42	50.1
Approach			470	13.9	470	13.9	0.158	2.1	NA	0.6	5.4	0.11	0.17	0.11	55.4
West: Jones St (W)															
10	L2	All MCs	103	27.6	103	27.6	0.066	6.4	LOS A	0.0	0.0	0.00	0.51	0.00	52.5
12	R2	All MCs	40	28.9	40	28.9	0.192	22.4	LOS B	0.6	5.2	0.76	0.91	0.80	35.1
Approach			143	27.9	143	27.9	0.192	10.9	LOS A	0.6	5.2	0.21	0.62	0.22	48.6
All Vehicles			881	14.5	881	14.5	0.192	3.1	NA	0.6	5.4	0.09	0.22	0.10	54.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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MOVEMENT SUMMARY

Site: 101 [02. 2041AM - Bruce Hwy / Bird St (Site Folder: Stage 1 - 2041 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2041 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
2	T1	All MCs	228	6.5	228	6.5	0.101	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
3	R2	All MCs	60	7.0	60	7.0	0.067	7.6	LOS A	0.3	1.9	0.45	0.67	0.45	50.4
Approach			288	6.6	288	6.6	0.101	1.6	NA	0.3	1.9	0.09	0.14	0.09	56.2
East: Bird St (E)															
4	L2	All MCs	43	12.2	43	12.2	0.208	7.8	LOS A	0.7	5.7	0.61	0.80	0.62	42.3
6	R2	All MCs	41	20.5	41	20.5	0.208	18.8	LOS B	0.7	5.7	0.61	0.80	0.62	42.3
Approach			84	16.3	84	16.3	0.208	13.2	LOS A	0.7	5.7	0.61	0.80	0.62	42.3
North: Bruce Highway (N)															
7	L2	All MCs	37	25.7	37	25.7	0.023	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	49.1
8	T1	All MCs	347	6.4	347	6.4	0.184	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			384	8.2	384	8.2	0.184	0.3	NA	0.0	0.0	0.00	0.05	0.00	53.3
All Vehicles			757	8.5	757	8.5	0.208	2.2	NA	0.7	5.7	0.10	0.17	0.10	52.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [03. 2041AM - Bruce Hwy / Craig St (Site Folder: Stage 1 - 2041 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2041 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	2	0.0	2	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	51.8
2	T1	All MCs	262	4.8	262	4.8	0.137	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	38	5.6	38	5.6	0.033	7.0	LOS A	0.1	1.0	0.45	0.63	0.45	45.2
Approach			302	4.9	302	4.9	0.137	0.9	NA	0.1	1.0	0.06	0.08	0.06	57.5
East: Craig Street (E)															
4	L2	All MCs	26	12.0	26	12.0	0.152	7.8	LOS A	0.5	3.8	0.63	0.82	0.63	42.1
5	T1	All MCs	1	0.0	1	0.0	0.152	14.7	LOS B	0.5	3.8	0.63	0.82	0.63	45.2
6	R2	All MCs	23	18.2	23	18.2	0.152	23.0	LOS B	0.5	3.8	0.63	0.82	0.63	35.5
Approach			51	14.6	51	14.6	0.152	14.9	LOS B	0.5	3.8	0.63	0.82	0.63	39.9
North: Bruce Highway (N)															
7	L2	All MCs	24	26.1	24	26.1	0.206	5.9	LOS A	0.0	0.0	0.00	0.04	0.00	59.3
8	T1	All MCs	361	6.1	361	6.1	0.206	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
9	R2	All MCs	5	0.0	5	0.0	0.005	6.5	LOS A	0.0	0.1	0.35	0.56	0.35	51.3
Approach			391	7.3	391	7.3	0.206	0.5	NA	0.0	0.1	0.00	0.04	0.00	59.4
West: Craig Street (E)															
10	L2	All MCs	5	20.0	5	20.0	0.013	7.1	LOS A	0.0	0.3	0.48	0.60	0.48	46.1
11	T1	All MCs	1	0.0	1	0.0	0.013	14.0	LOS A	0.0	0.3	0.48	0.60	0.48	46.1
12	R2	All MCs	1	0.0	1	0.0	0.013	16.9	LOS B	0.0	0.3	0.48	0.60	0.48	48.9
Approach			7	14.3	7	14.3	0.013	9.5	LOS A	0.0	0.3	0.48	0.60	0.48	46.7
All Vehicles			751	6.9	751	6.9	0.206	1.7	NA	0.5	3.8	0.07	0.12	0.07	57.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [04. 2041AM - Craig St / Road A (Site Folder: Stage 1 - 2041 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2041 AM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Craig Street (E)															
5	T1	All MCs	1	0.0	1	0.0	0.001	0.1	LOS A	0.0	0.0	0.13	0.29	0.13	55.1
6	R2	All MCs	1	0.0	1	0.0	0.001	5.6	LOS A	0.0	0.0	0.13	0.29	0.13	52.8
Approach			2	0.0	2	0.0	0.001	2.9	NA	0.0	0.0	0.13	0.29	0.13	53.8
North: Road A															
7	L2	All MCs	1	0.0	1	0.0	0.042	5.5	LOS A	0.1	1.1	0.07	0.57	0.07	50.7
9	R2	All MCs	48	15.2	48	15.2	0.042	5.8	LOS A	0.1	1.1	0.07	0.57	0.07	37.7
Approach			49	14.9	49	14.9	0.042	5.8	LOS A	0.1	1.1	0.07	0.57	0.07	38.6
West: Craig Street (W)															
10	L2	All MCs	60	15.8	60	15.8	0.036	5.7	LOS A	0.0	0.0	0.00	0.56	0.00	45.8
11	T1	All MCs	1	0.0	1	0.0	0.036	0.0	LOS A	0.0	0.0	0.00	0.56	0.00	54.8
Approach			61	15.5	61	15.5	0.036	5.6	NA	0.0	0.0	0.00	0.56	0.00	46.1
All Vehicles			113	15.0	113	15.0	0.042	5.6	NA	0.1	1.1	0.03	0.56	0.03	44.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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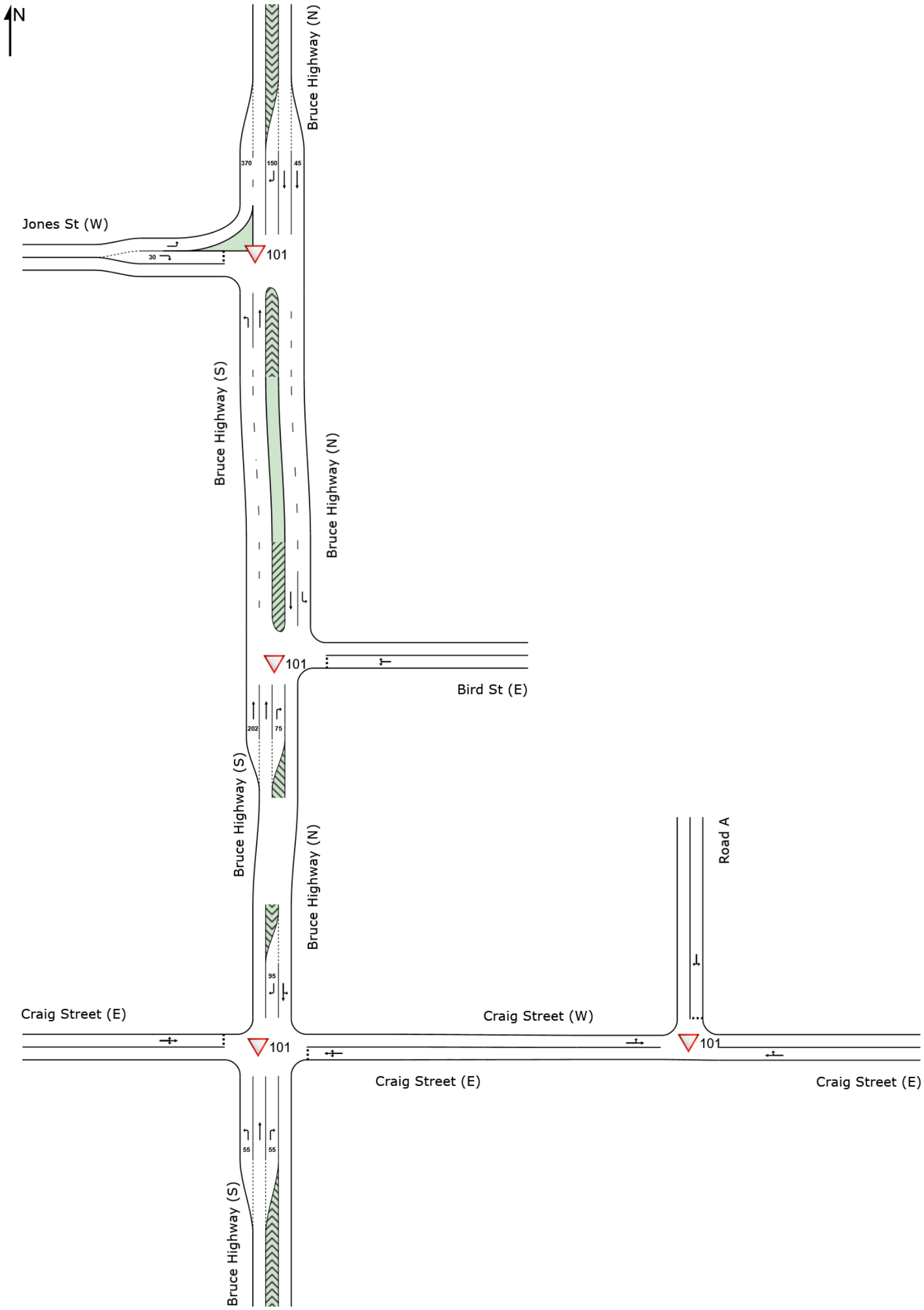
Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

NETWORK LAYOUT

Network: N101 [Stage 1 2041 PM (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽101	NA	01. 2041PM - Bruce Hwy / Jones St
▽101	NA	02. 2041PM - Bruce Hwy / Bird St
▽101	NA	03. 2041PM - Bruce Hwy / Craig St
▽101	NA	04. 2041PM - Craig St / Road A

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Organisation: GHD PTY LTD | Licence: NETWORK / Enterprise Level 1 | Created: Friday, 29 November 2024 5:57:33 PM
Project: \\ghdnet\ghd\AU\Townsville\Projects\41\12645670\Tech\Design\Traffic Impact Assessment\01. Work\Ayr Industrial Estate TIA_Rev03.sip9

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [01. 2041PM - Bruce Hwy / Jones St (Site Folder: Stage 1 - 2041 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2041 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	55	21.2	55	21.2	0.034	3.3	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	All MCs	305	6.2	305	6.2	0.161	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			360	8.5	360	8.5	0.161	0.5	NA	0.0	0.0	0.00	0.08	0.00	58.0
North: Bruce Highway (N)															
8	T1	All MCs	280	6.4	280	6.4	0.129	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	All MCs	105	34.0	105	34.0	0.138	8.7	LOS A	0.5	4.9	0.48	0.69	0.48	49.7
Approach			385	13.9	385	13.9	0.138	2.4	NA	0.5	4.9	0.13	0.19	0.13	55.1
West: Jones St (W)															
10	L2	All MCs	135	26.6	135	26.6	0.085	6.7	LOS A	0.0	0.0	0.00	0.51	0.00	52.5
12	R2	All MCs	74	37.1	74	37.1	0.392	28.8	LOS C	1.4	13.2	0.82	1.00	1.09	31.4
Approach			208	30.3	208	30.3	0.392	14.5	LOS B	1.4	13.2	0.29	0.69	0.38	45.9
All Vehicles			953	15.5	953	15.5	0.392	4.3	NA	1.4	13.2	0.12	0.26	0.14	52.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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MOVEMENT SUMMARY

Site: 101 [02. 2041PM - Bruce Hwy / Bird St (Site Folder: Stage 1 - 2041 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2041 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
2	T1	All MCs	324	10.7	324	10.7	0.147	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	48	4.3	48	4.3	0.051	7.3	LOS A	0.2	1.4	0.43	0.65	0.43	50.7
Approach			373	9.9	373	9.9	0.147	1.0	NA	0.2	1.4	0.06	0.08	0.06	57.4
East: Bird St (E)															
4	L2	All MCs	92	2.3	92	2.3	0.276	7.6	LOS A	1.1	8.1	0.60	0.78	0.67	43.4
6	R2	All MCs	46	13.6	46	13.6	0.276	20.6	LOS B	1.1	8.1	0.60	0.78	0.67	43.4
Approach			138	6.1	138	6.1	0.276	12.0	LOS A	1.1	8.1	0.60	0.78	0.67	43.4
North: Bruce Highway (N)															
7	L2	All MCs	48	41.3	48	41.3	0.033	3.3	LOS A	0.0	0.0	0.00	0.52	0.00	48.1
8	T1	All MCs	305	8.3	305	8.3	0.163	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			354	12.8	354	12.8	0.163	0.5	NA	0.0	0.0	0.00	0.07	0.00	51.5
All Vehicles			864	10.5	864	10.5	0.276	2.5	NA	1.1	8.1	0.12	0.19	0.13	52.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [03. 2041PM - Bruce Hwy / Craig St (Site Folder: Stage 1 - 2041 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2041 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Bruce Highway (S)															
1	L2	All MCs	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	51.8
2	T1	All MCs	333	6.3	333	6.3	0.176	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
3	R2	All MCs	35	15.2	35	15.2	0.032	7.4	LOS A	0.1	1.1	0.46	0.63	0.46	45.0
Approach			368	7.1	368	7.1	0.176	0.7	NA	0.1	1.1	0.04	0.06	0.04	58.0
East: Craig Street (E)															
4	L2	All MCs	57	0.0	57	0.0	0.219	7.5	LOS A	0.8	5.5	0.64	0.80	0.66	43.4
5	T1	All MCs	2	0.0	2	0.0	0.219	17.6	LOS B	0.8	5.5	0.64	0.80	0.66	46.0
6	R2	All MCs	27	11.5	27	11.5	0.219	26.0	LOS B	0.8	5.5	0.64	0.80	0.66	36.7
Approach			86	3.7	86	3.7	0.219	13.6	LOS A	0.8	5.5	0.64	0.80	0.66	42.0
North: Bruce Highway (N)															
7	L2	All MCs	31	44.8	31	44.8	0.209	6.1	LOS A	0.0	0.0	0.00	0.05	0.00	59.3
8	T1	All MCs	361	3.8	361	3.8	0.209	0.1	LOS A	0.0	0.0	0.00	0.05	0.00	59.6
9	R2	All MCs	9	11.1	9	11.1	0.010	7.2	LOS A	0.0	0.3	0.41	0.60	0.41	50.5
Approach			401	7.1	401	7.1	0.209	0.7	NA	0.0	0.3	0.01	0.06	0.01	59.3
West: Craig Street (E)															
10	L2	All MCs	5	20.0	5	20.0	0.040	7.6	LOS A	0.1	1.0	0.65	0.76	0.65	39.0
11	T1	All MCs	2	0.0	2	0.0	0.040	16.3	LOS B	0.1	1.0	0.65	0.76	0.65	39.0
12	R2	All MCs	3	33.3	3	33.3	0.040	32.8	LOS C	0.1	1.0	0.65	0.76	0.65	42.7
Approach			11	20.0	11	20.0	0.040	16.9	LOS B	0.1	1.0	0.65	0.76	0.65	40.5
All Vehicles			866	6.9	866	6.9	0.219	2.2	NA	0.8	5.5	0.09	0.14	0.10	56.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

Document Set ID: 1925355
Version: 1, Version Date: 19/03/2026

MOVEMENT SUMMARY

Site: 101 [04. 2041PM - Craig St / Road A (Site Folder: Stage 1 - 2041 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [Stage 1 2041 PM (Network Folder: General)]

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Craig Street (E)															
5	T1	All MCs	1	0.0	1	0.0	0.001	0.1	LOS A	0.0	0.0	0.13	0.29	0.13	55.1
6	R2	All MCs	1	0.0	1	0.0	0.001	5.6	LOS A	0.0	0.0	0.13	0.29	0.13	52.8
Approach			2	0.0	2	0.0	0.001	2.9	NA	0.0	0.0	0.13	0.29	0.13	53.8
North: Road A															
7	L2	All MCs	1	0.0	1	0.0	0.071	5.5	LOS A	0.2	1.7	0.08	0.57	0.08	50.7
9	R2	All MCs	85	4.9	85	4.9	0.071	5.6	LOS A	0.2	1.7	0.08	0.57	0.08	37.6
Approach			86	4.9	86	4.9	0.071	5.6	LOS A	0.2	1.7	0.08	0.57	0.08	38.2
West: Craig Street (W)															
10	L2	All MCs	56	24.5	56	24.5	0.036	5.8	LOS A	0.0	0.0	0.00	0.56	0.00	45.0
11	T1	All MCs	1	0.0	1	0.0	0.036	0.0	LOS A	0.0	0.0	0.00	0.56	0.00	54.8
Approach			57	24.1	57	24.1	0.036	5.7	NA	0.0	0.0	0.00	0.56	0.00	45.3
All Vehicles			145	12.3	145	12.3	0.071	5.6	NA	0.2	1.7	0.05	0.56	0.05	42.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

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The Power of Commitment

From: "mydas-notifications-prod2@qld.gov.au" <mydas-notifications-prod2@qld.gov.au> on behalf of "MYDAS2" <mydas-notifications-prod2@qld.gov.au>
Sent: Fri, 5 Jun 2026 14:38:21 +1000
To: "RES - Mailbox - Planning" <Planning@burdekin.qld.gov.au>
Cc: "andrew.wray@dsdilgp.qld.gov.au" <andrew.wray@dsdilgp.qld.gov.au>; "info@milfordplanning.com.au" <info@milfordplanning.com.au>
Subject: 2604-51865 SRA application correspondence
Attachments: 2604-51865 SRA - Attachment 5 documents.pdf, GE83-N Representations about a referral agency response.pdf, 2604-51865 SRA RA29-N Amended response - with conditions.pdf
Importance: Normal

Please find attached a notice regarding application 2604-51865 SRA.

If you require any further information in relation to the application, please contact the State Assessment and Referral Agency on the details provided in the notice.

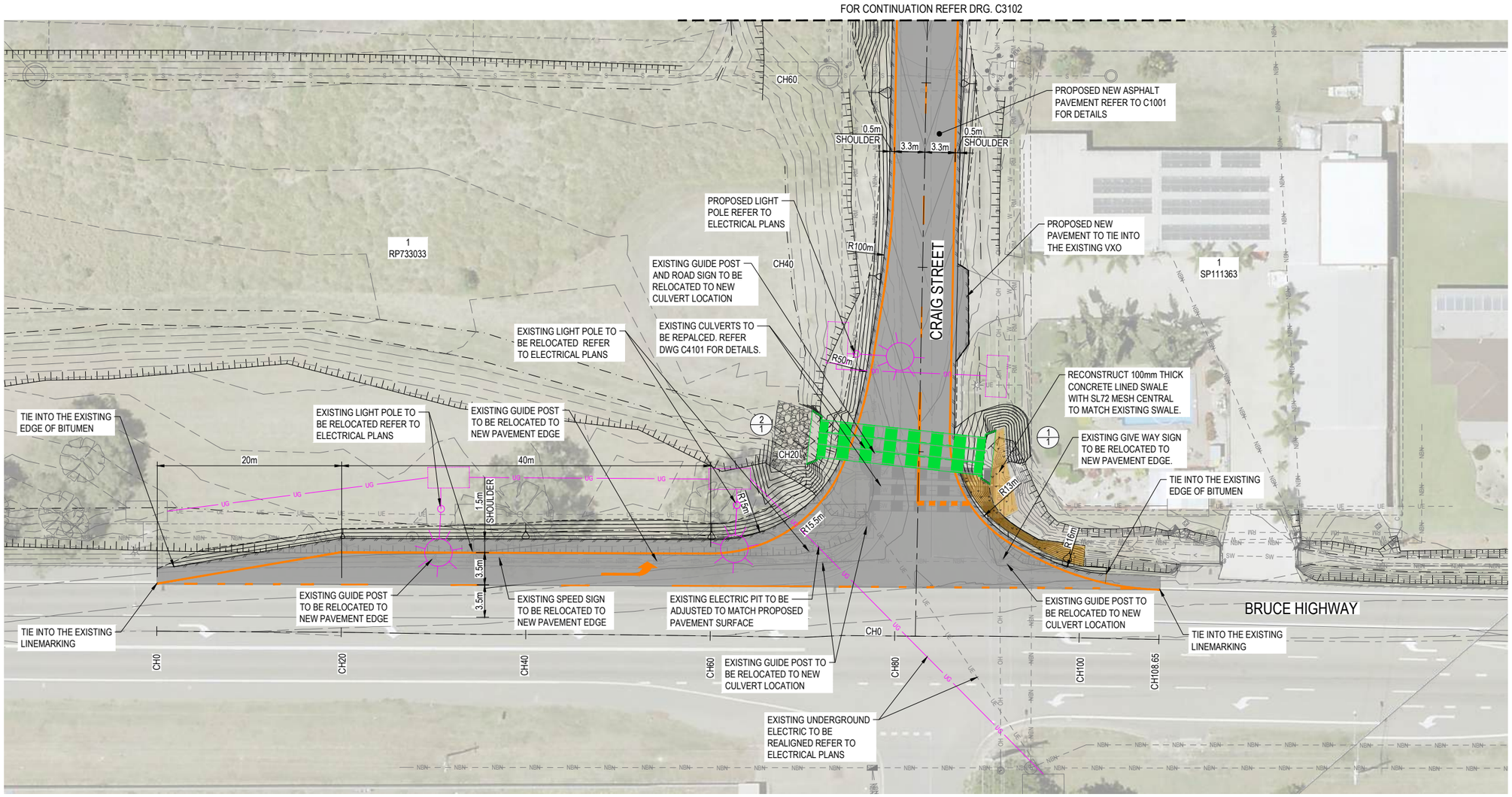
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LEGEND

- EXISTING SURFACE CONTOURS
- EXISTING LOT BOUNDARY
- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING SEWER RISING MAIN
- EXISTING OVERHEAD ELECTRIC
- INDICATIVE EXISTING NBN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING ROAD CONTROL LINE
- EXISTING KERB
- EXISTING EDGE OF BITUMEN
- EXISTING TOP OF BANK
- EXISTING BOTTOM OF BANK
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED ELECTRICAL PIT
- PROPOSED LIGHT POLE
- PROPOSED SWALE
- PROPOSED STORMWATER
- STORMWATER STRUCTURE LABEL
- PROPOSED ROAD CONTROL LINE
- PROPOSED ROAD EDGE OF BITUMEN
- PROPOSED ASPHALT PAVEMENT
- CONCRETE SWALE



GENERAL ARRANGEMENT PLAN - SHEET 1

NOTE:
ALL DESIGN/SETOUT INFORMATION SHOWN ON THIS DRAWING IS AVAILABLE IN DIGITAL FORMAT FROM THE OFFICE OF THE SUPERINTENDENT UPON REQUEST BY THE CONTRACTOR.

WARNING: UNDERGROUND SERVICES:
UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

Queensland Government

SARA ref: 2604-51865 SRA

Date: 5 June 2026

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VER.	DESCRIPTION	DATE
C	REVISED DETAILED DESIGN	10-10-25
B	DETAILED DESIGN	27-06-25
A	FINAL PRELIMINARY DESIGN	25-04-25

BURCHILLS ENGINEERING SOLUTIONS
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ABN 76 166 942 365

CLIENT : Burdekin Shire Council

DRAWING TITLE : GENERAL ARRANGEMENT PLAN - SHEET 1

PROJECT : AYR INDUSTRIAL ESTATE
SECONDARY ACCESS DESIGN
CRAIG STREET, AYR

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

SCALE AT FULL SIZE (A1) : 5 0 5 10m
1 : 250 (FULL SIZE)

DEVEL. APPLIC. No. :	DATE : 10-10-25
PROJECT LEADER : D.WALTON	DESIGNER : A.LUNA
DRAFTSPERSON : N.NGUYEN	CHECKED : L.FAULKNER

APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

PROJECT No.:	DRAWING No. :	VERSION:
BE250152	C3101	C

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Development Assessment Rules—Representations about a referral agency response

The following provisions are those set out in sections 28 and 30 of the Development Assessment Rules[1] regarding **representations about a referral agency response**

Part 6: Changes to the application and referral agency responses

28 Concurrence agency changes its response or gives a late response

28.1. Despite part 2, a concurrence agency may, after its referral agency assessment period and any further period agreed ends, change its referral agency response or give a late referral agency response before the application is decided, subject to section 28.2 and 28.3.

28.2. A concurrence agency may change its referral agency response at any time before the application is decided if—

(a) the change is in response to a change which the assessment manager is satisfied is a change under section 26.1; or

(b) the Minister has given the concurrence agency a direction under section 99 of the Act; or

(c) the applicant has given written agreement to the change to the referral agency response.[2]

28.3. A concurrence agency may give a late referral agency response before the application is decided, if the applicant has given written agreement to the late referral agency response.

28.4. If a concurrence agency proposes to change its referral agency response under section 28.2(a), the concurrence agency must—

(a) give notice of its intention to change its referral agency response to the assessment manager and a copy to the applicant within 5 days of receiving notice of the change under section 25.1; and

(b) the concurrence agency has 10 days from the day of giving notice under paragraph (a), or a further period agreed between the applicant and the concurrence agency, to give an amended referral agency response to the assessment manager and a copy to the applicant.

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1 Pursuant to Section 68 of the *Planning Act 2016*

2 In the instance an applicant has made representations to the concurrence agency under section 30, and the concurrence agency agrees to make the change included in the representations, section 28.2(c) is taken to have been satisfied.

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Part 7: Miscellaneous

30 Representations about a referral agency response

30.1. An applicant may make representations to a concurrence agency at any time before the application is decided, about changing a matter in the referral agency response.[3]

[3] An applicant may elect, under section 32, to stop the assessment manager's decision period in which to take this action. If a concurrence agency wishes to amend their response in relation to representations made under this section, they must do so in accordance with section 28.

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DELIVERING FOR QUEENSLAND | Queensland Government

Department of
State Development,
Infrastructure and Planning

SARA reference: 2604-51865
Council reference: RAL/0034.03
Applicant reference: M2634

5 June 2026

Chief Executive Officer
Burdekin Shire Council
PO Box 974
Ayr QLD 4807
planning@burdekin.qld.gov.au

Attention: James Stewart

Dear James,

SARA referral agency response—31-87 Craig Street and 23-25 McCathie Street, Ayr

(Given under section 56 of the Development Assessment Rules)

The development application described below was confirmed as properly referred by the State Assessment and Referral Agency (SARA) on 20 April 2026.

Response

Outcome:	Referral agency response – with conditions Under s56(2)(a) of the *Planning Act 2016*, SARA has no requirements for the variation request aspect of development.
Date of response:	5 June 2026
Conditions:	The conditions in **Attachment 1** must be attached to any development approval
Advice:	Advice to the applicant is in **Attachment 2**
Reasons:	The reasons for the referral agency response are in **Attachment 3**

Development details

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Description:	Preliminary approval that includes a variation request	Change application under s82 of the *Planning Act 2016* for a material change of use (Variation Request to facilitate Ayr Industrial Estate expansion)
	Development permit	Change application under s82 of the *Planning Act 2016* for a reconfiguring a lot (3 lots into 48 lots)
SARA role:	Referral agency	
SARA triggers:	Schedule 10, Part 9, Division 4, Subdivision 1, Table 1, Item 1 (Planning Regulation 2017) Development impacting on state transport infrastructure Schedule 10, Part 9, Division 4, Subdivision 2, Table 1, Item 1 (Planning Regulation 2017) Reconfiguring a lot on premises near a state-transport corridor Schedule 10, Part 9, Division 4, Subdivision 2, Table 3, Item 1 (Planning Regulation 2017) Reconfiguring a lot near a state-controlled intersection Schedule 10, Part 9, Division 4, Subdivision 2, Table 4, Item 1 (Planning Regulation 2017) Development on a premises near a state-transport corridor and state-controlled intersection	
SARA reference:	2604-51865 SRA	
Assessment manager:	Burdekin Shire Council	
Street address:	31-87 Craig Street, and 23-25 McCathie Street, Ayr	
Real property description:	Lots 1-7, 9-11 and 82 on SP358254	
Applicant name:	Burdekin Shire Council	
Applicant contact details:	C/- Milford Planning PO Box 5463 Townsville City QLD 4810	
Human Rights Act 2019 considerations:	Consideration of the *Human Rights Act 2019* sections 15 to 37 has been undertaken as part of this decision. It has been determined that this decision does not limit human rights.	

Representations

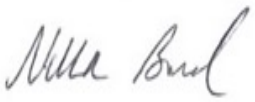
An applicant may make representations to a concurrence agency, at any time before the application is decided, about changing a matter in the referral agency response (s.30 Development Assessment Rules). Copies of the relevant provisions are in **Attachment 4**.

A copy of this response has been sent to the applicant for their information.

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For further information please contact Andy Wray, Planner, on (07) 3882 8481 or via email DARTSupport@dsdilgp.qld.gov.au who will be pleased to assist.

Yours sincerely



Nikki Brock
A/Manager

cc Burdekin Shire Council
C/- Milford Planning – info@milfordplanning.com.au

enc Attachment 1 - Referral agency conditions
Attachment 2 - Advice to the applicant
Attachment 3 - Reasons for referral agency response
Attachment 4 - Representations about a referral agency response provisions
Attachment 5 - Documents referenced in conditions

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Attachment 1—Referral agency conditions

(Under section 56(1)(b)(i) of the *Planning Act 2016* the following conditions must be attached to any development approval relating to this application) (Copies of the documents referenced below are found at Attachment 5)

No.	Conditions	Condition timing
Development Permit - Reconfiguring a lot		
10.9.4.1.1.1 — State transport infrastructure generally; 10.9.4.2.1.1 — Reconfiguring a lot near a State transport corridor; and 10.9.4.2.3.1 — Reconfiguring a lot near a State-controlled road intersection—The chief executive administering the *Planning Act 2016* nominates the Director-General of the Department of Transport and Main Roads to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following conditions:		
1.	Direct access is not permitted between the Bruce Highway and the subject site.	At all times
2.	(a) Provide road works comprising an Auxiliary Left Turn movement at the intersection of Craig Street and the Bruce Highway, generally in accordance with General Arrangement Plan - Sheet 1, referenced C3101 and revision C. (b) Design and construct the road works, required in part (a) of this condition, in accordance with: (i) the Department of Transport and Main Roads' Road Planning and Design Manual, 2nd Edition; (ii) the Department of Transport and Main Roads' Policies and Technical Specifications; (iii) the Department of Transport and Main Roads' Standard Drawings Roads; and relevant local government requirements.	Prior to submitting the Plan of Survey to the local government for approval
3.	(a) Stormwater management of the development must ensure no worsening or actionable nuisance to the state-controlled road. (b) Any works on the land must not: (i) create any new discharge points for stormwater runoff onto the state-controlled road (ii) interfere with and/or cause damage to the existing stormwater drainage on the state-controlled road (iii) surcharge any existing culvert or drain on the state-controlled road (iv) reduce the quality of stormwater discharge onto the state-controlled road. (c) RPEQ certification with supporting documentation (Construction certification) must be provided to corridor.northern@tmr.qld.gov.au within the Department of Transport and Main Roads, confirming that the development has been constructed in accordance with part/s (a) and (b) of this condition.	(a) At all times (b) At all times (c) Prior to obtaining development approval for operational works
Preliminary Approval - Material change of use		
10.9.4.1.1.1 — State transport infrastructure generally and 10.9.4.2.4.1 — Material change of use near a State transport corridor—The chief executive administering the *Planning Act 2016* nominates the Director-General of the Department of Transport and Main Roads to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following conditions:		

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4.	Direct access is not permitted between the Bruce Highway and the subject site.	At all times
5.	(a) Provide road works comprising an Auxiliary Left Turn movement at the intersection of Craig Street and the Bruce Highway, generally in accordance with General Arrangement Plan - Sheet 1, referenced C3101 and revision C. (b) Design and construct the road works, required in part (a) of this condition, in accordance with: (i) the Department of Transport and Main Roads' Road Planning and Design Manual, 2nd Edition; (ii) the Department of Transport and Main Roads' Policies and Technical Specifications; (iii) the Department of Transport and Main Roads' Standard Drawings Roads; and relevant local government requirements.	Prior to submitting the Plan of Survey to the local government for approval
6.	(a) Stormwater management of the development must ensure no worsening or actionable nuisance to the state-controlled road. (b) Any works on the land must not: (i) create any new discharge points for stormwater runoff onto the state-controlled road (ii) interfere with and/or cause damage to the existing stormwater drainage on the state-controlled road (iii) surcharge any existing culvert or drain on the state-controlled road (iv) reduce the quality of stormwater discharge onto the state-controlled road. (c) RPEQ certification with supporting documentation (Construction certification) must be provided to corridor.northern@tmr.qld.gov.au within the Department of Transport and Main Roads, confirming that the development has been constructed in accordance with part/s (a) and (b) of this condition.	(a) At all times (b) At all times (c) Prior to obtaining development approval for operational work or building work, whichever occurs first

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Attachment 2—Advice to the applicant

General advice	
1.	Terms and phrases used in this document are defined in the *Planning Act 2016*, its regulation or the State Development Assessment Provisions (SDAP) (version 3.5). If a word remains undefined it has its ordinary meaning.
2.	**Roadworks on a State-controlled road** Under section 33 of the *Transport Infrastructure Act 1994*, written approval is required from the Department of Transport and Main Roads (DTMR) in order to carry out road works on a State-controlled Road or to interfere with the State-controlled road or its operation. Please contact DTMR at corridor.northern@tmr.qld.gov.au to make an application for a road works approval. This approval must be obtained prior to commencing any works on the State-controlled road or its associated road reserve. The approval process may require the review and approval of engineering designs of the proposed works, certified by a Registered Professional Engineer of Queensland (RPEQ). The road works approval process takes time – please contact DTMR as soon as possible to ensure that gaining approval does not delay construction. Where works have been carried out within the road reserve, without prior approval from DTMR, compliance action may be required

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Attachment 3—Reasons for referral agency response

(Given under section 56(7) of the *Planning Act 2016*)

The reasons for SARA's decision are:

- The development will comply with State code 1: Development in a state-controlled road environment of the State Development Assessment Provisions if carried out in accordance with the proposed conditions. Specifically, the proposed development:
    - will not increase the likelihood or frequency of accidents, fatalities or serious injury for users of a state-controlled road
    - will not adversely impact the structural integrity or physical condition of state-controlled roads, road transport infrastructure, public passenger transport infrastructure or active transport infrastructure
    - will not adversely impact the function and efficiency of state-controlled roads or future State-controlled roads
    - will not adversely impact the state's ability to plan, construct, maintain, upgrade or operate state-controlled roads, future state-controlled roads or road transport infrastructure
    - will not significantly increase the cost to the state to plan, construct, upgrade or maintain state-controlled roads, future state-controlled roads or road transport infrastructure
    - maintains or improves access to public passenger transport infrastructure or active transport infrastructure
    - will not adversely impact the state's ability to operate public passenger services on state-controlled roads
    - protects community amenity from significant adverse impacts of environmental emissions generated by road transport infrastructure or vehicles using state-controlled roads.

- The development will comply with State code 6: Protection of state transport networks of the State Development Assessment Provisions if carried out in accordance with the proposed conditions. Specifically, the proposed development:
    - will not create a safety hazard for users of state transport infrastructure or public passenger services by increasing the likelihood or frequency of a fatality or serious injury
    - will not result in a worsening of the physical condition or operating performance of the state transport network
    - will not compromise the state's ability to cost-effectively construct, operate and maintain state transport infrastructure
    - provides public passenger transport infrastructure to enable development to be serviced by public passenger transport
    - provides safe and direct access to public passenger transport infrastructure or active transport infrastructure, including access by cycling and walking.

Material used in the assessment of the application:

- the development application material and submitted plans
- *Planning Act 2016*
- Planning Regulation 2017
- the SDAP (version 3.5), as published by SARA
- the Development Assessment Rules
- SARA DA Mapping system
- section 58 of the *Human Rights Act 2019.*

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Attachment 4—Representations about a referral agency response provisions

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Attachment 5—Documents referenced in conditions

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