Notice of Meeting

Local Traffic Committee Meeting

A Local Traffic Committee Meeting of Byron Shire Council will be held as follows:

Venue	**Conference Room, Station Street, Mullumbimby**
Date	**Tuesday, 13 February 2024**
Time	**11.30am**

Phil Holloway
Director Infrastructure Services

I2024/166
Distributed 07/02/24

BYRON SHIRE COUNCIL

BUSINESS OF MEETING

1. APOLOGIES

2. DECLARATIONS OF INTEREST – PECUNIARY AND NON-PECUNIARY

3. ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

3.1 Local Traffic Committee Meeting held on 31 December 2023

4. MATTERS ARISING

5. OUTSTANDING ISSUES/RESOLUTIONS

6. REGULATORY MATTERS

6.1 Event - Anzac Day 2024 - Road Closures in Byron Bay, Mullumbimby, Brunswick Heads and Bangalow 3
6.2 Blues Festival 2024 Traffic Managment Plan 9
6.3 Event - Mullum2Bruns Paddle 2024 - 2026 82
6.4 Rifle Range Road Intersection Upgrade 91

7. MATTERS FOR TRAFFIC ENGINEERING ADVICE

7.1 Adaptive Pro Surf Championship - 17 March 2024 127
7.2 Belongil - Kendall Street to Childe Street Local Traffic Mangement 145

8. EVENTS

8.1 Event - Westpac Helicopter Byron Coastal Charity Walk – 4th May 2024 163
8.2 Event - Bangalow Billycart Derby May 2024 175
8.3 Chincogan Charge - September 2024 180

REGULATORY MATTERS

Report No. 6.1 Event - Anzac Day 2024 - Road Closures in Byron Bay, Mullumbimby, Brunswick Heads and Bangalow

File No: I2024/86

BACKGROUND

Each year the RSL sub-branches of Byron Bay, Mullumbimby, Bangalow and Brunswick Heads arrange their respective annual ANZAC Day street parade.

At this stage it is expected that little to no change to previous years will occur. The route of each parade is shown below, noting that:

Byron Bay:

As per previous years, the Dawn Service requires closure of the Tennyson Street and Marvell Street intersection between 4.30am and 5.30am and then again (approximately at 11am) when the parade reaches the gates to conduct the main service.

Council implements such measures including signed detours at the intersections of Marvell and Middleton Street and at both the Kingsley Street and Carlyle Street intersections on Tennyson Street.

The parade, is held under Police escort after it gathers at 10:15am off-road (Beach Hotel) at Bay and Jonson Street, then at 10.30am proceeds south down Jonson Street, left into Marvell Street to its end at the Memorial Gates on Tennyson Street.


BAY STREET
BAY LANE
LAWSON STREET
LATEEN LANE
FLETCHER STREET
GILMORE CRESCENT
BYRON STREET
MIDDLETON STREET
WILLIAMS LANE
FLETCHER LANE
BYRON BAY
JONSON STREET
MARVELL STREET
MARVELL LANE
KEESING LANE
CARLYLE STREET
TENNYSON STREET
KINGSLEY STREET
CARLYLE LANE

Mullumbimby:

The parade will again be held under Police escort commencing this year at 10.50am from Apex Park via Burringbar Street to concluding at the cenotaph on Dalley Street and that Council is to close Dalley Street to traffic between Burringbar Street and Tincogan Street between 8am and 12noon with signed detours in place.

Brunswick Heads:

Police involvement with both an escort and closing of the road on Fawcett Street between 4.30am and 6.30am. No Council involvement requested.

5

Bangalow:

The sub branch have confirmed the parade forms by 10.45am in front of the Bangalow Hotel in Byron Street, and sets out by 11am east to the intersection at Station Street, then turns left (north) to the front of the RSL Memorial Hall on Station Street for wreath laying and ceremony through to 11.45am. Council therefore are to implement the following:

- by 10.40am through to end of event, close:
  - Station Street north of Byron Street,
  - Byron Street west of Station Street, and
  - provide signed detours south along Station Street to and via Deacon Street.
- by 10.45am, close:
  - Byron Street at the east bound leg of the Granuaille Road and Lismore Road roundabout.
- Once parade has departed Byron Street remove the two Byron Street closures.

In general it should be noted previous year's events have not resulted in any reported safety concern, and the road closures are typically less than one hour duration and signed detours are implemented.

Therefore given the above, and that the local events are part of a well known and anticipated nation wide annual tradition, the usual conditions imposed on road events (for example event organisers to notify local residents and emergency providers, etc) is not typically applied, hence their omissions from the recommendation now tabled.

RECOMMENDATION:

1. That the Local Traffic Committee:

a) endorse the ANZAC Day Parades for 25 April 2024 for the Return Services League sub branches of Byron Bay, Mullumbimby, Bangalow and Brunswick Heads / Billinudgel for 3 years.

b) assists, where requested and required, with implementing the necessary temporary road closures and detours;

d) Notify the event on Council's webpage.

2. That the event organiser:

a) obtain separate approvals by NSW Police and TfNSW, noting that the Bangalow event is on a state road or may impact the state road network;

b) undertake consultation with community and affected businesses including adequate response/action to any raised concerns;

c) undertake consultation with emergency services and any identified issues addressed;

d) holding $20m public liability insurance cover which is valid for the event.

3. That the approvals provided above are subject to NSW Police approval being obtained and that each event is undertaken either or both under Police escort or traffic control and/or Council's implemented traffic control.

Report No. 6.2 Blues Festival 2024 Traffic Managment Plan

File No: I2023/2081

Bluesfest plans to run the 2024 event over the Easter Long Weekend: Thursday 28th March 2024 to Monday 1 April 2024 in accordance with DA10.2014.753.7.

Access to the camp grounds will be available from Wednesday 27th March until the 2nd April 2024.

Bluesfest have submitted a traffic management plan (TMP) and traffic guidance scheme (TGS) in accordance with the conditions of consent for DA 10.2014.753.7. The TMP includes a trigger point to be enforced to open Grays Lane in the south, only if ticket sales are greater than 18000 a day with gates to be open from 9pm-2am ONLY.

Council's Development Engineer has reviewed the submitted TMP and TGS and confirms they meet the conditions of consent requirements. For reference the specific traffic related condition have been inserted below.

Contingency plans (refer table 1 in the TMP) have been designed to manage the flow of traffic in the event of an incident or if traffic queues appear as though they may breach KPIs. These contingency plans have been designed with the intent of increase traffic flow from the public roads onto the site before any of the KPIs are breached. These contingency plans are to be implemented by festival management, with notification of any contingency implemented to be given to the relevant parties (traffic control supervisor, police, safety advisor, traffic engineer, etc.).

DA 10.2014.753.7 CONDITIONS

The following conditions are relevant:

61. Transport Management Plan

The submission of a Transport Management Plan (TMP) prepared in accordance with the "Guide to Traffic and Transport Management for Special Events", to Council for approval at least 90 days prior to the commencement of the first event under Stage 1. The Transport Management Plan to be broken into three parts to delineate management measures for small, medium and large events. The plan to be robust to enable it to be used for a variety of small, medium and large events annually.

a) The Transport Management Plan must include, but not be limited to:

i Details for the efficient management of parking, including provision for overflows from the southern parking area to the northern parking area. The management of overflow parking must ensure that the overflow vehicles exit the site from where they entered the site.

ii. A contingency plan for unplanned incidents that may disrupt traffic and transport before, during or after the event. The contingency plan must be fully documented and include emergency contact names and phone numbers.
iii. A copy of an approved Traffic Control Plan.

b) The Traffic Control Plan (TCP) must address the following matters:

i. The TCP must be designed in accordance with the requirements of the Roads and Maritime Services' Manual, Traffic Control at Work Sites Version 2, and the current Australian Standards, Manual of Uniform Traffic Control Devices Part 3, 'Traffic Control Devices for Works on Roads'.
ii. The TCP must be prepared by a suitably qualified and RMS accredited Work Site Traffic Controller.
iii. The regulation of traffic must be authorised under the Roads Act 1993 and the use of traffic control devices authorised under the Road Transport (Safety & Traffic Management) Act 1999.
iv. Reduced speed zones must be approved by the Roads and Maritime Services.
v. There is to be no impact on through travel times on the pacific Highway
vi. The TCP must incorporate a monitoring program to assess the traffic volumes and peak parking numbers associated with each event. Twenty four hour traffic counts are to be undertaken before, during and after the first two medium and large events (and as further required by Council or the Roads and Maritime Service) for the traffic on the frontage and surrounding roadways.Such report must include details demonstrating compliance with the conditions of consent relating to traffic management including the requirements of the RMS provided below. From time to time aerial photography of the site and surrounds at regular intervals before during and after the event, including peak traffic and parking periods should be undertaken to support the traffic monitoring report.
vii. The TCP must provide for all relevant conditions of the Roads and Maritime Services.
viii. The TCP must be submitted to the Local Traffic Committee prior to approval under the Roads Act 1993 and adequate time must be allowed for this to occur and for the preparation of any necessary reports and amendments necessary to meet the Local Traffic Committee recommendations.
ix. The TCP must satisfactorily address any concerns or issues raised by the Council, Police and/or Roads and Maritime Services from previous events.
x. The TCP must ensure access to surrounding and neighbouring properties at all times including the wrecker and service station.
xi. The TCP must provide appropriate signage to prohibit parking in the surrounding road network and to prohibit access to the airport by festival patrons. Adequate provision must be made to allow residents of Grays Lane to park in Tanner Lane near the end of Grays Lane when through access is closed due to flood. Permanent "No Parking" signs in Grays Lane from the Pacific Highway to the Tyagarah Nature Reserve boundary will be considered as a permanent management arrangement.
xii. Entrance to Grays Lane East of Yarun Road to be restricted to residents and their guests for the duration of the festival to prevent the parking of vehicles in Grays Lane.
xiii. The TCP to factor in that local roads operate a Level of Service D or better between the hours of 8am and 8pm on event days. The ramps of the Gulgan Road

Interchange with the Pacific Highway to operate at Level of Service C or better at event times (See Figure 3.1 Levels of Service Flow rates Austroads Guide to Traffic Management Part 3 and Highway Capacity Manual)

xiv. The TCP to include provision so that Traffic queuing on the Gulgan road off ramps does not exceed stopping sight distances for 110 km/h speeds. (See RMS supplements and Austroads Guide to road Design Part 3 Section 5.3.1 for stopping sight distances)

c) The Transport Management Plan and Traffic Control Plans to be reviewed on an annual basis and where required such plans to be updated accordingly taking into consideration changing traffic conditions, altered management arrangements and other issues as identified by the Roads and Maritime Service, Council or the Regulatory Working Group to ensure the safety and efficiency of the road network.

d) The Transport Management Plan and Traffic Guidance Scheme for the temporary use of the camping ground in conjunction with the Splendour in the Grass Festival is to be reviewed at the end of the event and a report prepared by a suitably qualified traffic engineer to identify the effectivity and performance of the Traffic Management Plan including measures to improve the safety and efficiency of the surrounding road network. The report shall be submitted to Council and reviewed by the Splendour in the Grass/ North Byron Parklands Regulatory Working Group

Note: Access/ Egress from, and to, the Pacific Highway to Grays Lane to be closed in the future by the TfNSW. The Transport Management Plan and Traffic Control Plan to reflect proposed changes to this intersection. Traffic management documents to be in accordance with current standards and terminology as stipulated by TfNSW

RECOMMENDATION:

1. That Council endorse the regulatory traffic management facilities and devices, including signs and traffic controller provisions proposed for the Council controlled public road network as outlined in attachment 1 (E2023/135660) for the Byron Bay Bluesfest 2024 to be held on Thursday 28 March 2024 to Monday 1 April 2024, subject to:

a) Separate approvals by NSW Police and TfNSW being obtained, noting that the event is on a state road or may impact the state road network;

b) The event be held through the implementation of the events Traffic Management Plan and Traffic Control Plan(s) as per attachment 1 (E2023/135660) The Traffic Management Plan is to include contingency measures in case the level of queuing fails to meet KPI requirements. It is noted that such queuing may be caused by the introduction of paid parking.

c) The Traffic Management Plan and the Traffic Control Plan(s) to be implemented by those with relevant and current TfNSW accreditation;

d) Traffic camera data recorders or similar be used to obtain an accurate record of traffic impacts at KPI queue locations;

e) That the impact of the event be advertised via a notice in the local weekly paper a minimum of one week prior to the operational impacts taking

effect, noting it must include the event name, specifics of any traffic impacts or road closures and times, alternative route arrangements, event organiser, a personal contact name and a telephone number for all event related enquiries or complaints;

2. That the event organiser:

a) advertise the impact of the event via a notice in the local weekly paper a minimum of one week prior to the operational impacts taking effect, noting it must include the event name, specifics of any traffic impacts or road closures and times, alternative route arrangements, event organiser, a personal contact name and a telephone number for all event related enquiries or complaints;
b) provide a copy of the advert for Council's web page;
c) give consideration of any submissions received;
d) inform community and businesses that are directly impacted (e.g. adjacent to the event) via written information which is delivered to the property in a timely manner so as to document, consider and respond to any concerns raised;
e) arrange for private property access and egress affected by the event;
f) liaise with bus and taxi operators and ensuring arrangements are made for provision of services during conduct of the event;
g) consult with emergency services and any identified issues be addressed;
h) holding $20m public liability insurance cover which is valid for the event;
i) paying Council's Road Event Application Fee prior to the event.

Attachments:

1 51.2023.1065.1 - Bluesfest 2024 TMP, E2023/135660 , page 13

TRAFFIC MANAGEMENT PLAN

Bluesfest 2024
Tyagarah, NSW

For:	Bluesfest Byron Bay Pty Ltd
Report no:	23566-TMP-C
Date:	20-Dec-23

Greg Alderson Associates

Greg Alderson Associates

Contact Information

43 Main St

Clunes NSW 2480

Telephone: 02 6629 1552

office@aldersonassociates.com.au
www.aldersonassociates.com.au

Document Information

Project name	Bluesfest 2024
Reference	23566-TMP-C
Revision	C

Key Personnel

Sodiq Azeez
BSc Eng (Civil) (Hons)
SafeWork NSW PWZTMP Card no: TCT1040215

Allan Evans
BE Eng (Civil)
SafeWork NSW PWZTMP Card no: TCT1007605

Document Control

Rev	Description	Prepared by:			Reviewed by:		
A	For information	SA	28/09/2023		AE	04/10/2023	
B	For information	SA	26/10/2023		AE	31/10/2023	
C	For information	SA	19/12/2023		AE	21/12/2023	

Greg Alderson Associates

TABLE OF CONTENTS

1.0 Introduction 6
1.1 Event Description & Calendar 6
1.2 Scope of Works 6
1.3 Site Locality 6
1.4 Standards, Specifications & Guidelines 8
1.5 Summary of Key Performance Indicators (KPIs) 9
1.6 Definitions 10
2.0 Traffic Control at Tyagarah Interchange, Bluesfest Southbound Off-ramp and Grays Lane Intersection 11
2.1 Main Purpose 11
2.2 General Layout 11
2.3 Grays Lane Intersection 12
2.4 Service Station Intersection 12
2.5 Traffic Controllers on Off-ramps 12
2.6 Traffic Controllers 12
2.7 Traffic Guidance Scheme (TGS) 13
2.8 Traffic Control Implementation 14
3.0 Traffic Control at Site Gates 17
3.1 Main Purpose 17
3.2 Camper Arrival 17
3.3 Day Patron Arrival 18
3.4 Departure 18
3.5 Buses & Taxis/Rideshare Vehicles 20
4.0 Traffic Control On-site 21
4.1 Main Purpose 21
4.2 Car Parks 21
4.3 Campers and Camper Processing 21

Greg Alderson Associates

4.3 North-South Internal Road 22
4.4 Bus and Taxi/Rideshare Ranks 22
4.5 Role of Traffic Engineer 22
5.0 Contingencies 23
6.0 Emergency Vehicles and Evacuation 28
6.1 Emergency Vehicles 28
6.2 Emergency Evacuation 28
7.0 Traffic Monitoring 30
8.0 Paid Parking 31
8.1 Paid Parking Contingency Plan 31
9.0 Provisions for Other Road Users 32
9.1 Pedestrians & Bicycles 32
9.2 Over-dimensioned vehicles 32
10.0 Traffic Management Methodology 33
10.1 Set Out, Signage, Delineation & Detours 33
10.2 Safety of Workers 33
10.3 Record Keeping & Monitoring 33
10.4 Incident Reporting 33
10.5 Advertising 35
11.0 Contact Details 36
12.0 2023 Traffic Data Overview 38
12.1 Traffic Arrival/Departure Profiles 38
12.2 Estimated Number of Vehicles On-site 43
13. 0 Risk Assessment 44
14.0 Copies of the Traffic Management Plan 45
15.0 TGS Checklist 46
16.0 Chain of Command 49
17.0 Conclusion 50
Appendix A – Bluesfest 2024 Site Plan 51
Appendix B – Traffic Guidance Scheme (TGS) 52
Appendix C – Risk Assessment Register 53

Greg Alderson Associates

Appendix D – Organisational Structure for Traffic Management 54
D.1 Organisational Structure for Traffic Management 54

LIST OF FIGURES

Figure 1 – Site locality (SIX Maps, 2023) 7
Figure 2 – Site access plan 8
Figure 3 – Southbound Off-ramp (GAA, 2019) 16
Figure 4 - Departure routes and Grays Lane intersection 19
Figure 5 – Access 1 inbound traffic (GAA, 2023) 38
Figure 6 – Access 1 outbound traffic (GAA, 2023) 39
Figure 7 – Access 3 inbound traffic (GAA, 2023) 39
Figure 8 – Pick-up/Drop-off area southbound traffic (one way) (GAA, 2023) 40
Figure 9 – Access 4 outbound traffic (GAA, 2023) 40
Figure 10 – Yarun Road southbound traffic (GAA, 2023) 41
Figure 11 – Yarun Road northbound traffic (GAA, 2023) 41
Figure 12 – Combined inbound traffic (GAA, 2023) 42
Figure 13 – Combined outbound traffic (GAA, 2023) 42
Figure 14 – Estimated number of vehicles on site at Bluesfest 2023 (GAA, 2023) 43

LIST OF TABLES

Table 1 – Contingency number, measures, implementation triggers and reasoning 24
Table 2 – TGS checklist 46

Greg Alderson Associates

1.0 Introduction

1.1 Event Description & Calendar

Bluesfest is a 5-day blues and roots Australian music festival that is held at the Byron Events Farm in the Byron Bay region of Northern NSW. Bluesfest is held over the Easter long weekend. Although the actual music portion of the festival spans from Thursday to Monday, campers are allowed to arrive at the festival on Wednesday prior and leave the site on Tuesday following the festival.

The 2024 Bluesfest event calendar is summarised as follows:

Wednesday 27th March 2024	Campgrounds open/camper arrivals
Thursday 28th March 2024	Event Day 1
Friday 29th March 2024	Event Day 2
Saturday 30th March 2024	Event Day 3
Sunday 31st March 2024	Event Day 4
Monday 1st April 2024	Event Day 5
Tuesday 2nd April 2024	Campgrounds close/camper departure

1.2 Scope of Works

Greg Alderson Associates (GAA) have been engaged by Bluesfest Byron Bay Pty Ltd to provide a Traffic Management Plan (TMP) for the 2024 Bluesfest event at the Byron Events Farm in Tyagarah, NSW.

The primary function of this TMP is to prescribe traffic management and control procedures, including a Traffic Guidance Scheme (TGS) for Bluesfest 2024 to ensure the safety of both the general public and staff throughout the event and to satisfy the conditions of consent for the festival. This TMP will focus on the main aspects of the project that will affect public road users.

Specific community consultation, communication, publicity, heritage, environmental, cultural, and social impact reports have been prepared for the event separate to this report.

1.3 Site Locality

The subject site is formally known as Lots 103, 104, 105 DP 1023126, Tanner Lane, Tyagarah. The location of the site with respect to its locality is shown in Figure 1, while the site access plan is shown in Figure 2.

As seen in Figure 2, the site has two main entries: Access 1, which is the northernmost entry typically for vehicles travelling southbound on the Pacific Motorway; and Access 3, which is the southernmost entry typically reserved for vehicles travelling northbound on the Pacific Motorway. Access 1 is also used as an exit for vehicles on the north of the site while Access 4 is used as an exit for vehicles on the south of the site. Access 2 is reserved for emergency vehicles and festival organisers.

As also indicated in Figure 2, a special off-ramp from the Pacific Motorway onto Tanner Lane is used throughout the festival to minimise conflict points and streamline traffic entering the site.

The Bluesfest 2024 site plan is included as Appendix A of this report while the TGS for the event is included as Appendix B of this report.

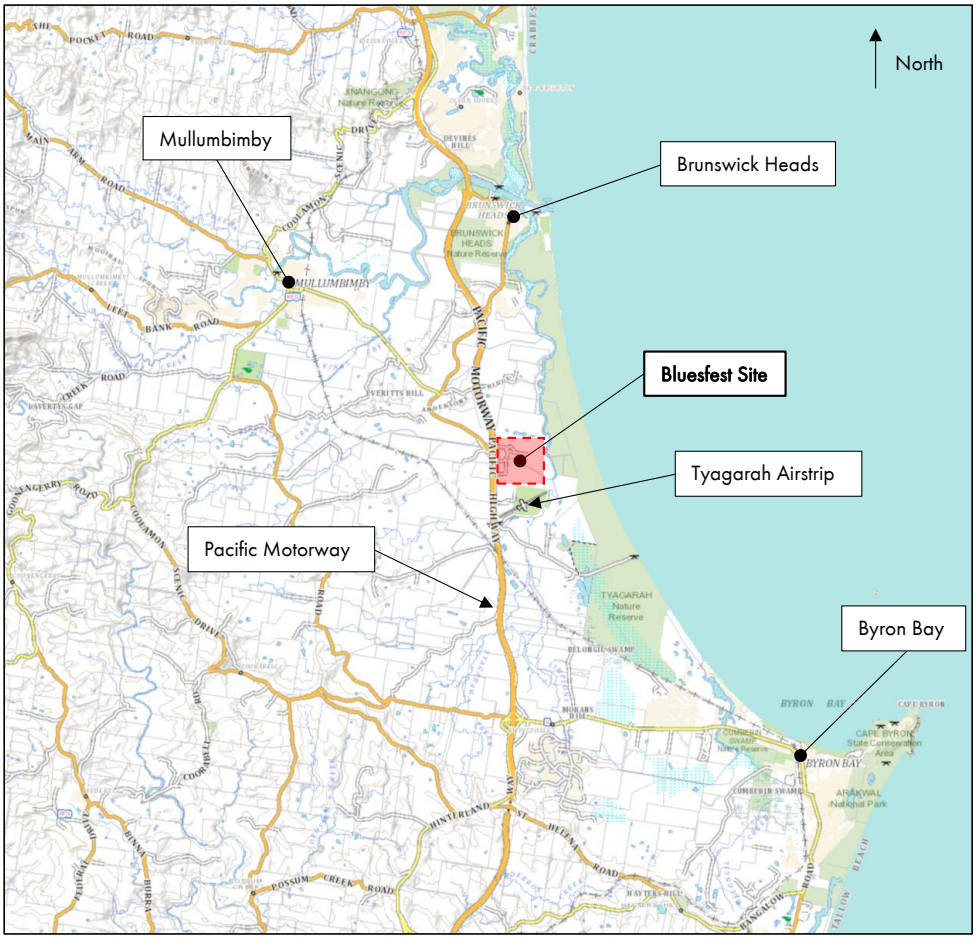


Figure 1 – Site locality (SIX Maps, 2023)

Figure 2 – Site access plan

1.4 Standards, Specifications & Guidelines

This TMP has been prepared in accordance with the following standards, specifications and guidelines:

- Guide to Traffic and Transport Management for Special Events Version 3.5 (TMC in conjunction with other NSW state agencies);
- Transport for NSW (TfNSW) Traffic Control at Worksites Technical Manual (TCWS) Version 6.1;
- Australian Standards (AS1742 in particular);
- Quality Assurance specifications;
- Austroads Guide to Traffic Management.

1.5 Summary of Key Performance Indicators (KPIs)

The modified consent DA 10.2014.753.7 provides a set of Key Performance Indicators (KPIs) that were created to ensure acceptable traffic conditions on the public road during the event. The consent condition from this modified consent stipulating the traffic KPIs is shown below in consent condition 61:

Consent Condition 61

b) The Traffic Control Plan (TCP) [also known as TGS] must address the following matters:
   v. There is to be no impact on through travel times on the Pacific Highway.
   xiii. The TCP is to factor in that local roads are to operate a Level of Service (LoS) D or better between the hours of 8am and 8pm on event days. The ramps of the Tyagarah Interchange with the Pacific Highway to operate at Level of Service C or better at event times (See Figure 3.1 Levels of Service Flow rates Austroads Guide to Traffic Management Part 3 and Highway Capacity Manual).
   xiv. The TCP is to include provision so that traffic queuing on the Gulgan Road off-ramps do not exceed stopping sight distances for 110 km/h speeds (see RMS supplements and Austroads Guide to road Design Part 3 Section 5.3.1 for stopping sight distances).

Based on consent condition 61 shown above, the KPIs for the Bluesfest 2024 event are summarised as follows:

1. No queuing or impact in through travel times on the Pacific Motorway.
2. The requirement for local roads to operate a LoS D or better between the hours of 8am and 8pm on event days can be measured by ensuring traffic flow rates do not exceed the following flow rates:
   a. 800 vehicles per hour per lane when 40 km/h special event speed limits apply
   b. 1,260 vehicles per hour per lane when 60 km/h special event speed limits apply
3. The requirement for the Gulgan Road off-ramps to operate at LoS C or better at event times can be satisfied by ensuring the average delay on the off-ramps is less than or equal to 42 seconds.
4. Traffic queuing on the Tyagarah Interchange off-ramps must not exceed stopping sight distance for 110 km/h speeds as follows:
   a. Maximum back of queue location on northbound off-ramp: 200 metres from start of diverge taper.
   b. Maximum back of queue location on southbound off-ramp: 210 metres from start of diverge taper.

Any traffic incidents resulting in non-compliance with any of the above conditions will have serious consequences for future events at this site. It is important that at all times, sufficient qualified staff is available to implement the traffic management plan including any contingencies. It is required that

all traffic controllers are properly briefed giving them an appreciation of the bigger picture of the traffic management plan and an understanding of the impact that their specific role may have on the overall performance of the festival.

Of equal importance in the compliance with the above specifications is that there are no restrictions within the site which cause a queue of traffic back out the entrance gates onto Tanner Lane or Yarun Road.

1.6 Definitions

AADT	Average Annual Daily Traffic; average traffic volume per day after application of correction factors
ADT	Average Daily Traffic; average traffic volume per day, based on a limited survey period, typically 1 week
Background Traffic	Traffic composition as would typically exist without superposition of event traffic
BEF	Byron Events Farm
BSC	Byron Shire Council
Heavy Vehicle	For the purposes of this report; anything other than a pedestrian, cyclist, motorbike or car
KPI	Key Performance Indicator; as defined in the conditions of consent for the development
LoS	Level of Service; Service level of roads based on certain traffic statistics as defined in other documents
Peak Flow Rate	Hourly volume of vehicles during busiest part of assessment period
TfNSW	Transport for NSW (formerly known as RMS)
TGS	Traffic Guidance Scheme
TMP	Traffic Management Plan

Greg Alderson Associates

2.0 Traffic Control at Tyagarah Interchange, Bluesfest Southbound Off-ramp and Grays Lane Intersection

2.1 Main Purpose

The main priorities of the traffic control measures at the Tyagarah Interchange are:

- No queuing onto the Pacific Highway off-ramps;
- No interruption of through traffic on the Pacific Highway;
- Limit delay for local traffic on local roads.

The TGS detailing the required traffic control measures are prepared by Altus Road Services and adopted by Council. These plans form the statutory controls for traffic management on the public roads adjacent to the event site and along with the Road Occupancy License issued by the TfNSW serve to give the necessary authority to the traffic controllers to implement traffic management on and off the site. A set of the approved TGS will be issued to all stakeholders.

2.2 General Layout

The TGS shows signage, barriers and other traffic control measures to offer a managed environment around the Bluesfest site.

Event traffic from the north will be directed by signage to take the off-ramp, completed by Bluesfest. Day parking vehicles proceed directly without interruption through Access 1 to their parking areas, situated in the north of the event site. These day patrons will also leave through Access 1. Campers arriving from the north proceed past the service station and along Yarun Road to Access 3.

Event traffic from the south will be directed by signage to exit the Pacific Highway at the existing Mullumbimby off-ramp. This traffic will cross the motorway using the existing Tyagarah Interchange overpass, then travel south along Yarun Rd to the site entrance at Access 3. Day parking vehicles park in the southern car parking areas, while campers follow traffic control and signage to the camper processing area to the east of the festival site. Campers and day patrons in the south leave the site via Access 4.

The service station intersection (Tanner Lane/Yarun Road/Tyagarah Interchange) will require traffic control for the duration of the event to manage flows of vehicles to and from site gates with the priority to avoid queuing on the Pacific Motorway.

Observers will be required at the Tyagarah Interchange overpass and the Pacific Motorway southbound off-ramp during peak arrival periods throughout the festival. These observers will be required to give advice to the traffic controllers as to the length of any significant queue. Adjustments may then be necessary on the site to give increased priority and avoid queues back to the highway.

The relevant parties shall be notified immediately of any risk of queueing impacting the highway. Refer to Appendix D for the chain of command during the event.

2.3 Grays Lane Intersection

It is proposed to open the Grays Lane intersection for outbound traffic at peak festival exit times if ticket sales are high. Based on departure profiles and traffic data from previous festivals, it is proposed to open the intersection from 9pm to 2am on festival nights if event ticket sales for the day are greater than 18,000. Only southbound traffic from southern parking areas will exit the site at the Grays Lane intersection onto the Pacific Highway at these times.

To safely manage the use of this intersection, through traffic on the Pacific Highway will be reduced to one lane (right-hand lane) and slowed to 60km/h for a 240m section. Festival traffic from Grays Lane will turn into the left-hand lane and have 100m available to accelerate before merging with through traffic. Traffic control and VMS boards will be in use to direct traffic from Grays Lane onto the highway, and VMA boards along the highway to advise of the change in traffic conditions. Refer to Section 3.4.1 and Appendix B (TGS) for further details.

Given this intersection would only be in use from 9pm to 2am over the Easter long weekend it is anticipated that there will be minimal through traffic on the Pacific Highway, with negligible reduction in through traffic travel times.

2.4 Service Station Intersection

The service station intersection is pivotal to the entry and exit of the majority of festival vehicles. It requires traffic control to operate in all directions, at all times. During peak arrivals, preference should be given to vehicles coming across the Tyagarah Interchange bridge.

2.5 Traffic Controllers on Off-ramps

Traffic controllers will not be placed on the off-ramps. These ramps are intended to operate without the need for traffic controllers. It is noted that the requirements above to monitor traffic at off-ramps and across the interchange remains necessary.

2.6 Traffic Controllers

Traffic controllers shall be implemented as shown on the approved TGS and as directed by the traffic supervisor. Generally, traffic controllers are provided:

- At the north and south site entrances/exits to direct traffic into/out of the site;
- At the service station intersection at peak times to manage traffic flow at the intersection so that Level of Service is maintained for vehicle flow/ delay control and to maintain road safety;

- At the interchange to observe and provide immediate feedback regarding any queuing incidents.
- At the Grays Lane intersection during peak departure times

All traffic controllers (TCs) shall hold all relevant and current qualifications that provides the necessary certification to control traffic with a prescribed traffic control device. This qualification is currently noted as "Traffic Controller" in TfNSW TCWS Technical Manual Version 6.1.

TCs are to be provided two-way radios and use them as required. Traffic controllers are not to verbally communicate with drivers of vehicles other than to move them through quickly. Any traffic controllers found causing delays by having conversations with drivers are to be replaced immediately after reasonable warning.

The traffic control supervisor and parking supervisor are to liaise closely with each other before and during the festival. The traffic engineer will also liaise with these two supervisors and other parties (such as TfNSW, Council, Bluesfest Management, NSW Police Force, the public, etc.) as required to ensure efficient operation overall. The operation of the traffic management is a team effort and regular coordination meetings will be held with all relevant stakeholder personnel.

The Traffic Controllers shall be responsible for the following:

- Reviewing the TMP and being familiar with the requirements of the festival.
- Keeping up to date with any amendments to the TMP or TGS.
- Review and amend the SWMS to ensure that it is relevant to the project.
- Retain and ensure that copies are readily available of the current TfNSW TCWS Technical Manual.
- Erecting and removal all traffic control signage at the beginning and end of works, or whenever the Traffic Controller is not controlling or in a position to control traffic.
- Ensuring that provisions are made to evacuate their area in the event that control is lost.
- Regulate traffic and maintain traffic flow as per TMP requirements.
- To record location of all signs and times (up and down), any changes and rest breaks using the Daily Traffic Control Log.
- Taking meal and rest breaks as per the approved procedure
- Ensuring there are sufficient relief personnel available to allow for breaks in a shaded area.
- Ensuring that they attend Site Communications, such as Pre-Start and Toolbox Meetings.

2.7 Traffic Guidance Scheme (TGS)

The TGS aims to minimise the impact of traffic control on all road users and encourage patrons to enter and exit the site in a safe and efficient manner.

The implementation of traffic management arrangements shall be done in accordance with the TfNSW Traffic Control at Worksites Technical Manual (TCWS) Version 6.1, AS1742.3 and traffic

control sub-contractor safe work procedures. Only those personnel who are competent for the task shall be engaged in the implementation of traffic management arrangements. The approved TGS to be implemented in this event are included in the Event Management Plan.

2.8 Traffic Control Implementation

The Bluesfest 2024 event is from Thursday 28th March to Monday 1st April 2024. The traffic management for the event including pre-event site establishment and site close down will be as per the approved TGS (see Appendix B of this report) as follows:

2.8.1 Wednesday 20th March

- Installation of "No Stopping" signs at 75m maximum spacing along Gulgan Rd to Mullumbimby Rd;
- Installation of static signage on Gulgan Rd roundabout directing people to festival entrance.

2.8.2 Thursday 21st and Friday 22nd March

- VMS boards to be installed on the Pacific Highway for northbound and southbound approaches stating "Bluesfest Exit 4 kms on left". This is to give advance notification to the public. These VMS will be deployed using the TGS approved by the traffic control supervisor – such as VMS truck as a shadow vehicle displaying "Road Plant Ahead", "Reduce Speed" and a tow vehicle with the VMS boards. The tow vehicle is to display flashing amber lights;
- Installation of static signage on Gulgan Rd roundabout directing people to festival entrance. Under a shoulder closure;
- Commence internal signage erection;
- Hazard Mesh Fencing to be installed in Fox Lane area to prevent illegal parking and camping. No stopping signs and no camping signs also to be erected in this area at approx. 50m segments. Closure of gravel access track in Fox Lane to help prevent illegal camping;
- The erection of "No Stopping" to be placed at 75m maximum spacings along both sides of Tanner Lane and Yarun Road and the erection of "40km/h" speed signs every 100m on both sides of Tanner Lane and Yarun Road. This sign installation is undertaken pre-festival as Tanner Lane and Yarun Road experiences a higher volume of traffic during this time due to the arrival of equipment that is needed for the event and which can be managed.

2.8.3 Monday 25th and Tuesday 26th March

- Installation of no stopping signs at 75m maximum spacing along Grays Lane to the intersection of Grays Lane and Prestons Lane. Erected under a speed reduction with a shoulder closure;
- Detailed signage as per approved TGS to be erected under shoulder closures;
- Remaining VMS boards for the highway to be installed;
- Light towers deployed ready for light check on Wednesday night;
- Water-filled barriers to be put in place at service station intersection but still allowing normal traffic flow.

2.8.4 Wednesday 27th March

- Traffic control on site for the commencement of the camper arrivals at approximately 8am.

2.8.5 Thursday 28th March

- Opening of the Bluesfest off-ramp and closure of the current Mullumbimby exit at 6:00am. This is performed under a rolling blockade mobile traffic control arrangement to minimise impact on the Pacific Highway and to avoid having traffic control on foot exposed to live traffic.
- Static signage to advise southbound Pacific Highway traffic that the service station is open.
- Traffic control on site from 8am for the first day of festival.

Figure 3 – Southbound Off-ramp (GAA, 2019)

2.8.6 Thursday 28th March to Monday 1st April

- Traffic Control Day Shift Hours 8:00 am – 5:00 pm;
- Day Shift Supervisor: Matt Adams (Altus);
- Traffic Control Night Shift Hours 5:00 pm – 2:00 am (or until all cars have left the site);
- Night Shift Supervisor: Matt Adams (Altus);
- Traffic Control Supervisor (whole event): Matt Adams (Altus).
- Traffic control variations for peak departures (high ticket sales, changes for the peak period 9pm - 2am) and implementation of contingencies to be implemented by Traffic Control Supervisor. Refer to sections 3.4 and 5.0 for further detail.

2.8.7 Tuesday 2nd April

- Traffic control crews begin pack-up of event using the same methodology as the implementation of set-up. The Mullumbimby off-ramp is to be re-opened and the Bluesfest off-ramp is to be closed by 6 am Tuesday morning.

Greg Alderson Associates

3.0 Traffic Control at Site Gates

3.1 Main Purpose

The main priorities of traffic control at the entries to the site are:

1. Quick entry to the site for event traffic;
2. Safe and efficient site entry and egress;
3. Traffic Controllers monitor for any internal queuing with the potential to cause queueing from the site onto Yarun Road;
4. Traffic Control Supervisor must be prepared to implement contingency strategies as required during heavy arrival flows (refer to Section 5).

Traffic controllers and the whole traffic control plan will be set up and in operation from Wednesday 27th March, except the Pacific Highway off-ramp which will be switched to the festival off-ramp at 6am on Thursday morning. The traffic plan will remain operative until the morning of Wednesday 3rd April, after the festival has finished.

3.2 Camper Arrival

Most campers are expected to arrive at the site on Wednesday, Thursday and Friday morning.

All campers must use Access 3 (south main gate) and proceed to the Camper Processing Area. (See Figure 2.)

3.2.1 Camper arrivals from the south

All cars from the south will be directed by traffic control and signage across the Tyagarah Interchange and along Yarun Road to Access 3. Camping vehicles will be split from day parking vehicles once inside the Access 3 gate. All campers will be directed by traffic control and VMS boards along internal roads to the Camper Processing Area.

3.2.2 Camper arrivals from the north

Campers arriving from the north on Wednesday will use the regular Pacific Hwy off-ramp and proceed to the service station intersection and along Yarun Rd to Access 3.

Once the festival off-ramp is open on Thursday 6am, campers from the north will use the festival off-ramp. They will be directed by traffic control and VMS boards to the service station intersection and along Yarun Rd to Access 3. If they ignore the signage and enter via Access 1, an internal VMS board will direct them onto the internal north-south road, over the one lane bridge and to the Camper Processing Area. This internal direction will be supported by traffic control located at key positions within the event site. Alternatively, they can be directed (around the roundabout) back to exit at Access 1 and then proceed south along Yarun Rd to Access 3 with other southbound campers.

3.3 Day Patron Arrival

Day patrons will enter the site either from the north gate (Access 1) or the south gate (Access 3) depending on their point of origin. Normally the majority of day patrons for the Bluesfest begin arriving about 1 hour before the festival gates open, with peaks generally 2pm – 5pm. Arrival profiles are included in this TMP from the 2023 event traffic data in Section 12. Traffic controllers should be in place before festival doors open.

3.3.1 Arrivals from the south

Arrivals from the south will exit the Pacific Highway and proceed over the Tyagarah Interchange bridge. From the service station interchange, these cars will proceed along Yarun Rd to Access 3. Traffic control will be operating at the service station intersection to direct these cars to Yarun Rd, and must be in contact with the Tyagarah Interchange spotter/traffic controller.

3.3.2 Arrivals from the north

Arrivals from the north will exit the Pacific Highway using the festival off-ramp and will be directed by signage and traffic control to Access 1, and will park in the north carparks.

3.4 Departure

3.4.1 Departures from south parking

Those in the south parking areas (including pick-up/drop-off) will leave the site from Access 4. There will be a modified departure route for south carpark departures during peak times (9pm – 2am, ticket sales >18,000 for the day). This will take pressure off the service station intersection and Tyagarah Interchange.

At most times, vehicles parking in the south parking areas will leave the site from Access 4, turning right onto Yarun Rd towards the service station. At the service station intersection, traffic control will allow them to proceed in their desired direction of travel (either on to the Pacific Highway using the existing southbound on-ramp, or over the Tyagarah Interchange bridge to travel north). This will be supported by VMS, static signage and traffic control.

If ticket sales for any given day of the festival exceed 18,000, the Grays lane intersection will be open for south departures during the peak period of 9pm to 2am. This will allow southbound traffic to avoid the service station intersection, and will take pressure off the Tyagarah Interchange. Under these conditions, vehicles parking in the south parking areas will leave the site from Access 4. Southbound vehicles will turn left onto Yarun Road towards Grays Lane – it expected that this will be the majority of vehicles in the south parking areas. They will join the Pacific Highway at the Grays Lane intersection and turn left to travel south on the Pacific Highway. Northbound vehicles will be able to turn right on to Yarun Rd and proceed to the service station intersection, where traffic control will direct them across the Tyagarah Interchange bridge. This will be supported by VMS, static signage and traffic control.

If ticket sales are high and these conditions are implemented, local traffic from Grays Lane can travel north along Yarun Rd to the service station intersection, or join southbound traffic entering the highway at Grays Lane. This will be supported by VMS, static signage and traffic control.

Figure 4 shows the peak time departure route.

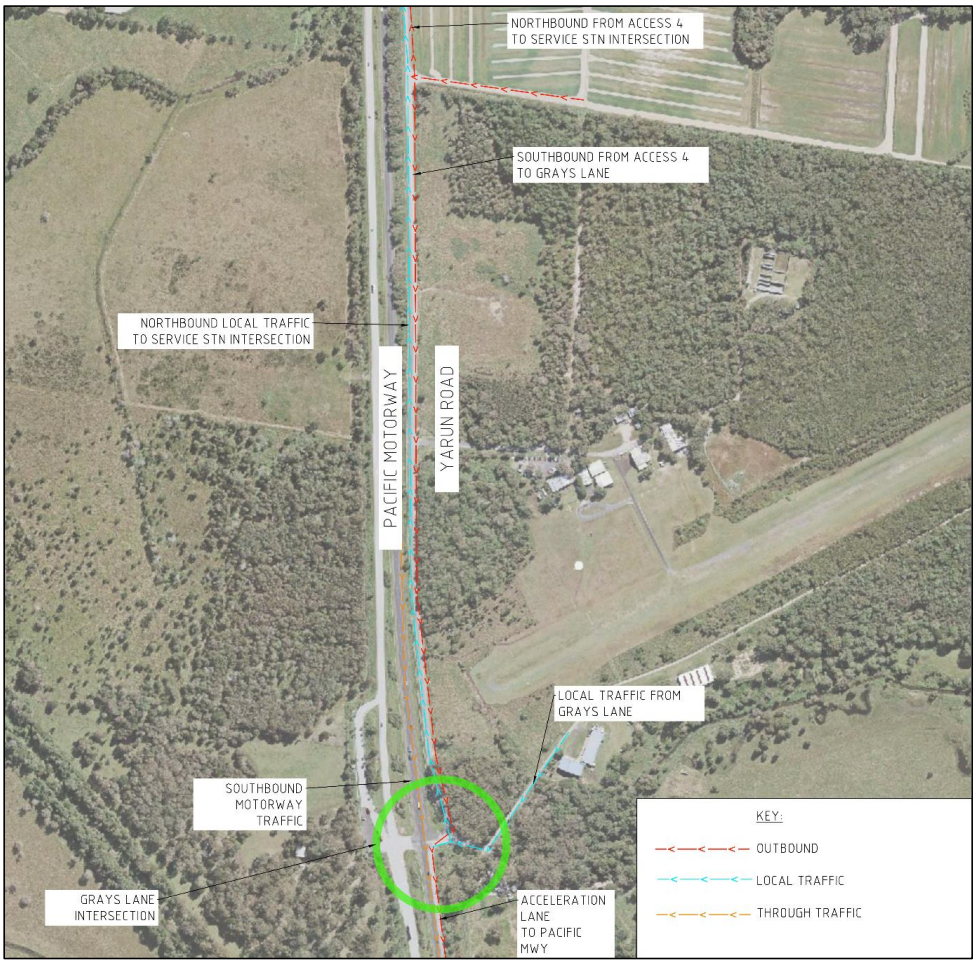


Figure 4 - Departure routes and Grays Lane intersection (9pm – 2am on high patron days only)

3.4.2 Departures from north parking

Vehicles in the north parking areas will leave the site from Access 1. During both peak and off-peak departure times, these vehicles will proceed to the service station intersection where they will be able to join the Pacific Highway using the existing southbound on-ramp, or proceed over the Tyagarah Interchange bridge to travel north. This will be supported by VMS, static signage and traffic control.

3.5 Bluesfest Buses

Bluesfest hires buses to transport day patrons to/from the festival. The bus pick up locations in nearby towns are predetermined and tickets are pre-paid.

Buses from both the north and south enter through Access 3 and proceed along internal roads to the Bus Bay near the festival entrance. Buses exit the site from Access 4, and follow the same protocol as departing vehicles. (Refer to Section 3.4.1.)

This will be supported by VMS, static signage and traffic control.

3.6 Public pick-up/drop-off, Taxis and Rideshare Vehicles

The public pick-up/drop-off area ("Kiss and Ride") is located just off Yarun Rd between Access 3 and 4 (refer to Figure 2). This area will also be used by taxis and rideshare vehicles. Vehicles will enter through Access 3 and exit through Access 4. There is no pick-up/drop-off facility in the northern area.

This will be supported by VMS, static signage and traffic control.

3.7 Private Shuttle Buses

Bluesfest supports the use of private shuttle buses. These vehicles must also use the southern entrance at Access 3. From 10pm to 2am, private shuttle buses will use the public pick-up/drop-off area. Outside of these hours, private shuttle buses will follow the same protocol as the Bluesfest buses, proceeding to the Bus Bay and back out Access 4.

This will be supported by VMS, static signage and traffic control.

Greg Alderson Associates

4.0 Traffic Control On-site

4.1 Main Purpose

Traffic control outside the event site can only operate effectively for incoming traffic if the internal traffic and parking is managed properly. Any congestion on-site in the parking area or internal road network may result in queuing on Tanner Lane and Yarun Road and then onto the Pacific Highway.

The traffic control plans therefore require TfNSW certified traffic controllers at various key locations on site.

4.2 Car Parks

The traffic controllers depicted on the TGS at the entries and internal roads are there to assist festival guests. Static signage and VMS boards are also used to provide direction.

It is essential that traffic controllers do not engage in a discussion with the driver of the vehicle, but gets the driver off the road or into the carpark where the driver is dealt with by festival parking staff. Any congestion due to a stopped car would quickly result in queuing onto the public road system, which is undesirable, with significant risk.

Car parks should be filled in a way that maximises the possible internal queue length during peak arrival time. That is, fill the car park nearest the access gate first, leaving the car park furthest from the access gate to be filled at peak arrival time. During peak arrival times, car park attendants should consider parking vehicles in two rows at once, or even two zones at once to minimise queuing.

See Section 8 for information on parking payment.

4.3 Campers and Camper Processing

The traffic controllers depicted on the TGS at the entries and internal roads are there to assist campers. Static signage and VMS boards are also used to provide direction.

Smooth camper processing is essential to minimise the risk of queuing on public roads. All camper processing bays must be open during peak arrival times. Campsites should be filled in a way that maximises the possible internal queue length during peak arrival time. For example, north campgrounds should be reserved for use during peak Friday arrivals, as they are the furthest campground from the access gate. During peak arrival times, campsite parking attendants should consider parking vehicles in two rows at once, or even two zones at once to minimise queuing.

4.3 North-South Internal Road

There are traffic controllers on this road to provide the opportunity for a relief route, if issues arise at other locations.

Potentially, and based on previous festivals at this site, this road could provide a route for overflow traffic from the south to the north car park or vice versa, if one car park becomes full.

It is possible that some southbound campers, buses and taxis/rideshares will use this road if they miss signage to proceed to Access 3. (Alternatively, they can be directed back around the roundabout to exit at Access 1 and proceed south along Yarun Rd to Access 3.)

Traffic control of the north-south road does also affect the back-of-house operation and must be managed well to keep the function of the festival and ensure that these traffic conflicts are managed such that no queuing occurs on the public road network.

4.4 Bus and Taxi/Rideshare Ranks

Traffic controllers at the bus and taxi/rideshare ranks are not required other than to get buses and taxis/rideshare vehicles in and out of the traffic line to ensure that these ranks are operated safely and congestion is prevented both in the ranks as well as on the internal road system.

4.5 Role of Traffic Engineer

The Traffic Engineer shall primarily monitor and review the TGS and traffic flow during the festival.

The Traffic Engineer may consult with the traffic, parking, and camping controllers, as required, to implement any improvements identified during monitoring and reviewing the TGS. This may include measures to improve the efficiency of traffic entering and exiting the site.

5.0 Contingencies

Contingency plans have been designed to manage the flow of traffic in the event of an incident or if traffic queues appear as though they may breach KPIs. These contingency plans have been designed with the intent of increase traffic flow from the public roads onto the site before any of the KPIs are breached. These contingency plans are to be implemented by festival management, with notification of any contingency implemented to be given to the relevant parties (traffic control supervisor, police, safety advisor, traffic engineer, etc.) as per the hierarchy of command for traffic management. This organisational structure for traffic management is included as Appendix D of this report.

The contingency plans prepared for the 2024 event along with the triggers to implement these contingencies and reasoning behind the contingencies are documented in Table 1 of this report on the following page.

Bluesfest has machinery available to tow vehicles which may have broken down on the internal road system. Bluesfest staff will be trained to keep the internal roads clear, and if necessary, arrange a contra flow situation, to temporarily pass a broken-down vehicle.

Any contingency measures carried out by relevant authorities are to ensure the safety of all persons associated with the contingency measures implemented as well as the efficient operation of the road network. **It is paramount that queuing on the Pacific Motorway is prevented at all times.** As the police have the authority to take control of the site in an emergency, the TGS will be overridden as the police see fit.

Table 1 – Contingency number, measures, implementation triggers and reasoning

Contingency No.	Implementation Triggers	Contingency Measures	Reasoning
Camper processing contingencies			
C1	Internal queue approaching southern access during peak arrival period (queue within 600m of Access 3 gate)	This internal queueing at the southern access (via Access 3) is most likely to be breached during peak camper arrival periods. • TC to notify traffic control supervisor of trigger being reached. • Traffic control supervisor to increase no. of lanes between Access 3 and the Camper Processing Area from 1 lane to 2 lanes. • If not already the case, all check in bays to be opened to process camper vehicles. • If not already the case, no vehicle security searches should take place. • TC to redirect buses to avoid the 2-lane queue of camper arrivals and exit the site through Gate 4 (as per *TGS-23-04*).	This will double the internal queuing capacity for campers, reducing the risk of queueing on public roads.
C2	C1 implemented and queue again approaching southern access during peak arrival period (queue within 600m of Access 3 gate)	• TC to notify traffic control supervisor of trigger being reached. • Traffic control supervisor to direct the camper processing supervisor to park 3- and 1-day campers before scanning their tickets.	This will increase the flow of campers, reducing the risk of queueing on public roads.
C3	C2 implemented and queue again approaching southern access during	• TC to notify traffic control supervisor of trigger being reached. • Traffic control supervisor and camping supervisors to ensure internal queue length is maximised by filling the campsites	This will increase the internal queuing capacity for campers,

Greg Alderson Associates

	peak arrival period (queue within 600m of Access 3 gate)	furthest from the entrance and creating longer routes where possible. Police are to be notified if camper contingencies are implemented. If the 2-lane queue of camper arrivals gets within 400m of Gate 3, police are to be notified and override the TGS as they see fit.	reducing the risk of queueing on public roads.
South access contingencies			
S1	C1-3 implemented and queue again approaching southern access during peak arrival period (queue within 600m of Access 3 gate)	This internal queueing at the southern access (via Access 3) is most likely to be breached during peak camper arrival periods; camper processing contingencies should be implemented first. • TC to notify traffic control supervisor of trigger being reached. • Traffic control supervisor and parking control supervisor to open 'Overflow Parking F' and direct traffic to this parking area (as per *TCP-23-02*). • Police are to be notified if contingency is implemented. If the queue of camper arrivals gets within 400m of Gate 3, police are to be notified and override the TGS as they see fit.	This overflow acts a pressure release and will temporarily increase the processing capacity for day patrons, reducing the risk of queueing on public roads.
S2	S1 implemented and queue again approaching southern access during peak arrival period (queue within 600m of Access 3 gate)	• TC to notify traffic control supervisor of trigger being reached. • Traffic control supervisor to temporarily reverse the flow of vehicles exiting at Access 4, creating an extra entrance. 'Overflow Parking F' should be filled from Access 4, while vehicles entering at Access 3 should be directed to regular car parking areas.	This doubles the flow into the site and the parking capacity, reducing the risk of queuing on public roads.

Greg Alderson Associates

		• Police are to be notified if contingency is implemented. If the queue of camper arrivals gets within 400m of Gate 3, police are to be notified and override the TGS as they see fit.	
S3	S2 implemented and queue again approaching southern access during peak arrival period (queue within 600m of Access 3 gate)	• TC to notify traffic control supervisor of trigger being reached. • TC at service station intersection to direct day patrons coming from the south to go north along Tanner Lane to Access 1. Only campers will proceed south to Access 3. • TC to be aware that this contingency increases the risk of queuing for southbound Pacific Highway traffic and should implement N1 if required. • Police are to be notified if contingency is implemented. If the queue of camper arrivals gets within 400m of Gate 3, police are to be notified and override the TGS as they see fit.	This will reduce vehicle arrivals though Access 3, reducing the risk of queueing on public roads.

S4	S3 implemented and queue developing on Yarun Rd, approaching service station intersection	• TC to notify traffic control supervisor of trigger being reached.
		• Traffic control supervisor to close the northbound Pacific Highway exit to Gulgan Rd South/Tyagarah Interchange.
		  ○ Festival traffic to proceed to the Gulgan Rd North/Brunswick Heads interchange then return south along the highway and take the southbound festival off-ramp. Day patrons should use Access 1 and campers should proceed to Access 3.
		  ○ Local traffic to proceed to the Gulgan Rd North/Brunswick Heads interchange then south along Gulgan Rd towards Mullumbimby.
		• Mobile VMS boards to be in place on the Pacific Highway to inform festival and local traffic (as per TGS #######).
			This will increase the travel time for festival traffic arriving from the south by 7 min, creating a pressure release and allowing the queue to dissipate. It also utilises the internal queuing capacity in the north carpark.

Greg Alderson Associates

		• TC to be aware that this contingency increases the risk of queuing for southbound Pacific Highway traffic and should implement N1 if required. • Police are to be notified if contingency is implemented and may override the TGS as they see fit.	
North access contingencies			
N1	Internal queue approaching northern access during peak arrival period (Access 1 queue within 180m of end of southbound off-ramp)	This internal queueing at the northern access (via Access 1) is most likely to be breached during peak arrival periods. • TC to notify traffic control supervisor of trigger being reached. • Traffic control supervisor and parking control supervisor to open 'Overflow Parking E' and direct traffic to this parking area (as per *TCP-23-02*). • Police are to be notified if contingency is implemented. • If, following the opening of 'Overflow Parking E', the queue does not dissipate and reaches within 100m of the end of the southbound off-ramp, police are to be notified and override the TGS as they see fit.	This overflow acts a pressure release and will temporarily increase the processing capacity for day patrons, reducing the risk of queueing approaching the southbound off-ramp.

6.0 Emergency Vehicles and Evacuation

6.1 Emergency Vehicles

A separate emergency management plan is in place and takes precedence over this TMP.

Access 2 (see Figure 2) is reserved for emergency vehicles and artist access only. Staff and volunteers must not use Access 2.

Festival management must notify the Traffic Control Supervisor when an emergency vehicle has been called. The TCS should then notify the Tyagarah Interchange spotter and other relevant TCs. Upon approach of the emergency vehicle on the highway, the Tyagarah Interchange spotter should notify the TCS and TCs, and the emergency vehicle's route to the service station intersection should be cleared. The emergency vehicle can then enter the festival from Access 2.

Similarly, when the emergency vehicle is leaving, TCs should communicate and ensure the vehicle is preferenced as it leaves Access 2 at the service station intersection.

6.2 Emergency Evacuation

As part of the traffic management principles being followed in the operation of this festival, it is necessary that all relevant staff be adequately briefed on the possibility of the need to evacuate the site in the event of an emergency. Festival management are responsible for monitoring situations that would require emergency evacuation of the site and making sure emergency evacuation plans are made available to key staff and relevant authorities prior to the event.

In the event of bushfire and flooding, the police will have access to some level of advanced warning to give them the opportunity to begin to evacuate the site. Festival management are to assist the police in evacuating the site in the event of an emergency.

Should there be an emergency situation (i.e., bushfire, flooding, pandemic, etc.) in the weeks and days leading up to the festival, festival management are responsible for collaborating with the relevant emergency and government authorities to determine whether the event can safely proceed or whether the event is to be postponed or cancelled.

As shown on the Bluesfest 2024 site plan in Appendix A of this report, the emergency exit points are Access 1 (on the northern end of the site) and Access 4 (on the southern end of the site). It will be necessary for the appointed traffic control staff to be on duty during an emergency evacuation, to quickly and efficiently move patrons through the site to the exit points.

The evacuation strategy by the police is to take into account time of day, site occupancy and suitability of access roads. If the site is full and the call for evacuation is made by the police, orderly egress commencing with the day patrons, followed by the campers, will be necessary. It is noted that Bluesfest has constructed roads within the site which are above various flood levels.

In instances where evacuation by vehicle is available, evacuation is to various entry/exit points. In instances where vehicle evacuation of the site is not appropriate, emergency assembly locations within and adjoining the site are nominated for site occupants to assemble under supervision.

Greg Alderson Associates

7.0 Traffic Monitoring

The Traffic Engineer will undertake site monitoring in consultation and co-ordination with traffic control resources during the event to:

- Inspect traffic management arrangements to verify they have been installed in accordance with the approved TGS;
- Observe driver behaviour on the external road network and internal car park access to assess the suitability of the traffic management arrangements associated with the event and recommend changes as necessary;
- Monitor compliance with DA conditions including end of queue management and traffic flow rates on local roads;
- Review any recommend improvements to the TGS (if any).

Traffic control observers will be utilised at key locations to monitor queue lengths against known markers and undertake spot traffic counts to measure traffic flows during peak traffic flow periods.

A traffic evaluation report will be prepared following the event to assess the traffic management performance against the relevant standards and guidelines and key performance indicators.

Greg Alderson Associates

8.0 Paid Parking

Bluesfest has introduced paid parking for the event. Paid parking has been demonstrated to assist with reducing traffic impacts by increasing carpooling, bus usage and drop-off. Staff and contractors will be supplied with a sticker and or identification pass that will allow them to park straight away and not incur the parking fee.

As per previous years, communication with patrons regarding paid parking shall be in place prior to, during ticket sales, and during the event. Patrons will be encouraged to pre-purchase their parking tickets online and staff will be employed to scan and check parking tickets. Patrons who have not pre-purchased parking tickets will be able to purchase upon arrival using a tap-and-go system.

Tickets will be scanned and purchases made using hand-held devices. In the south car parks, the parking team shall only approach cars for scanning/payment once they have been directed to a parking bay. In the north car parks, a processing area with 3 lanes can be implemented to manage paid parking as vehicles enter the parking area.

The parking processing and payment collection team shall be under the direction of the experienced North and South Car Park Supervisors who will be monitoring queue lines and flow rates of traffic within the car parks.

8.1 Paid Parking Contingency Plan

It is paramount that the paid parking initiative does not impact traffic flow. The safety of Bluesfest staff, patrons and traffic flow on the Pacific Highway is of the highest importance and must be always considered first.

- If the level of queuing from the north carpark approaches Access 1, the processing bays should be abandoned and the parking team shall only approach cars for scanning/payment once they have been directed to a parking bay.
- If the level of queuing due to processing paid parking does not meet KPI requirements, Bluesfest car park marshals will cease scanning of pre-paid tickets and processing payments, and will park cars as they arrive.

At any point during a peak flow period if the Paid Parking initiative impacts on the traffic flow it will be suspended until it is deemed practical to continue.

Greg Alderson Associates

9.0 Provisions for Other Road Users

9.1 Pedestrians & Bicycles

Pedestrians and bicycles shall be managed to avoid conflict with vehicular traffic. Pedestrian traffic flows from and to the carparks shall be managed by appropriate walkways, signage and barriers.

9.2 Over-dimensioned vehicles

Over-dimensioned vehicles (also known as "big rigs") have a separate camping area that has been designated on site. Refer to the festival site plan for details.

Greg Alderson Associates

10.0 Traffic Management Methodology

10.1 Set Out, Signage, Delineation & Detours

The set out and implementation of the TGS shall be completed by those holding all relevant and current qualifications that allows for qualified personnel to set up and work with TGSs at a work site. This qualification is currently noted as one who can "Implement Traffic Control Plans Controller" in TfNSW TCWS Technical Manual Version 6.1.

It is the responsibility of the Traffic Control Supervisor to ensure a safe work method and risk assessment is completed, implemented, and regularly reviewed for the implementation and removal of the TGS.

The signage, delineation, and detours (if any) shall be set up in accordance with the approved TGS.

10.2 Safety of Workers

All workers are to undertake a site safety induction before working on the site. This induction outlines the safety procedures that workers are to abide by while working on the site.

10.3 Record Keeping & Monitoring

All records shall be made and retained on Daily Traffic Control Log, each time there is any interaction with the signage or traffic management.

The work zone shall be inspected daily to ensure that all signs are correctly positioned as per the TMP drawings located in Appendix A. Where changes are required to be made to the TMP and related diagrams, due to a change in works, the variations and updated drawings shall be recorded on the Traffic Guidance Scheme Register (Diagrams), retained in Appendix A, with the date and the revision letter on the line of the applicable diagram.

A register shall be maintained, recording all complaints. The record shall include:

- The time and date the complaint was lodged;
- The name of the person lodging the complaint;
- Details of complaint;
- Action taken to rectify the issue;
- Date the action was taken.

10.4 Incident Reporting

Incident reporting to be in accordance with the Traffic Controller Accreditation Scheme Approved Procedure.

10.4.1 Incidents at Worksites or Roadworks

An incident is an occurrence that in the opinion of the traffic controller affects the operational safety and/or effectiveness of a traffic controller at a worksite or at road works and may include:

- Accidents occurring within the designated worksite or road works;
- Verbal (abusive/insulting/threatening language) or physical assault directed towards traffic controller by road users;
- Unsafe or dangerous actions of other road users within a worksite or at road works;
- Road users disobeying a direction or signal given by a traffic controller at a designated worksite;
- Difficulties experienced with stopping certain vehicle types (for example excess dimension vehicles).

10.4.2 Action to be Taken

A traffic controller must take the following action if a minor accident/crash occurs within their designated worksite or traffic control operational area:

- Call for assistance if needed;
- Notify (verbally or in writing) the worksite supervisor;
- Maintain effective traffic control;
- Move the traffic control station to a suitable location that includes the accident site within the traffic control operational area;
- Record sufficient notes of the incident, including their observations, in order to complete an incident report.

10.4.3 Serious Incidents

If the situation is more serious or poses further risk of injury to persons or damage to property, the traffic controller must:

- Notify the worksite supervisor immediately;
- If the situation requires evacuation of the area, inform vehicle drivers of the situation and direct them to turn around and find an alternative route;
- Relocate the traffic control station to a safe position clear of any real or potential danger;
- Record sufficient notes of the incident, including their observations, in order to complete an incident report.

10.4.4 Incident Records

All incidents must be reported immediately to the Supervisor, with an Incident Notification email sent within 30 minutes of the incident.

An Incident or Injury Report shall be completed in full for all incidents. Precise details of the Incident must be recorded, including:

- Vehicle type and colour;
- Vehicle registration number including registered state or territory;
- Direction of travel;
- Description of driver, other road user and occupants;
- Full and accurate description of the incident;
- Witness details.

All incidents shall be recorded into the Incident register and retained on the project files.

10.4.5 Incident Requiring Further Investigation

Traffic controllers must ensure that details of incidents requiring further investigation or attention by a Police Officer or TfNSW Transport Inspector are reported and forwarded to their supervisor or employer.

Written reports must be completed and submitted to their worksite supervisor at the conclusion of their shift or at the resumption of duty on the following day.

10.5 Advertising

Advertising of Traffic Arrangements for the event will be carried out in accordance with the requirements of Byron Shire Council.

Greg Alderson Associates

11.0 Contact Details

Festival General Manager:	Peter Noble
Phone:	02 6639 9800
Chief Operating Officer:	Nadja Konietzko
Mobile:	0412 028 048
Email:	Nadja.konietzko@bluesfest.com.au
Site Manager:	Matty Williams
Mobile:	0422 017 557
Email:	site@bluesfest.com.au
Byron Shire Council (BSC):	Evan Elford, Team Leader Infrastructure Planning
Phone:	02 6626 7000
Email:	evan.elford@byron.nsw.gov.au
TfNSW:	Kane Hitchcock, Case Officer
Phone:	0477 491 803
Email:	development.north@transport.nsw.gov.au
Traffic Control Supervisor:	Matt Adams
Mobile:	0408 315 865
Email:	matt.adams@altustraffic.com.au
Traffic Engineer:	Greg Alderson & Associates (GAA)
	Sodiq Azeez
Phone:	02 6629 1552
Email:	office@aldersonassociates.com.au
Parking Control Supervisor:	Rex Butler
Mobile:	0412 814 823

Greg Alderson Associates

Transport Manager (Pick-up/Drop-off):	Dale La Boeuf
Mobile:	0403 524 657
Camping Control Supervisor:	Tanya Bensley
Mobile:	0409 423 259

Greg Alderson Associates

12.0 2023 Traffic Data Overview

Traffic data from previous years has been considered in preparing the 2024 plan. The arrival and departure profiles from 2023 are presented in this section.

12.1 Traffic Arrival/Departure Profiles

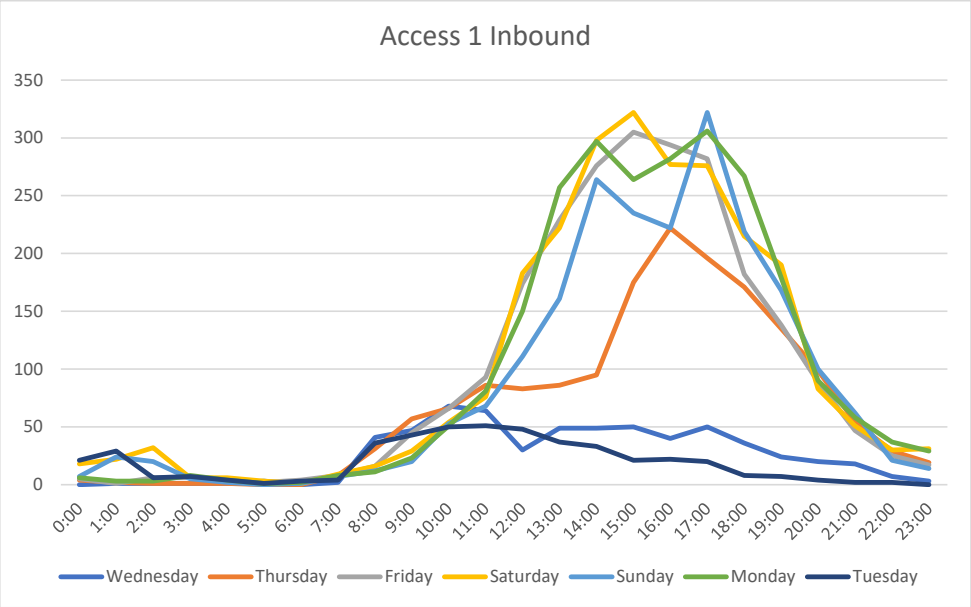


Figure 5 – Access 1 inbound traffic (GAA, 2023)

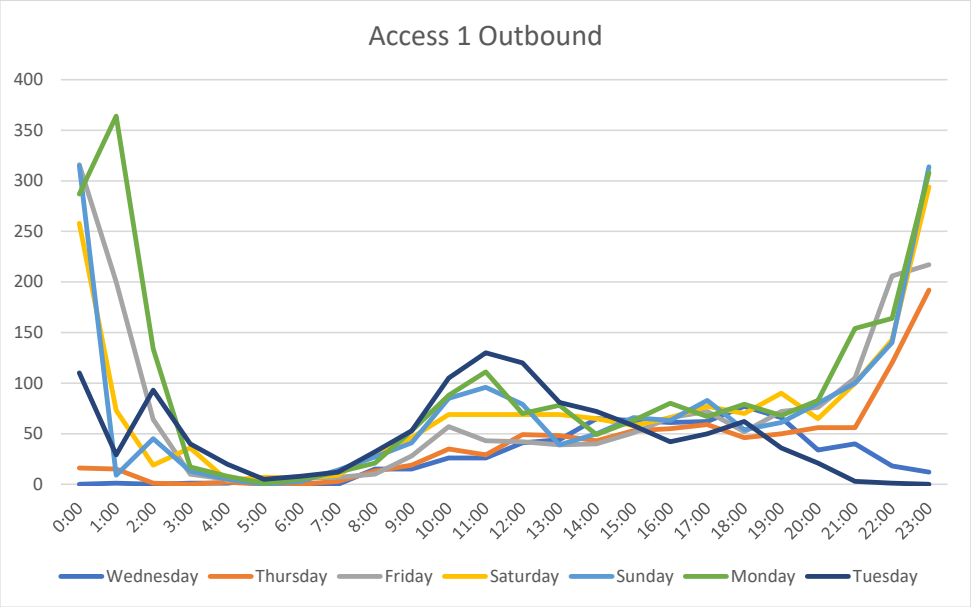


Figure 6 – Access 1 outbound traffic (GAA, 2023)

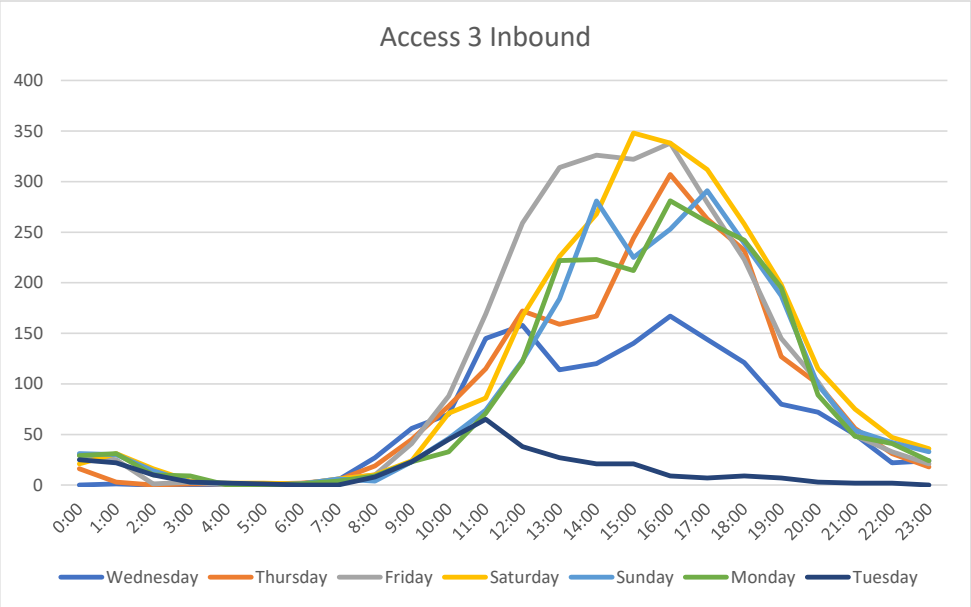


Figure 7 – Access 3 inbound traffic (GAA, 2023)

Greg Alderson Associates

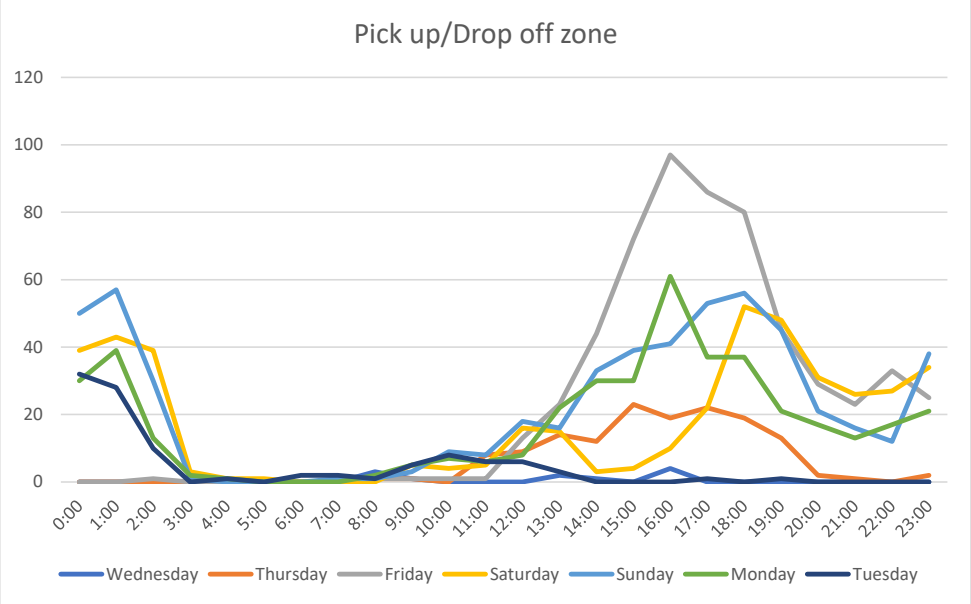


Figure 8 – Pick-up/Drop-off area southbound traffic (one way) (GAA, 2023)

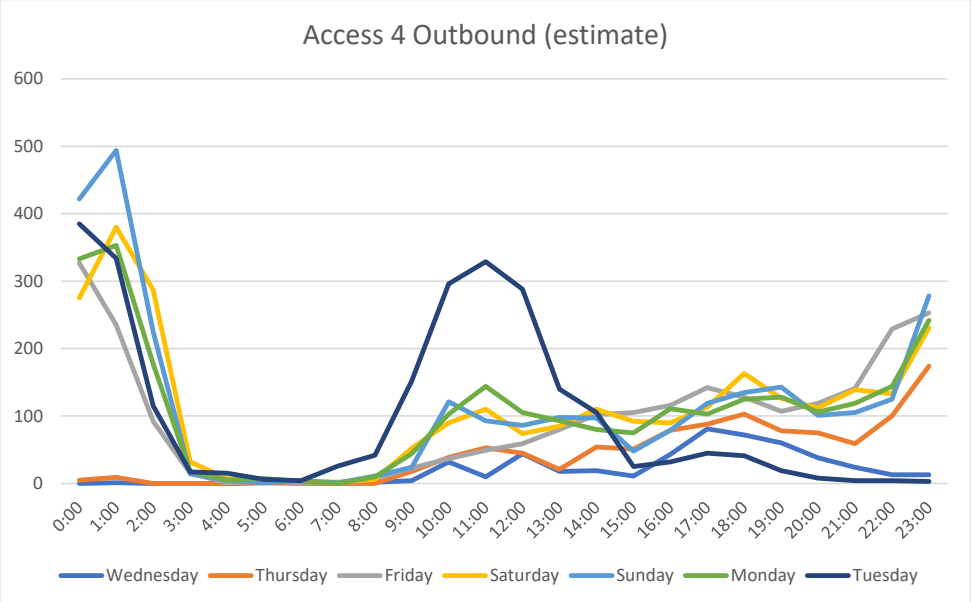


Figure 9 – Access 4 outbound traffic (GAA, 2023)

Greg Alderson Associates

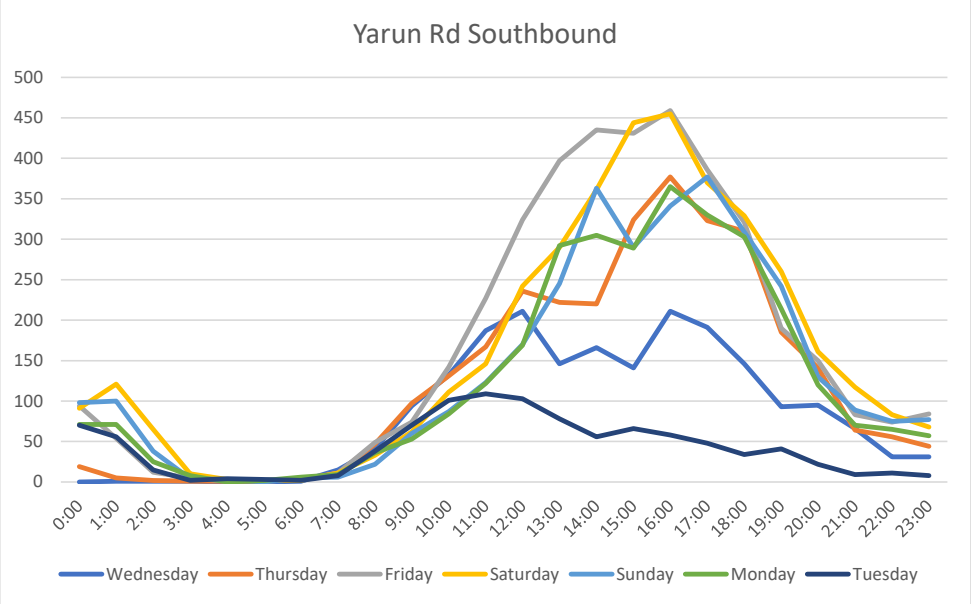


Figure 10 – Yarun Road southbound traffic (GAA, 2023)

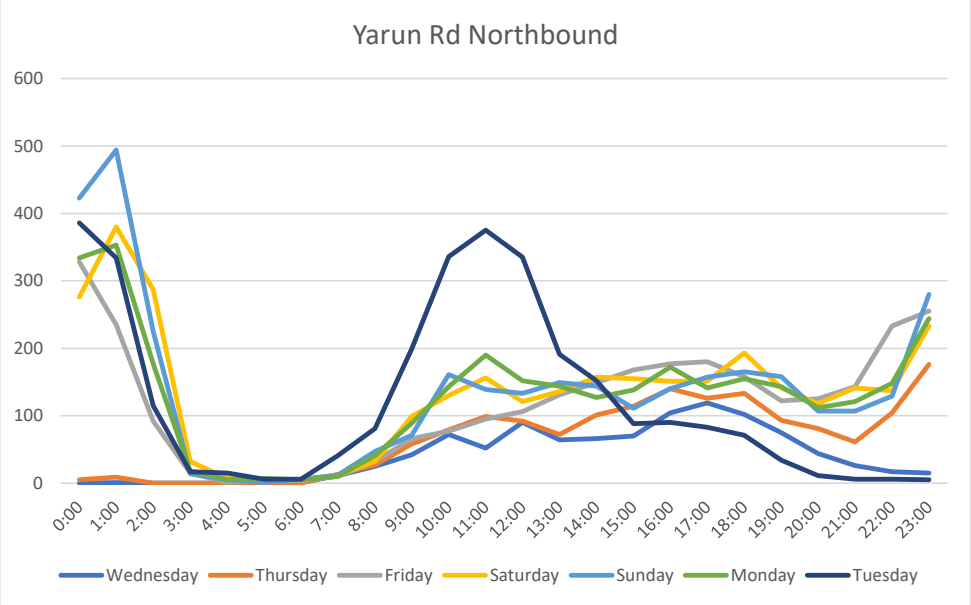


Figure 11 – Yarun Road northbound traffic (GAA, 2023)

Greg Alderson Associates

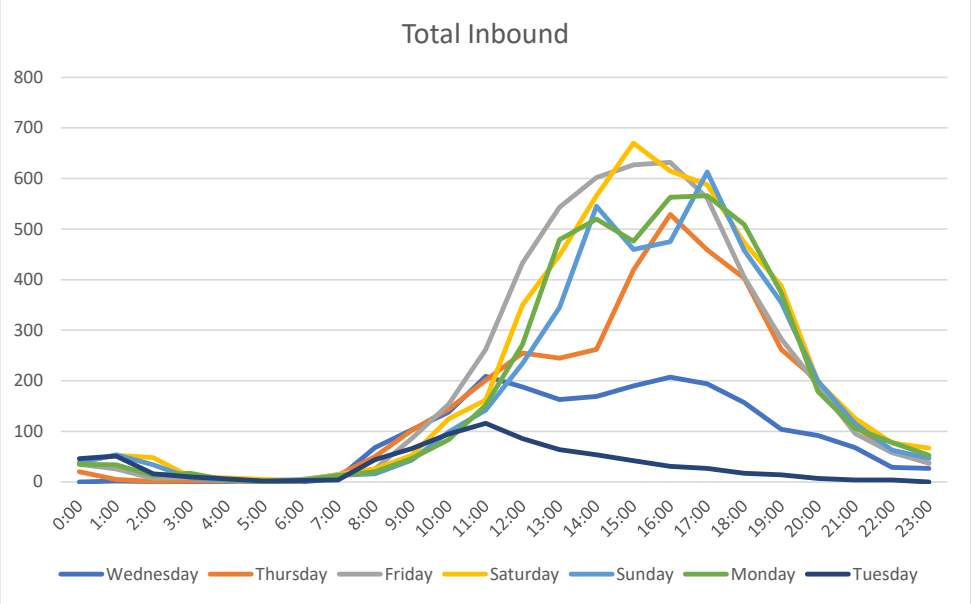


Figure 12 – Combined inbound traffic (GAA, 2023)

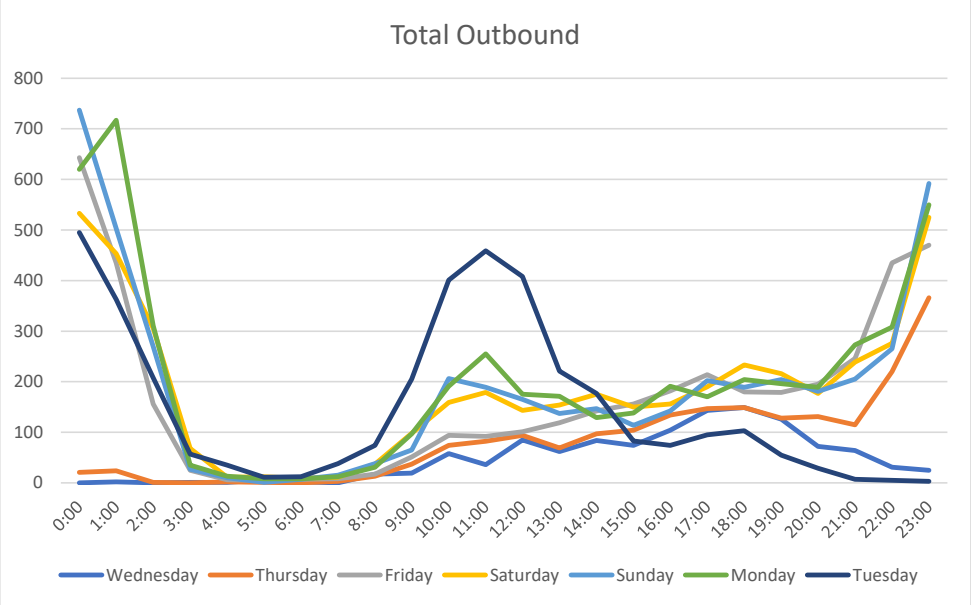


Figure 13 – Combined outbound traffic (GAA, 2023)

12.2 Estimated Number of Vehicles On-site

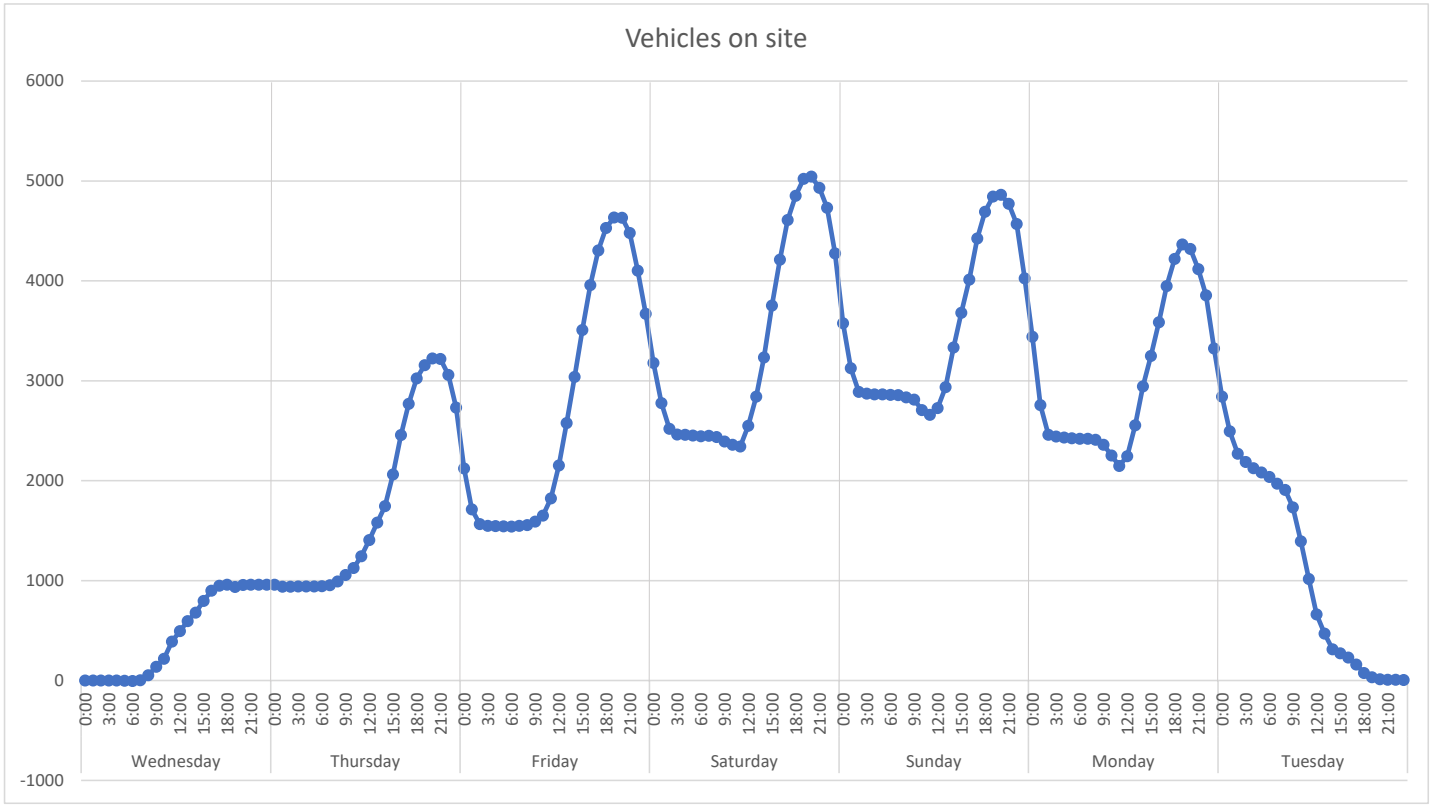


Figure 14 – Estimated number of vehicles on site at Bluesfest 2023 (GAA, 2023)

13.0 Risk Assessment

A risk assessment for the traffic operation of the 2024 Bluesfest event is described in this section. The risk assessment is set up such to identify potential risks to public health as a result of the festival traffic operations. The key performance indicators (KPIs) as defined by the development approval are aimed to reduce the likelihood of occurrence by requiring management of traffic queue growth and Level of Service (LoS).

Additional risk reducing measures such as creating temporary low-speed environments at high-risk locations are part of the traffic management tools recommended in this TMP.

There are risks from hazards that might occur that are outside the control of the festival management or traffic controllers. These hazards would include extreme weather conditions and crashes on the public road. In order to reduce the risk of these hazards, risk mitigating strategies are recommended in this risk assessment.

It is noted that it is the combined responsibility of festival management and government authorities to ensure that there is sufficient funding available and personnel in place for adequate implementation of the traffic control plans, infrastructure and risk mitigation measures.

The risk assessment proposed in this report is provided as a guide. Bluesfest recommend that after all relevant staff, consultants and contractors have been engaged, that a risk management meeting is held prior to the event. During this risk management meeting, a final risk assessment shall be established which would be included in the festival management manual. This risk management meeting shall include:

- Bluesfest Event Manager;
- Event Traffic Manager;
- Traffic Engineer;
- Traffic Control Supervisor;
- Police representative;
- Ambulance representative;
- Rural Fire Service (RFS) representative;
- TfNSW representative;
- Council representatives (BSC).

The risk assessment along with classification of risks and definitions are provided in Appendix C of this TMP.

Greg Alderson Associates

14.0 Copies of the Traffic Management Plan

Copies of the Traffic Management Plan, after signature by the relevant persons nominated in the plan, shall be forwarded to the following authorities as a reference should there be any need for contact, such as in the case of an emergency.

- NSW Police Force;
- TfNSW;
- NSW Ambulance Service;
- Rural Fire Service;
- Byron Shire Council;

Greg Alderson Associates

15.0 TGS Checklist

Traffic controllers shall complete the TGS checklist as included in this report, before the start of the festival and immediately prior to the closure of the festival. The aim of this TGS checklist is to ensure that all the requirements of the TGS have been in place for the full duration of the event.

Table 2 – TGS checklist

TGS CHECKLIST				
Date:	Time:	Auditor:		
Office/Company:		Site Supervisor:		
Location:				
Nature of Activity:				
Duration of Activity:				
Road Configuration:				
		YES	NO	N/A
1	**Provision for Activity**			
1.1	Has an approved TGS been provided?			
2	**Implementation**			
2.1	Are all signs & devices installed in accordance with TGS?			
2.2	Are there any contradictory, distracting or superfluous signs or markings?			
2.3	Are signs suitably placed with regard to:			
2.3.1	Sight distance			
2.3.2	Motorists approaching at high speed			
2.3.3	Queue lengths			
2.3.4	Visibility, shade, light glare?			

Greg Alderson Associates

2.4	Are all signs displayed appropriate for the current conditions?			
2.5	Are there any damaged or defective signs?			
2.6	Have the needs of pedestrians been considered?			
2.7	Have the needs of cyclists been considered?			
2.8	Are safety barriers required?			
2.9	Are safety barriers installed correctly?			
2.10	Has access to the site been provided?			
3	**Documentation Sighted**			
3.1	TGS, including details & modifications			
3.2	Direction to Restrict (DTR)			
3.3	Traffic controllers' certification			
4	**Has the Signage been covered for non-TfNSW Controllers operation as specified on the TC Plan?**			
Comments/Findings:				

Greg Alderson Associates

Recommendations/Corrective Action:	
Auditor (signed):	Site Supervisor:

Greg Alderson Associates

16.0 Chain of Command

The traffic engineer will generally be present at the site or the surrounding road network at the times of peak event traffic activity undertaking traffic monitoring and observations.

The responsibilities of the traffic engineer are:

- Certification of the installation and proper implementation of TMP and TGS;
- Liaison with Bluesfest management and site manager as required;
- Liaison with traffic control supervisor as required;
- Undertake traffic monitoring activities;
- Provide Traffic Evaluation Report (TER) following each event;
- Design and modification of existing approved TGS prior to each event;
- Certification of new TGS prior to each event.

The traffic control supervisor will be present at the site or surrounding road network during peak arrival and departure periods, and be available at all times to implement contingency measures.

The responsibilities of the traffic control supervisor include:

- Liaison with Bluesfest management and site manager;
- Liaison with traffic control staff;
- Liaison with camping manager;
- Liaison with parking manager;
- Liaison with traffic engineer;
- Liaison with Council and TfNSW;
- Liaison with NSW Police.

Changes to the TGS can only be made by a TfNSW accredited person with a Prepare a Work Zone Traffic Management Plan card. This would normally be either the traffic engineer or the traffic control supervisor. The traffic control supervisor will supervise the operation of the TMP and TGS and ensure that the Traffic controllers are advised of their roles in the traffic management. The traffic engineer will report any significant issues observed to the traffic control supervisor as required.

The festival management would be expected to contact the traffic engineer or traffic control supervisor to discuss any traffic matters as per the hierarchy flow chart in Appendix D. The success of the implementation of this TMP depends on a coordinated managed traffic approach which will be achieved by following a chain of command protocol. This is also to be reinforced in the protocol issued to the contracted traffic control company.

Greg Alderson Associates

17.0 Conclusion

This TMP has been prepared by GAA for Bluesfest 2024 festival at Tyagarah, NSW.

It is anticipated that the 2024 Bluesfest event will be managed such that festival traffic does not adversely impact the Pacific Motorway or the local road network outside the levels nominated in the development consent. This will be achieved by implementing the traffic management procedures as outlined in this TMP.

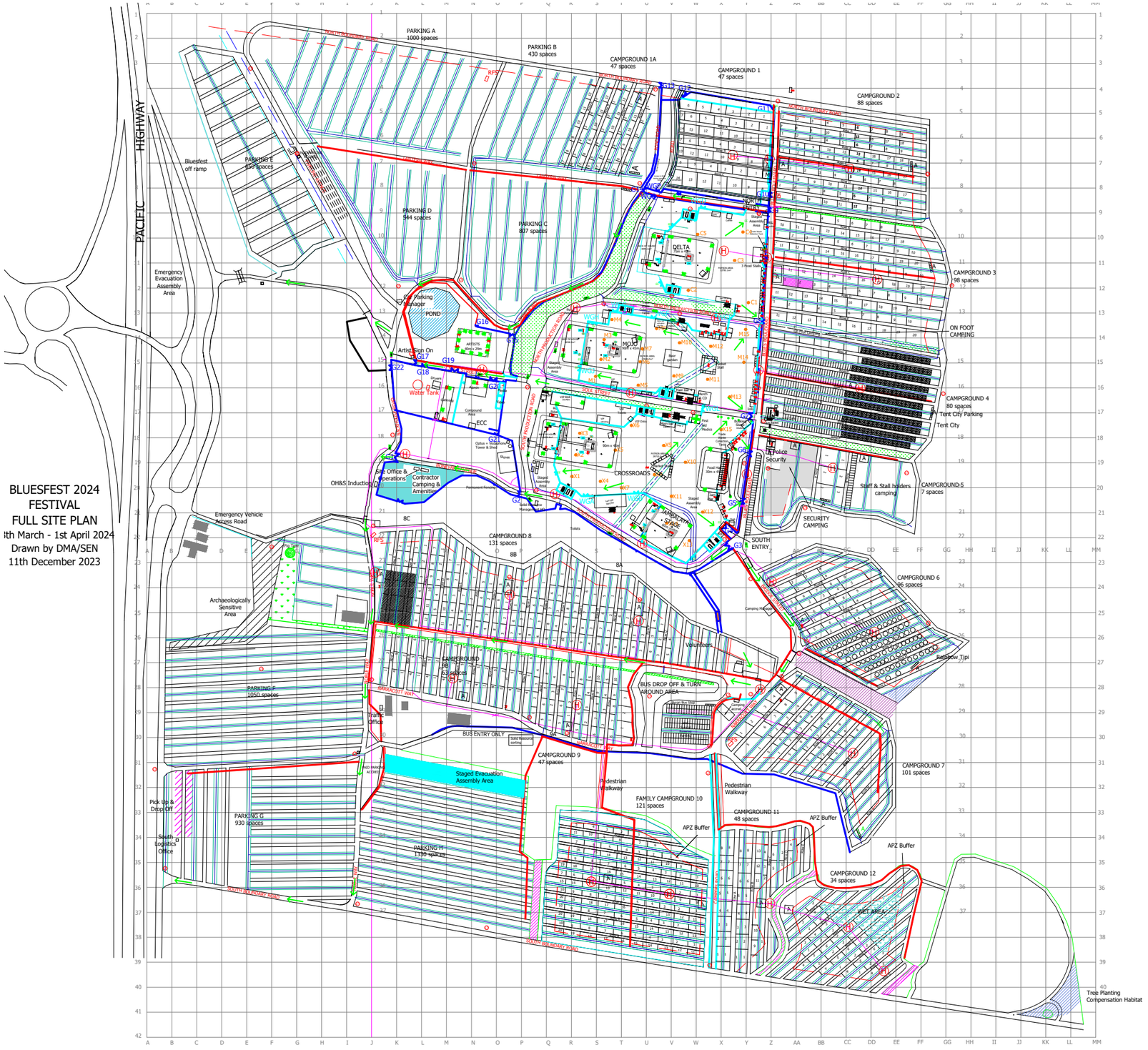
A risk assessment has been undertaken to identify potential risks to public health as a result of the festival traffic operations. Compliance with the KPIs outlined in this TMP will reduce the likelihood of occurrence by requiring management of traffic queue growth and Level of Service (LoS).

An appropriately qualified traffic engineer should be present during peak times to enable effective evaluation of the implementation of the TMP and TGS and make adjustments where required.

Traffic counters will be installed to monitor traffic flows both for rate and volume. Monitoring of the operation of the carparks, in particular the operation of the car parks for ingress and egress, is to be performed by festival staff to ensure effective operation of the car parks.

Greg Alderson Associates

Appendix A – Bluesfest 2024 Site Plan



BLUESFEST 2024
FESTIVAL
FULL SITE PLAN
ith March - 1st April 2024
Drawn by DMA/SEN
11th December 2023

Figured dimensions take precedence to scale readings. verify all dimensions on site. Report any discrepencies to the designer for decision before proceeding with the work.

REV.	REVISION DESCRIPTION	DATE

ALL TEMPORARY STRUCTURES TO BE ERECTED IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA (BCA) AND TO THE SATISFACTION OF THE PRINCIPAL CERTIFING AUTHORITY.

KEY

- Permanent Fencing
- Temporary Fencing
- FIRST AID
- Amenities
- Fire Extinguishers
- Fire Blankets
- Hydrant
- RFS Tanker
- Water Truck
- Jumbo Exit Sign
- Directional Exit Sign
- Emergency Evacuation Sign
- Security
- Essential Fire Safety Schedule
- Accessible Facility
- Accessible Viewing Platform
- Fire Warden
- Emergency Exit

BLUESFEST
2024 FESTIVAL
28th March - 1st April 2024
Old Pacific Highway
Tyagarah

Emergency Services & Evacuation
Event Site Plan

FULL SITE

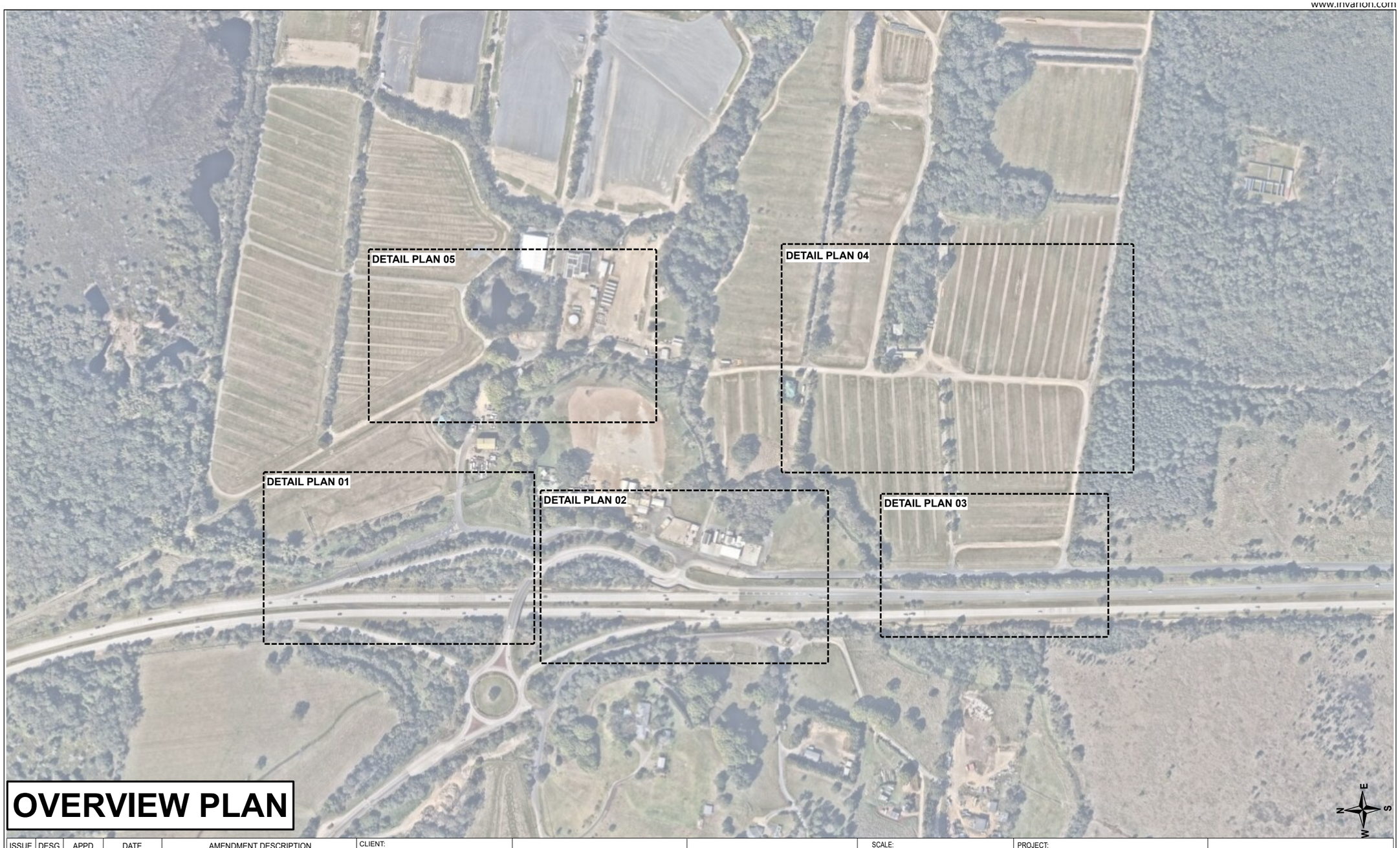
Scale = 1:4500
at A3

Drawn: DMA/SEN
Date: 11th December 2023

Z:\JOBS\23\23566 - Bluesfest 2024\PLANS\23566 Bluesfest Site Plan 2024 01122023.dwg

Greg Alderson Associates

Appendix B – Traffic Guidance Scheme (TGS)



OVERVIEW PLAN

ISSUE	DESG	APPD	DATE	AMENDMENT DESCRIPTION
1	BS	AK	07-11-23	INITIAL PLAN

CLIENT: BYRON BAY BLUEFEST

TGS DRAWN BY: Bader Sumrain

TRAFFIC CONTROL WORK NUMBER: TCT0007192

SIGNATURE:

DATE OF ISSUE: 15th JUNE 2017

TGS APPROVED BY: Ashley Kelly

TRAFFIC CONTROL WORK NUMBER: TCT0006840

SIGNATURE:

DATE OF ISSUE: 10th JULY 2016

SCALE: NOT TO SCALE

DATE OF DESIGN: 20/12/2023 TIME OF DESIGN: 14:00

DATE OF APPROVAL: 20/12/2023

DRAWING NUMBER: BFBB-BF-TCP-24-OP

SHEET NO: 1 Of 1 ISSUE: 01

PROJECT: BLUEFEST 2024
VARIOUS LOCATIONS

TITLE: OVERVIEW PLAN

ALTUS GROUP

Call Altus Traffic
Toll Free (Australia)
1300 TRAFFIC (872 334)
ABN 84 102 768 061

SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL

www.invarion.com

NOTE: THIS IS ONLY IMPLEMENTED FROM 21:00 - 02:00 OR UNTIL SOUTHERN CARPARKS ARE CLEAR

NOTE: ONLY IMPLEMENTED FOR DAILY ATTENDANCES OF 18K +.

Legend

- Arrow Board
- Bus Route
- TMA
- Traffic Controller
- VMS Board

Manifest

- **37 x** Traffic Cones
- **5 x** Arrowboard (Single)
- **4 x** Lane Status (Dead, Ahead)
- **4 x** SPEED LIMIT 60 ROAD WORK
- **3 x** HAZARD WARNING MARKER RIGHT
- **2 x** Arrowboard (Warning)
- **2 x** PREPARE TO STOP
- **2 x** ROADWORK AHEAD
- **2 x** SPEED LIMIT 60
- **2 x** SPEED LIMIT 80 ROAD WORK
- **2 x** Traffic Controller
- **2 x** TRAFFIC CONTROLLER AHEAD
- **2 x** WORKERS AHEAD
- **1 x** NO RIGHT TURN NSW
- **1 x** ROADWORK 1km AHEAD
- **1 x** ROADWORK ON SIDE ROAD
- **1 x** SPEED LIMIT 100
- **1 x** SPEED LIMIT 40 ROAD WORK
- **1 x** SPEED LIMIT 80 AHEAD

VMS MESSAGE

SCREEN 1	SCREEN 2
CHANGED	NO ENTRY
TRAFFIC	TO
CONDITIONS	GRAYS LANE

2m CONE SPACING PAST GRAYS LN

NOTE: BUSES ARE ADVISED TO STAY IN LEFT LANE ONCE ON HIGHWAY

01 - DEPARTURE GRAYS LANE

ISSUE	DESG	APPD	DATE	AMENDMENT DESCRIPTION
1	BS	AK	31-10-23	INITIAL PLAN
2	BS	AK	31-10-23	CLIENT'S REQUEST
3	BS	AK	07-11-23	CLIENT'S REQUEST
4	BS	AK	08-11-23	CLIENT'S REQUEST
5	BS	AK	20-11-23	CLIENT'S REQUEST

CLIENT: BYRON BAY BLUEFEST

TGS DRAWN BY: Bader Sumrain

TRAFFIC CONTROL WORK NUMBER: TCT0007192

SIGNATURE:

DATE OF ISSUE: 15th JUNE 2017

TGS APPROVED BY: Ashley Kelly

TRAFFIC CONTROL WORK NUMBER: TCT0006840

SIGNATURE:

DATE OF ISSUE: 10th JULY 2016

SCALE: NOT TO SCALE

DATE OF DESIGN: 20/12/2023 TIME OF DESIGN: 14:00

DATE OF APPROVAL: 20/12/2023

DRAWING NUMBER: BFBB-BF-TCP-24-01

SHEET NO: 1 Of 1 ISSUE: 05

PROJECT: BLUEFEST 2024

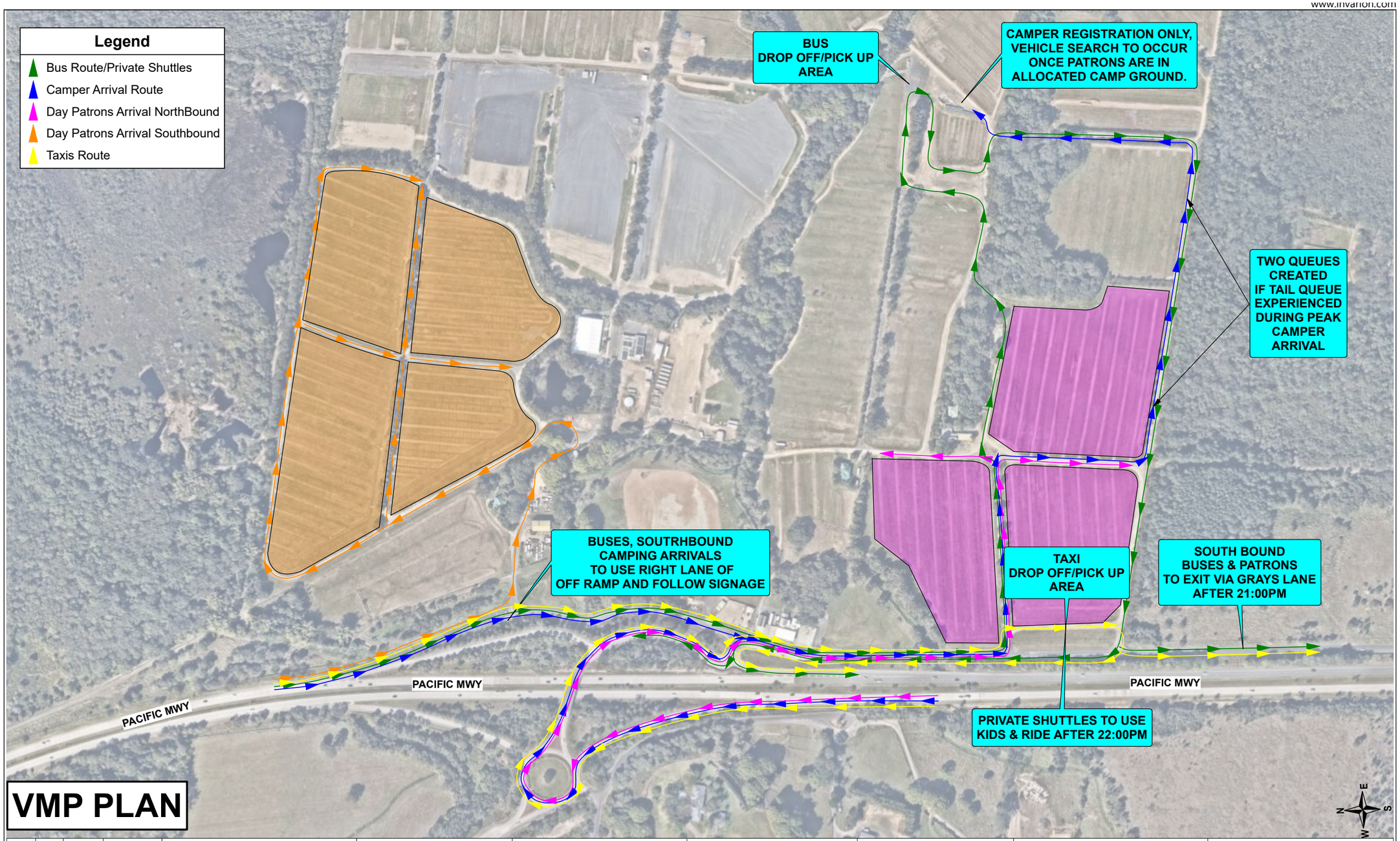
PACIFIC MTWY & GRAYS LN, TYAGARAH

TITLE: GRAYS LANE DEPARTURE

ALTUS GROUP

Call Altus Traffic
Toll Free (Australia)
1300 TRAFFIC (872 334)
ABN 84 102 768 061

www.invarion.com



VMP PLAN

ISSUE	DESG	APPD	DATE	AMENDMENT DESCRIPTION
1	BS	AK	31-10-23	INITIAL PLAN
2	BS	AK	07-11-23	CLIENT'S REQUEST
3	BS	AK	14-11-23	CLIENT'S REQUEST

CLIENT: BYRON BAY BLUEFEST

TGS DRAWN BY: Bader Sumrain

TRAFFIC CONTROL WORK NUMBER: TCT0007192

SIGNATURE:

DATE OF ISSUE: 15th JUNE 2017

TGS APPROVED BY: Ashley Kelly

TRAFFIC CONTROL WORK NUMBER: TCT0006840

SIGNATURE:

DATE OF ISSUE: 10th JULY 2016

SCALE: NOT TO SCALE

DATE OF DESIGN: 20/12/2023

TIME OF DESIGN: 14:00

DATE OF APPROVAL: 20/12/2023

DRAWING NUMBER: BFBB-BF-TCP-24-02

SHEET NO: 1 Of 1

ISSUE: 03

PROJECT: BLUEFEST 2024

VARIOUS LOCATIONS

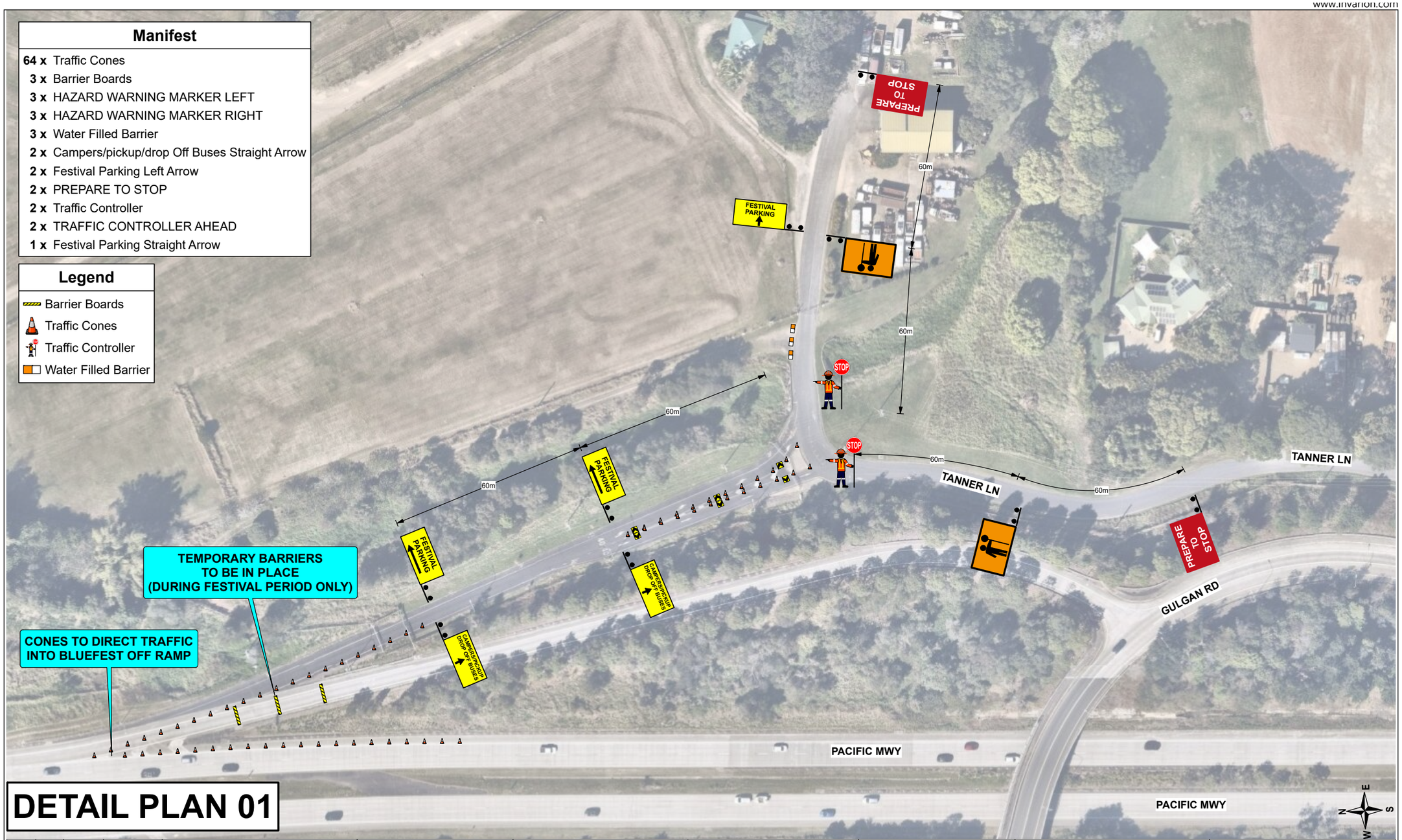
TITLE: VMP PLAN

ALTUS GROUP

Call Altus Traffic
Toll Free (Australia)
1300 TRAFFIC (872 334)
ABN 84 102 768 061

SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL

www.invarion.com



DETAIL PLAN 01

ISSUE	DESG	APPD	DATE	AMENDMENT DESCRIPTION
1	BS	AK	03-11-23	INITIAL PLAN
2	BS	AK	07-11-23	CLIENT'S REQUEST

CLIENT: BYRON BAY BLUEFEST

TGS DRAWN BY: Bader Sumrain

TRAFFIC CONTROL WORK NUMBER: TCT0007192

SIGNATURE:

DATE OF ISSUE: 15th JUNE 2017

TGS APPROVED BY: Ashley Kelly

TRAFFIC CONTROL WORK NUMBER: TCT0006840

SIGNATURE:

DATE OF ISSUE: 10th JULY 2016

SCALE: NOT TO SCALE

DATE OF DESIGN: 20/12/2023 TIME OF DESIGN: 14:00

DATE OF APPROVAL: 20/12/2023

DRAWING NUMBER: BFBB-BF-TCP-24-03

SHEET NO: 1 Of 1 ISSUE: 02

PROJECT: BLUEFEST 2024

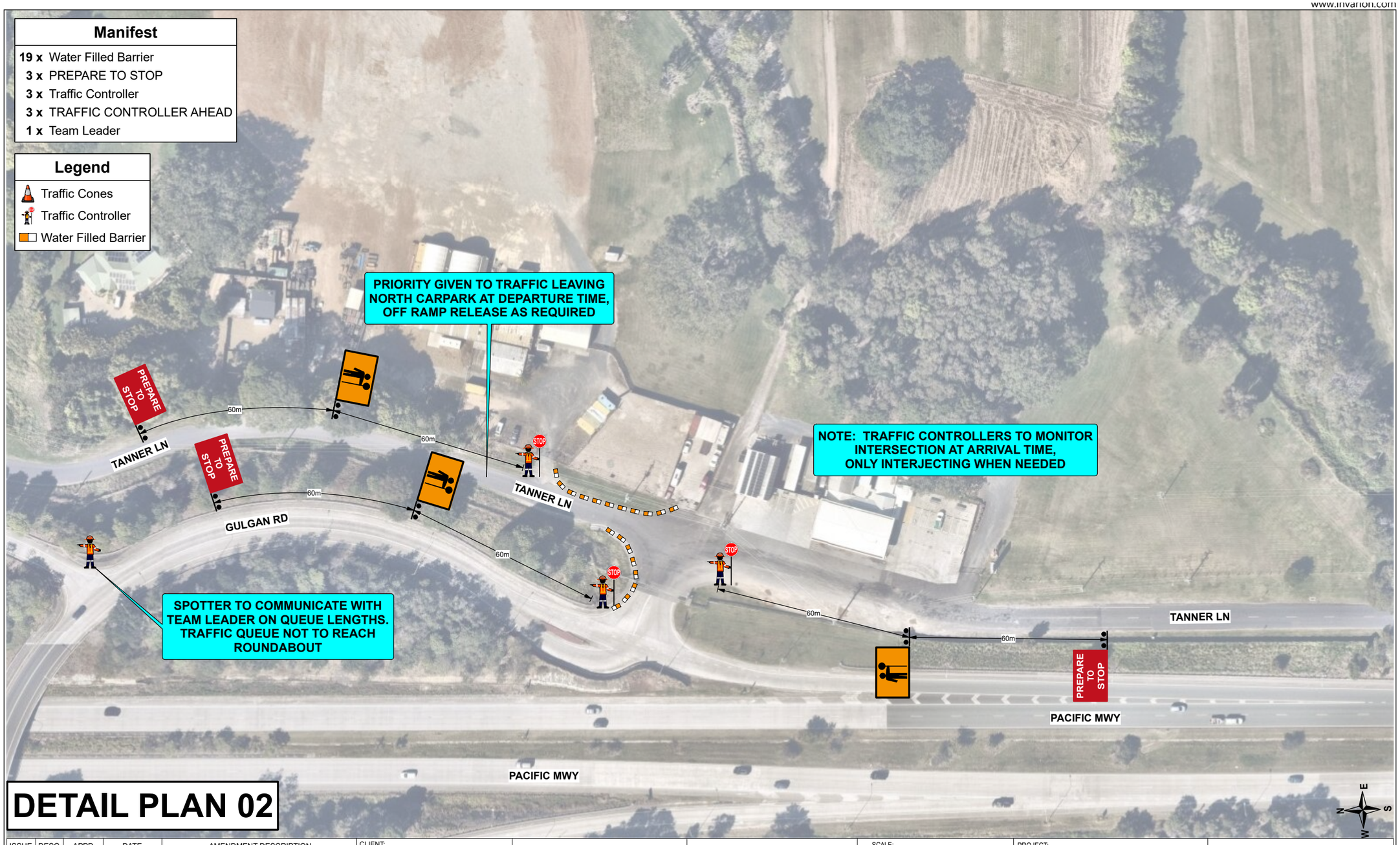
TANNER LN, TYAGARAH

TITLE: DETAIL PLAN SOUTHBOUND OFF RAMP

ALTUS GROUP

Call Altus Traffic
Toll Free (Australia)
1300 TRAFFIC (872 334)
ABN 84 102 768 061

SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL



ISSUE	DESG	APPD	DATE	AMENDMENT DESCRIPTION
1	BS	AK	03-11-23	INITIAL PLAN
2	BS	AK	07-11-23	CLIENT'S REQUEST

CLIENT: BYRON BAY BLUEFEST

TGS DRAWN BY: Bader Sumrain

TRAFFIC CONTROL WORK NUMBER: TCT0007192

SIGNATURE:

DATE OF ISSUE: 15th JUNE 2017

TGS APPROVED BY: Ashley Kelly

TRAFFIC CONTROL WORK NUMBER: TCT0006840

SIGNATURE:

DATE OF ISSUE: 10th JULY 2016

SCALE: NOT TO SCALE

DATE OF DESIGN: 20/12/2023 TIME OF DESIGN: 14:00

DATE OF APPROVAL: 20/12/2023

DRAWING NUMBER: BFBB-BF-TCP-24-04

SHEET NO: 1 Of 1 ISSUE: 02

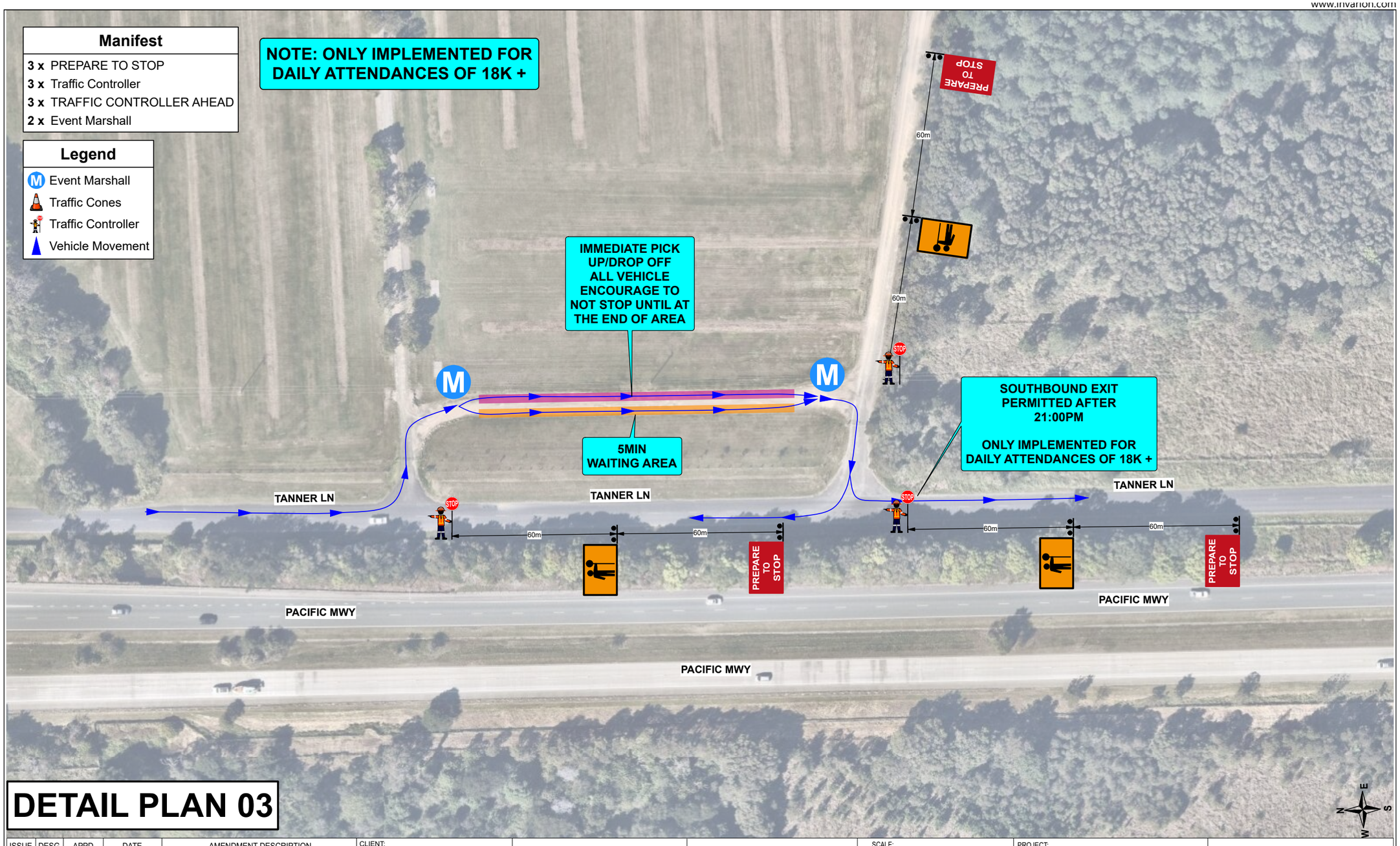
PROJECT: BLUEFEST 2024
TANNER LN & GULGAN RD, TYAGARAH

TITLE: DETAIL PLAN SERVICE STATION

ALTUS GROUP

Call Altus Traffic
Toll Free (Australia)
1300 TRAFFIC (872 334)
ABN 84 102 768 061

SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL



ISSUE	DESG	APPD	DATE	AMENDMENT DESCRIPTION
1	BS	AK	03-11-23	INITIAL PLAN
2	BS	AK	07-11-23	CLIENT'S REQUEST
3	BS	AK	20-11-23	CLIENT'S REQUEST

CLIENT: BYRON BAY BLUEFEST

TGS DRAWN BY: Bader Sumrain

TRAFFIC CONTROL WORK NUMBER: TCT0007192

SIGNATURE:

DATE OF ISSUE: 15th JUNE 2017

TGS APPROVED BY: Ashley Kelly

TRAFFIC CONTROL WORK NUMBER: TCT0006840

SIGNATURE:

DATE OF ISSUE: 10th JULY 2016

SCALE: NOT TO SCALE

DATE OF DESIGN: 20/12/2023 TIME OF DESIGN: 14:00

DATE OF APPROVAL: 20/12/2023

DRAWING NUMBER: BFBB-BF-TCP-24-05

SHEET NO: 1 Of 1 ISSUE: 03

PROJECT: BLUEFEST 2024

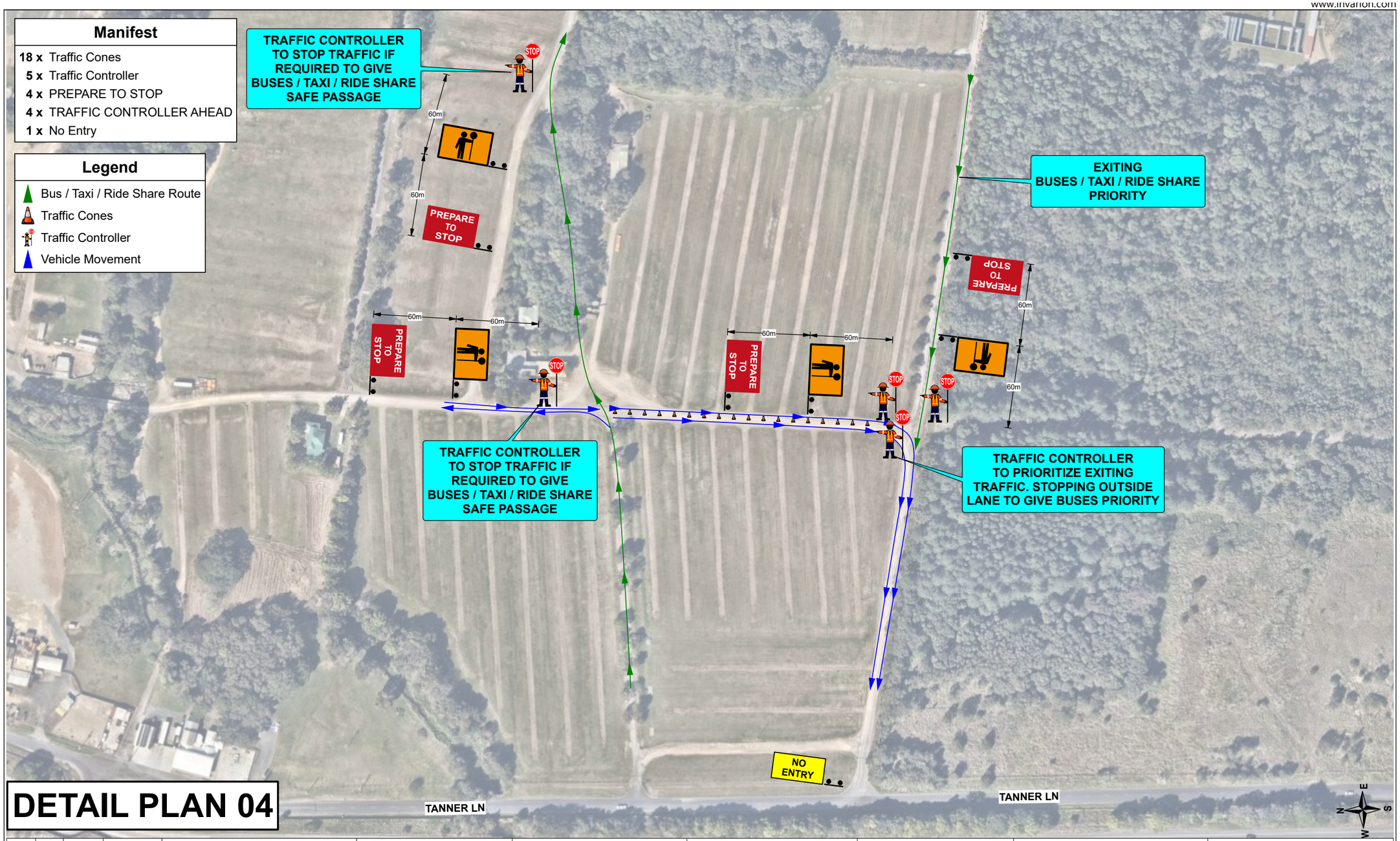
TANNER LN, TYAGARAH

TITLE: DETAIL PLAN PICK UP / DROP OFF

ALTUS GROUP

Call Altus Traffic
Toll Free (Australia)
1300 TRAFFIC (872 334)
ABN 84 102 768 061

SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL



ISSUE	DESG	APPD	DATE	AMENDMENT DESCRIPTION
1	BS	AK	03-11-23	INITIAL PLAN
2	BS	AK	07-11-23	CLIENT'S REQUEST
3	BS	AK	08-11-23	CLIENT'S REQUEST

CLIENT: BYRON BAY BLUEFEST

TGS DRAWN BY: Bader Sumrain

TRAFFIC CONTROL WORK NUMBER: TCT0007192

SIGNATURE:

DATE OF ISSUE: 15th JUNE 2017

TGS APPROVED BY: Ashley Kelly

TRAFFIC CONTROL WORK NUMBER: TCT0006840

SIGNATURE:

DATE OF ISSUE: 10th JULY 2016

SCALE: NOT TO SCALE

DATE OF DESIGN: 20/12/2023 TIME OF DESIGN: 14:00

DATE OF APPROVAL: 20/12/2023

DRAWING NUMBER: BFBB-BF-TCP-24-06

SHEET NO: 1 Of 1 ISSUE: 03

PROJECT: BLUEFEST 2024

TANNER LN, TYAGARAH

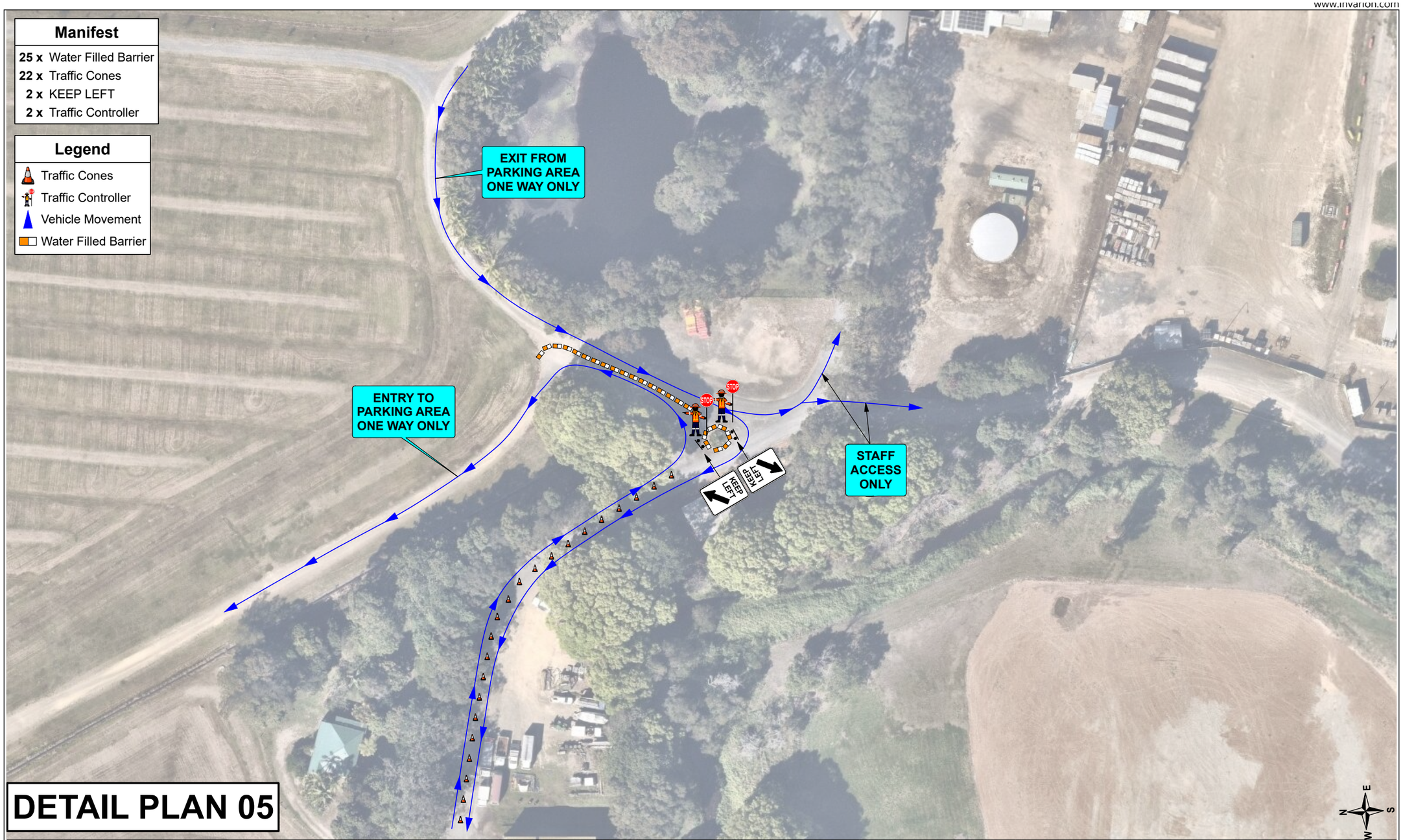
TITLE: DETAIL PLAN
INTERNAL SOUTH CARPARK

ALTUS GROUP

Call Altus Traffic
Toll Free (Australia)
1300 TRAFFIC (872 334)
ABN 84 102 768 061

SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL

www.invarion.com



DETAIL PLAN 05

ISSUE	DESG	APPD	DATE	AMENDMENT DESCRIPTION
1	BS	AK	03-11-23	INITIAL PLAN
2	BS	AK	07-11-23	CLIENT'S REQUEST

CLIENT: BYRON BAY BLUEFEST

TGS DRAWN BY: Bader Sumrain

TRAFFIC CONTROL WORK NUMBER: TCT0007192

SIGNATURE:

DATE OF ISSUE: 15th JUNE 2017

TGS APPROVED BY: Ashley Kelly

TRAFFIC CONTROL WORK NUMBER: TCT0006840

SIGNATURE:

DATE OF ISSUE: 10th JULY 2016

SCALE: NOT TO SCALE

DATE OF DESIGN: 20/12/2023 TIME OF DESIGN: 14:00

DATE OF APPROVAL: 20/12/2023

DRAWING NUMBER: BFBB-BF-TCP-24-07

SHEET NO: 1 Of 1 ISSUE: 02

PROJECT: BLUEFEST 2024

TANNER LN, TYAGARAH

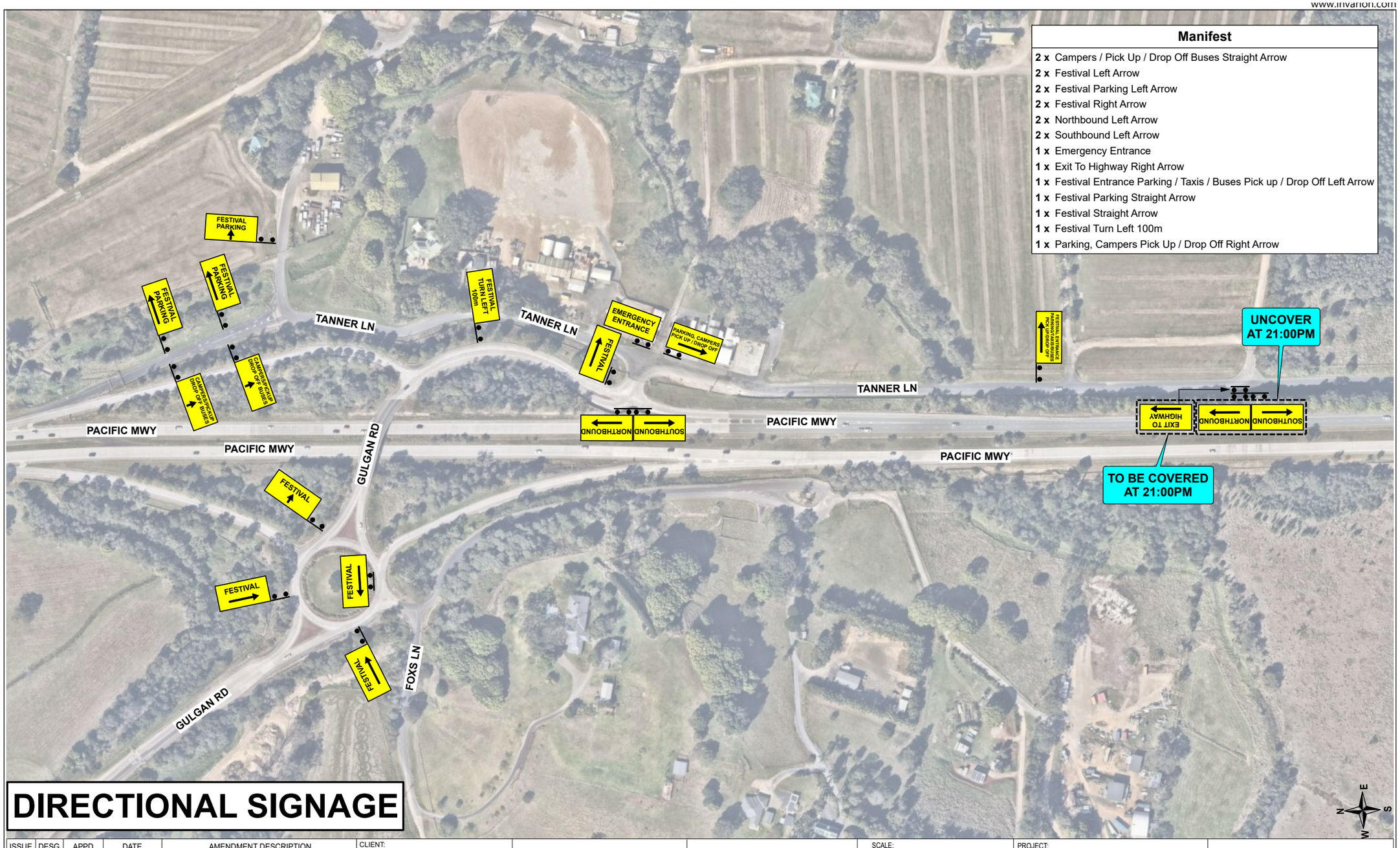
TITLE: DETAIL PLAN NORTH CARPARK ENTRY

ALTUS GROUP

Call Altus Traffic
Toll Free (Australia)
1300 TRAFFIC (872 334)
ABN 84 102 768 061

SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL

www.invarion.com



DIRECTIONAL SIGNAGE

ISSUE	DESG	APPD	DATE	AMENDMENT DESCRIPTION
1	BS	AK	06-11-23	INITIAL PLAN

CLIENT: BYRON BAY BLUEFEST

TGS DRAWN BY: Bader Sumrain

TRAFFIC CONTROL WORK NUMBER: TCT0007192

SIGNATURE:

DATE OF ISSUE: 15th JUNE 2017

TGS APPROVED BY: Ashley Kelly

TRAFFIC CONTROL WORK NUMBER: TCT0006840

SIGNATURE:

DATE OF ISSUE: 10th JULY 2016

SCALE: NOT TO SCALE

DATE OF DESIGN: 20/12/2023 TIME OF DESIGN: 14:00

DATE OF APPROVAL: 20/12/2023

DRAWING NUMBER: BFBB-BF-TCP-24-08

SHEET NO: 1 Of 1 ISSUE: 01

PROJECT: BLUEFEST 2024

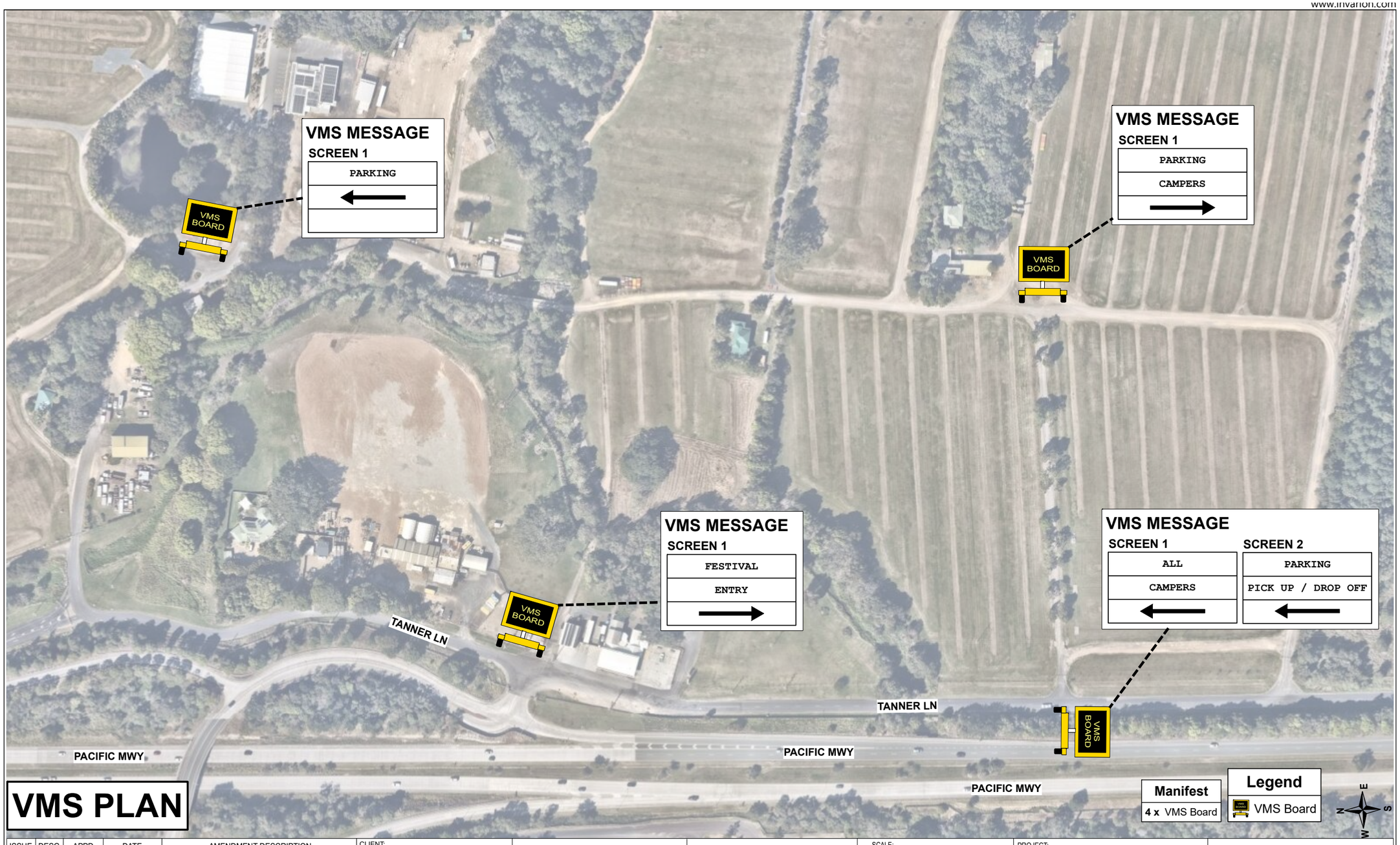
VARIOUS LOCATIONS

TITLE: DIRECTIONAL SIGNAGE

ALTUS GROUP

Call Altus Traffic
Toll Free (Australia)
1300 TRAFFIC (872 334)
ABN 84 102 768 061

SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL



VMS PLAN

ISSUE	DESG	APPD	DATE	AMENDMENT DESCRIPTION
1	BS	AK	06-11-23	INITIAL PLAN

CLIENT: BYRON BAY BLUEFEST

TGS DRAWN BY: Bader Sumrain

TRAFFIC CONTROL WORK NUMBER: TCT0007192

SIGNATURE:

DATE OF ISSUE: 15th JUNE 2017

TGS APPROVED BY: Ashley Kelly

TRAFFIC CONTROL WORK NUMBER: TCT0006840

SIGNATURE:

DATE OF ISSUE: 10th JULY 2016

SCALE: NOT TO SCALE

DATE OF DESIGN: 20/12/2023

TIME OF DESIGN: 14:00

DATE OF APPROVAL: 20/12/2023

DRAWING NUMBER: BFBB-BF-TCP-24-09

SHEET NO: 1 Of 1

ISSUE: 01

PROJECT: BLUEFEST 2024

VARIOUS LOCATIONS

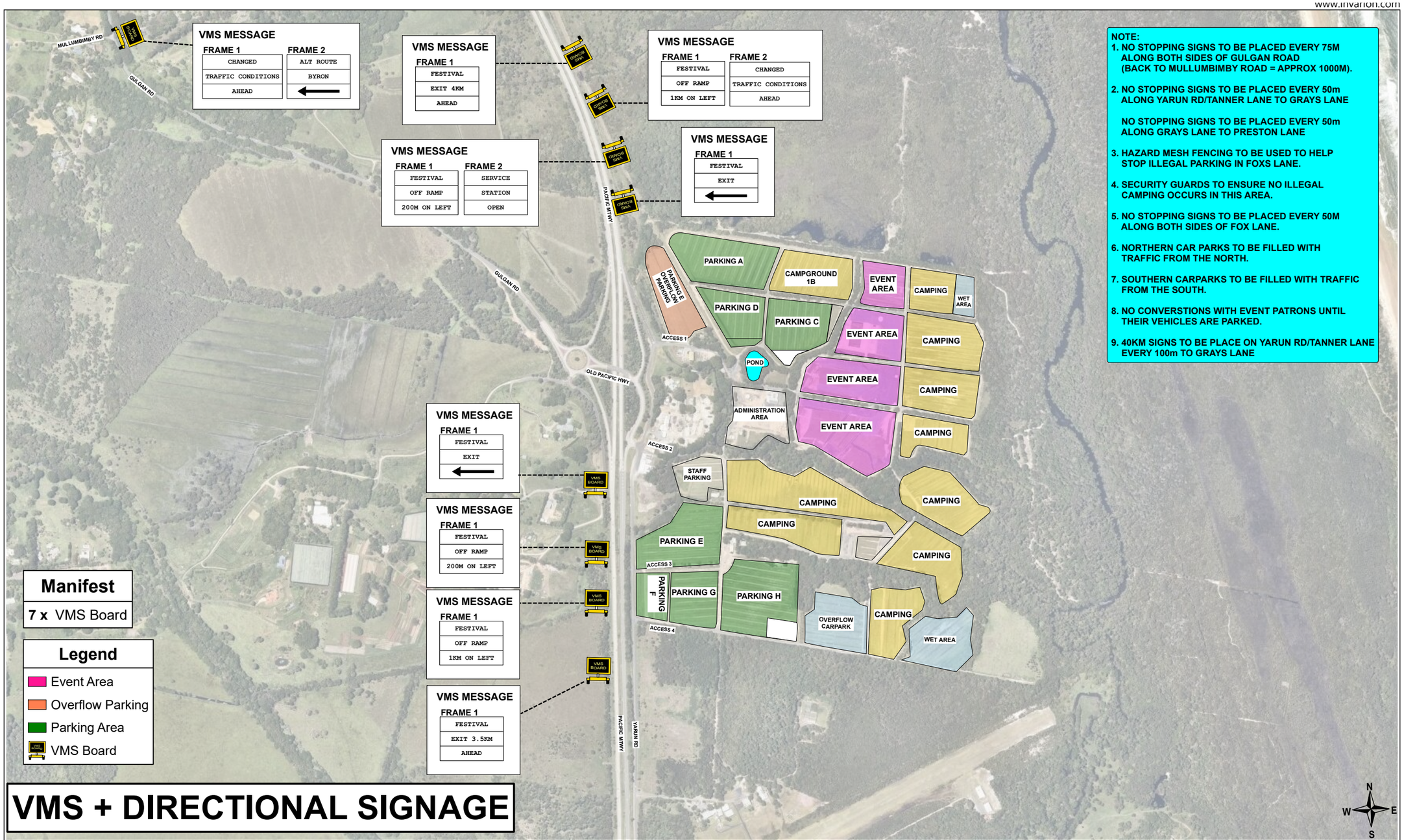
TITLE: VMS PLAN

ALTUS GROUP

Call Altus Traffic
Toll Free (Australia)
1300 TRAFFIC (872 334)
ABN 84 102 768 061

SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL

www.invarion.com



NOTE:

1. NO STOPPING SIGNS TO BE PLACED EVERY 75M ALONG BOTH SIDES OF GULGAN ROAD (BACK TO MULLUMBIMBY ROAD = APPROX 1000M).
2. NO STOPPING SIGNS TO BE PLACED EVERY 50m ALONG YARUN RD/TANNER LANE TO GRAYS LANE

   NO STOPPING SIGNS TO BE PLACED EVERY 50m ALONG GRAYS LANE TO PRESTON LANE
3. HAZARD MESH FENCING TO BE USED TO HELP STOP ILLEGAL PARKING IN FOXS LANE.
4. SECURITY GUARDS TO ENSURE NO ILLEGAL CAMPING OCCURS IN THIS AREA.
5. NO STOPPING SIGNS TO BE PLACED EVERY 50M ALONG BOTH SIDES OF FOX LANE.
6. NORTHERN CAR PARKS TO BE FILLED WITH TRAFFIC FROM THE NORTH.
7. SOUTHERN CARPARKS TO BE FILLED WITH TRAFFIC FROM THE SOUTH.
8. NO CONVERSTIONS WITH EVENT PATRONS UNTIL THEIR VEHICLES ARE PARKED.
9. 40KM SIGNS TO BE PLACE ON YARUN RD/TANNER LANE EVERY 100m TO GRAYS LANE

Manifest

7 x VMS Board

Legend

- Event Area
- Overflow Parking
- Parking Area
- VMS Board

VMS + DIRECTIONAL SIGNAGE

ISSUE	DESG	APPD	DATE	AMENDMENT DESCRIPTION
1	BS	AK	30-10-23	INITIAL PLAN
2	BS	AK	06-11-23	CLIENT'S REQUEST
3	BS	AK	07-11-23	CLIENT'S REQUEST

CLIENT: BYRON BAY BLUEFEST

TGS DRAWN BY: Bader Sumrain

TRAFFIC CONTROL WORK NUMBER: TCT0007192

SIGNATURE:

DATE OF ISSUE: 15th JUNE 2017

TGS APPROVED BY: Ashley Kelly

TRAFFIC CONTROL WORK NUMBER: TCT0006840

SIGNATURE:

DATE OF ISSUE: 10th JULY 2016

SCALE: NOT TO SCALE

DATE OF DESIGN: 20/12/2023 TIME OF DESIGN: 14:00

DATE OF APPROVAL: 20/12/2023

DRAWING NUMBER: BFBB-BF-TCP-24-10

SHEET NO: 1 Of 1 ISSUE: 03

PROJECT: BLUEFEST 2024 VARIOUS LOCATIONS

TITLE: VMS + DIRECTIONAL SIGNAGE

ALTUS GROUP

Call Altus Traffic
Toll Free (Australia)
1300 TRAFFIC (872 334)
ABN 84 102 768 061

SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL SCI QUAL INTERNATIONAL

Greg Alderson Associates

Appendix C – Risk Assessment Register

Greg Alderson Associates

RISK ASSESSMENT													
				Initial Risk Rating						Residual Risk Rating			
Activity	Hazard Description	Direct Consequence	Potential Indirect Consequence	L	C	Risk Class	Method for risk mitigation	Responsible person for mitigation implementation	Person responsible for ensuring sufficient funding to enact mitigation	L	C	Risk Class
Traffic control on public road	Traffic controller hit by car	Injury or death	Traffic congestion and queue growth	3	A	2	Ensure traffic control measures installed in accordance with TMP and TGS	Traffic Control Supervisor	Festival General Manager	5	A	3
							Ensure TC staff compliance with WHS regulations and other relevant legislation	Traffic Control Supervisor	Festival General Manager			
On-site vehicle processing	Insufficient rate at which vehicles are processed	Traffic congestion and queue growth	Collision on public road	2	A	1	Ensure sufficient staff for vehicle processing	Parking Manager	Festival General Manager	5	A	3
							Ensure adequate equipment to enable staff to process vehicles safely and efficiently	Parking Manager	Festival General Manager			
							Implementation of contingency measures (including "snake" in southern carpark) to create additional vehicle storage on-site	Chief Operating Officer	Festival General Manager			
							Traffic controllers on public road to control back of queue	Traffic Control Supervisor	Festival General Manager			
	Government agencies (including police) slowing down vehicle processing (e.g., during vehicle searches, etc.)	Traffic congestion and queue growth	Collision on public road	2	A	1	Coordination with government agencies	Chief Operating Officer	Festival General Manager			
							Sufficient processing bays and areas for vehicle searches to occur	Chief Operating Officer	Festival General Manager	5	A	3
Patron arrival, departure and additional festival traffic generation throughout event	Higher patron arrival flow than anticipated	Traffic congestion	Collision on public road	2	A	1	Traffic management plan to allow for sufficient contingency	Traffic Control Supervisor	Festival General Manager	5	A	3
							Contingency plans available for enactment if needed	Traffic Control Supervisor	Festival General Manager			
							Queue warning vehicle implementation	Traffic Control Supervisor	Festival General Manager			
	More concentrated arrival peak than anticipated	Traffic congestion	Collision on public road	2	A	1	Traffic management plan to allow for sufficient contingency	Traffic Control Supervisor	Festival General Manager	5	A	3
							Contingency plans available for enactment if needed	Traffic Control Supervisor	Festival General Manager			
							Queue warning vehicle implementation	Traffic Control Supervisor	Festival General Manager			
	Crash on critical intersection or traffic lane	Injury or death	Traffic congestion and queue growth	3	A	2	Secure crash site	NSW Police Force	NSW Police Force	5	A	3
							Provide first aid to persons involved	NSW Ambulance Service	NSW Ambulance Service			
							Manage traffic at crash site	NSW Police Force	NSW Police Force			
							Manage back of queue	Traffic Control Supervisor	Festival General Manager			
	On-site crash	Injury or death	Traffic congestion and queue growth	2	A	1	Ensure adequate on-site road network	Chief Operating Officer	Festival General Manager	3	C	3
							Ensure sufficient visibility through corners	Chief Operating Officer	Festival General Manager			
							Ensure low-speed environment	Chief Operating Officer	Festival General Manager			
							Prevent occurrence of sudden stopping	Chief Operating Officer	Festival General Manager			
							Secure crash site	NSW Police Force	NSW Police Force			
							Provide first aid to persons involved	NSW Ambulance Service	NSW Ambulance Service			
							Manage traffic at crash site	NSW Police Force	NSW Police Force			
							Manage back of queue	Traffic Control Supervisor	Traffic Control Supervisor			
	On-site vehicle breakdown (including vehicles running out of fuel or battery)	Traffic congestion and queue growth	Collision on public road	2	A	1	Remove vehicle from traffic lane	Chief Operating Officer	Festival General Manager	3	C	3
							Implementation of contingency measures (including "snake" in southern carpark) to create additional vehicle storage on-site	Chief Operating Officer	Festival General Manager			
							Low-speed zones in high-risk areas as shown in TMP and TGS	Traffic Control Supervisor	Festival General Manager			
							Identify areas broken down vehicles can be safely moved to for further assistance.	Traffic Control Supervisor	Festival General Manager			
							Traffic controllers on public road to control back of queue	Traffic Control Supervisor	Festival General Manager			
	Queueing on motorway, motorway off-ramp or arterial road	Traffic congestion and queue growth	Potential back of queue crash	3	A	2	Contingency plans available for enactment if needed	Traffic Control Supervisor	Festival General Manager	4	A	3
							Queue warning vehicle implementation	Traffic Control Supervisor	Festival General Manager			
	On-site fire or bush fire	Panic by drivers	Potential collisions on site and public road	2	A	1	Fire prevention by site planning, vegetation maintenance, and crowd control	Chief Operating Officer	Festival General Manager	3	D	3
							Fire identification and firefighting	RFS & Chief Operating Officer	RFS & Festival General Manager			
	Severe wind, rain and/or hail	Sudden stop of traffic flow and uncontrolled stopping of vehicles on traffic lane and shoulder	Collision	2	A	1	Monitor weather and issue severe weather warnings to staff, contractors and patrons if required	Chief Operating Officer	Festival General Manager	3	D	3
							Queue warning vehicle implementation	Traffic Control Supervisor	Festival General Manager			
							VMS text to be changed to warn drivers of severe weather and traffic congestion	Traffic Control Supervisor	Festival General Manager			
		Bogging of vehicles	Traffic congestion and queue growth				All weather internal roads to be provided	Chief Operating Officer	Festival General Manager			

RISK ASSESSMENT MATRIX						
		CONSEQUENCE				
		MINOR	MAJOR	SEVERE	CRITICAL	CATASTROPHIC
LIKELIHOOD	Rank	E	D	C	B	A
VERY UNLIKELY	5	Low	Low	Low	Medium	Medium
UNLIKELY	4	Low	Low	Medium	Medium	High
POSSIBLE	3	Low	Medium	Medium	High	High
LIKELY	2	Medium	Medium	High	High	Extreme
ALMOST CERTAIN	1	Medium	High	High	Extreme	Extreme

RESIDUAL RISK IMPLICATION	
Residual Risk	Action
Low	Implement control measures where required and proceed with work task.
Medium	Consider and implement all practical controls to reduce risk prior to proceeding with work task. Actively manage risk as task proceeds.
High	Implement all practical control measures to reduce risk prior to proceeding with work task. Actively manage risk as task proceeds.
Extreme	Do not commence work task; notify festival general manager immediately.

LIKELIHOOD DEFINITION		
LIKELIHOOD	Rank	Definition
VERY UNLIKELY	1	Occurs < 1 in 100 projects
UNLIKELY	2	Occurs in 1 in 100 projects
POSSIBLE	3	Occurs in 1 in 10 projects
LIKELY	4	Possible in every project
ALMOST CERTAIN	5	Possible more than once in evey project

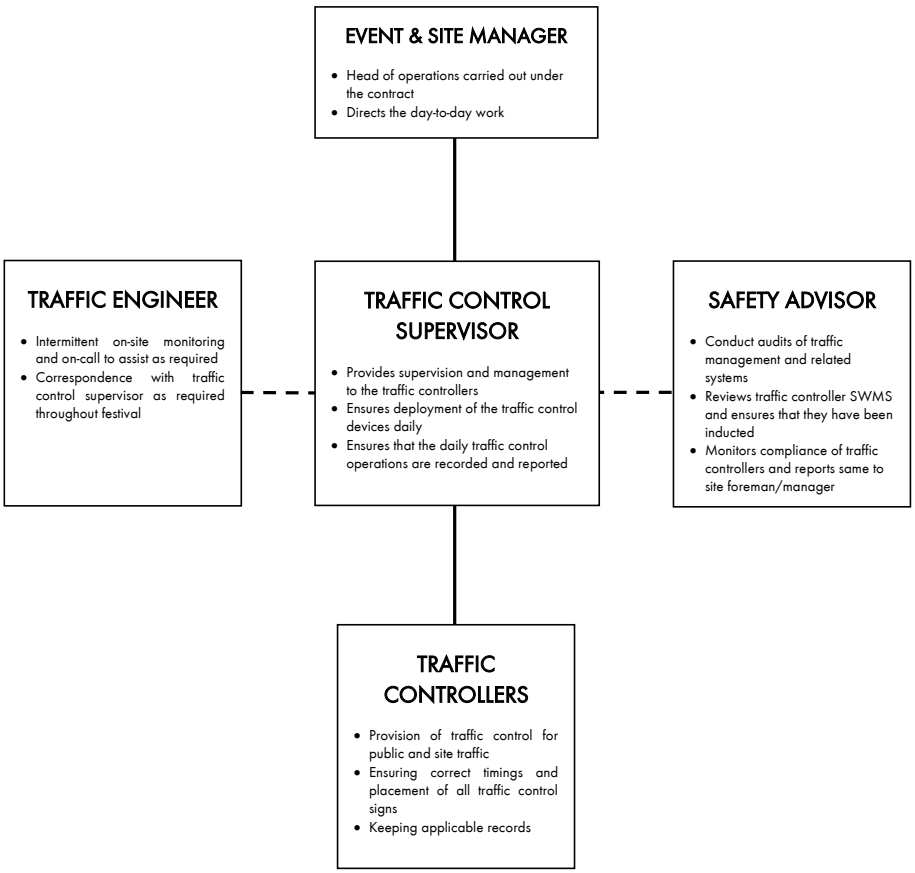
CONSEQUENCE DEFINITION		
CONSEQUENCE	Rank	Definition
MINOR	A	Basic first aid administered
MAJOR	B	Injury requiring medical treatment
SEVERE	C	Lost time injury
CRITICAL	D	Irreversible health effects, imparement or illness

Greg Alderson Associates

Appendix D – Organisational Structure for Traffic Management

D.1 Organisational Structure for Traffic Management

D.1.1 Hierarchy Flow Chart



- The key contact personnel and contact details can be found in Section 11.0 of the TMP.

Greg Alderson Associates

Greg Alderson and Associates

ABN 58 594 160 789

43 Main Street

Clunes NSW 2480

T +61 2 6629 1552

office@aldersonassociates.com.au

Civil Engineering

Roads
Driveways
Stormwater
Flooding
Traffic
Earthworks

Structural Engineering

New Structures
Additions and Alterations
Foundations
Wind Bracing & Tie Down
Framing
Retaining Walls

House Plan Drafting
BASIX Certificates

Environmental

Contaminated Land (SEPP 55)
Acoustics & Noise
Wastewater Management
Acid Sulfate Soil
Water Quality
Ecology

Report No. 6.3 Event - Mullum2Bruns Paddle 2024 - 2026

File No: I2024/94

SUMMARY

Council is expecting the annual application from the Mullum2Bruns Paddle Committee for the Mullum2Bruns Paddle 2024 to be held Sunday 19 May 2024 and looking to gain approval for 3 years to 2026.

BACKGROUND

The event will be the same as the previous Traffic Management Plan and Traffic Guidance Scheme (TGS). The 2022 TGS has been attached for reference but has not yet been updated to reflect 2024 dates. Below is a general summary of what traffic control is proposed as part of the 2024 event.

To ensure greater safety around the registration and marshalling area the event proposes temporary one-way traffic off Brunswick Terrace, between Tincogan Street and Tyagarah Street, Mullumbimby, between 6:30am and 10:00am. The direction of the one way is shown in the image below.

Additional traffic control measures proposed include:

The right turn off Tincogan Street into Brunswick Terrace to have a “no right turn” sign

- The left turn off Tincogan St into Brunswick Terrace to have a “no left turn”
- Relevant detour signs will be installed at the approaches to the impacted area
- No parking signs along the one way part of Brunswick Terrace
- Participants will be diverted along the southern part of Brunswick Terrace to the intersection of Brunswick Terrace & Tincogan Street to enable them to cross to the starting area. The traffic controllers will hold traffic crossing to the registration zone until there are spaces for them to unload their craft.
- Uniformed Marine Rescue personnel will be patrolling the homes opposite the registration area to ensure that participants are not parking in front of or across driveways, thereby minimising inconvenience to the residents.
- A letter-box drop will be done 2 weeks prior to the event, informing residents in the surrounding streets of the temporary one-way traffic closures.

RECOMMENDATION:

That the Local Traffic Committee endorse the Mullum2Bruns Paddle 2024 to be held Sunday 19 May 2024 and valid for 3 years to 2026 and subject to:

1. The development and implementation of a Traffic Management Plan (TMP) and Traffic Guidance Scheme(s) (TGS) by those with appropriate NSW accreditation.

2. The TMP and TGS is to include, but not limited to, the following:

a) One way traffic along Brunswick Terrace, Mullumbimby, between 06:30am and 10:00am on Sunday 19 May 2024. The one way is to be from Tyagarah Street to Tincogan Street;

b) The right turn off Tincogan Street into Brunswick Terrace to have a "no right turn" sign;

c) The left turn off Tincogan St into Brunswick Terrace to have a "no left turn";

d) Relevant detour signs at the approaches to the impacted area;

e) No parking signs along the one way part of Brunswick Terrace.

3) The event organiser to:

a) Advertise the impact of the event, via a Variable Message Sign on site and notice in the local weekly paper, a minimum of one week prior to the operational impacts taking effect, noting it must include the event name, specifics of any traffic impacts or road closures and times, alternative route arrangements, event organiser, a personal contact name and a telephone number for all event related enquiries or complaints;

b) Arrange for the event to be notified on Council's webpage a minimum one week prior to the TGS being implemented;

c) undertake consultation with relevant community and affected businesses including adequate response/action to any raised concerns during and after the event;

d) undertake consultation with emergency services and any identified issues addressed;

e) hold $20m public liability insurance cover which is valid for the event.

Attachments:

1 Event - Mullum2Bruns Paddle [1] TMP 2023, E2023/35385 , page 86

2 Event - Mullum2Bruns Paddle [2] TMP - 2023, E2023/35388 , page 87
3 Event - Mullum2Bruns Paddle [3] TMP - 2023, E2023/35390 , page 88
4 Event - Mullum2Bruns Paddle [4] TMP - 2023, E2023/35392 , page 89
5 Event - Mullum2Bruns Paddle [5] TMP - 2023, E2023/35394 , page 90

5

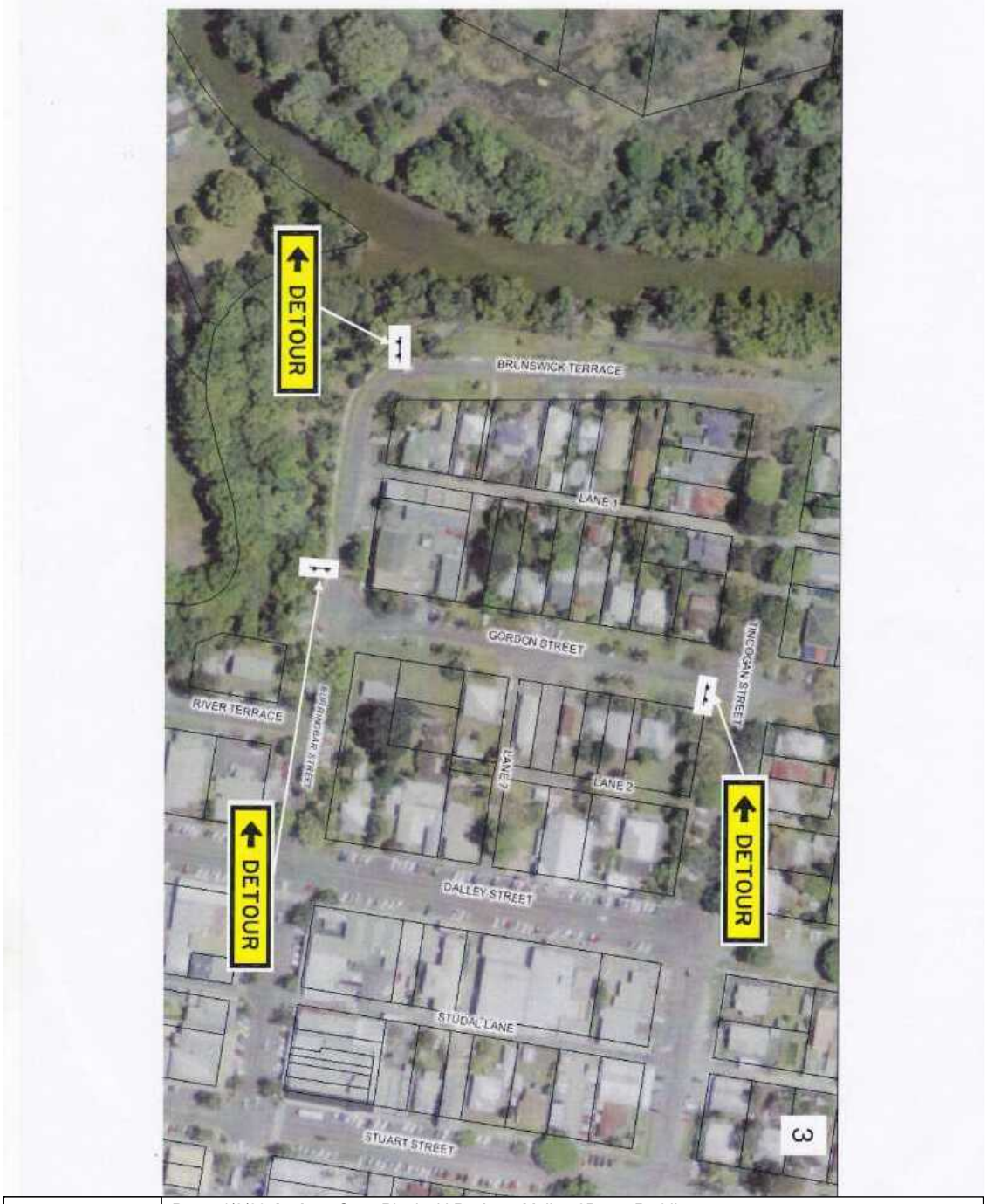
Spinifex Recruiting	**Date:** 17/3/22 **Author:** Scott Pieniacki **Project:** Mullum2Bruns Paddle
	Comments: Designed and Inspected by Scott Pieniacki.....0052190175 Exp 18/10/2022 Prepare A Work Zone Traffic Management Plan

www.invarion.com

www.invarion.com

Spinifex Recruiting	**Date:** 4/2/23 **Author:** Scott Pieniacki **Project:** Mullum2Bruns Paddle
	Comments: Designed and Inspected by Scott Pieniacki.....TCT0066389 Prepare A Work Zone Traffic Management Plan

www.invarion.com



Date: 4/2/23 **Author:** Scott Pieniacki **Project:** Mullum2Bruns Paddle

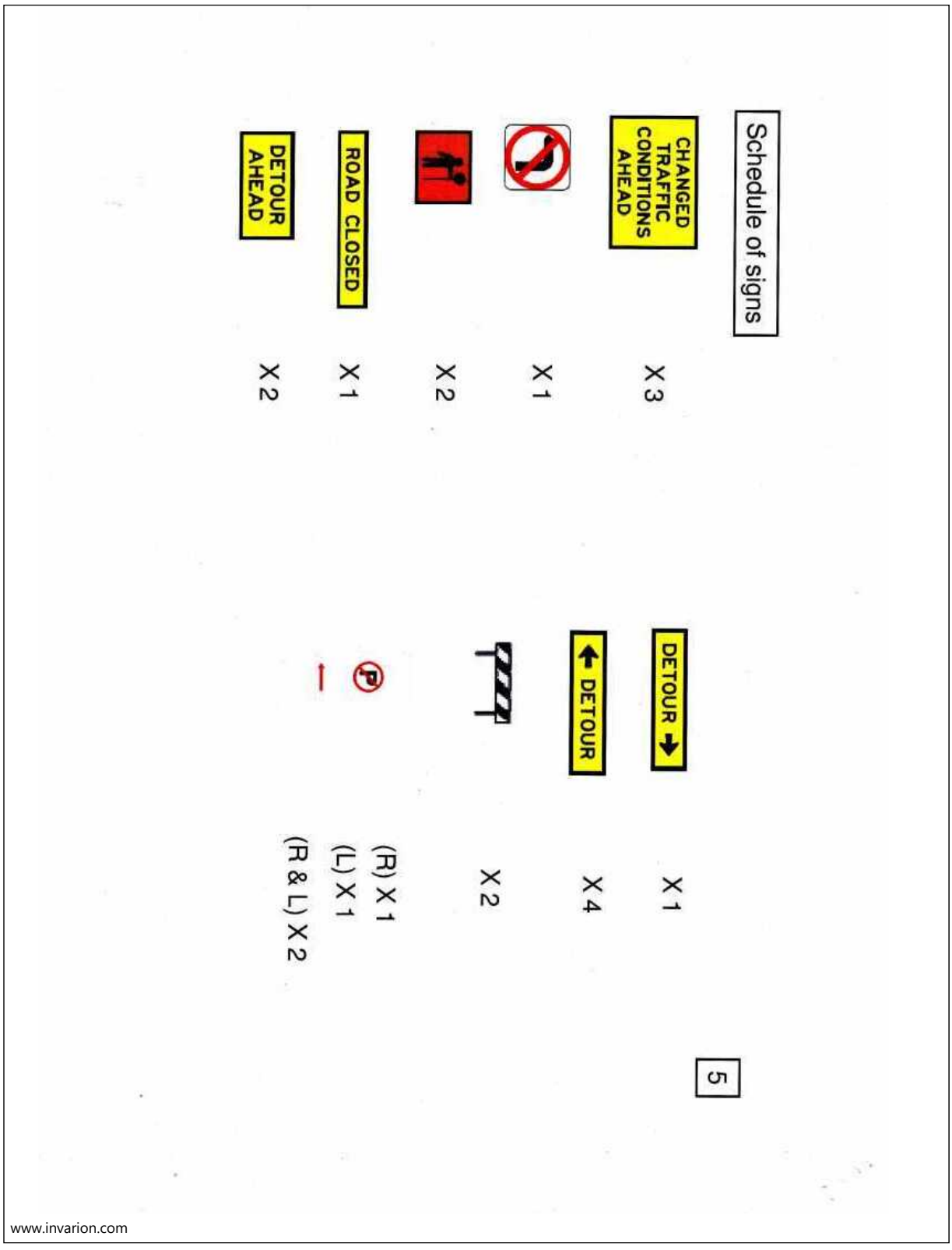
Comments:

Designed and Inspected by Scott Pieniacki.....TCT0066389
Prepare A Work Zone Traffic Management Plan

Date: 17/3/22 **Author:** Scott Pieniacki **Project:** Mullum2Bruns Paddle

Comments:

Designed and Inspected by Scott Pieniacki.....0052190175 Exp 18/10/2022
Prepare A Work Zone Traffic Management Plan


Schedule of signs
CHANGED TRAFFIC CONDITIONS AHEAD
X 3
X 1
X 2
ROAD CLOSED
X 1
DETOUR AHEAD
X 2
DETOUR
X 1
DETOUR
X 4
X 2
(R) X 1
(L) X 1
(R & L) X 2
5
www.invarion.com

Report No. 6.4 Rifle Range Road Intersection Upgrade

File No: I2024/113

The purpose of this report is to gain Council support for the proposed changes to Rifle Range Road, Bangalow shown in Attachment 1 (E2024/7781).

Byron Shire Council is managing the upgrade of the intersection of Lismore Road which is a State Road with Council's Rifle Range Road.

The plans have undergone a thorough review process with Transport for NSW as part of the concept and detailed design reviews required to obtain construction approval under the terms of the Works Authorisation Deed.

The proposed upgrade will include installation of stormwater infrastructure, bus stop facilities, pedestrian footpaths, improving the general safety and operation of this intersection.

The upgrade of Lismore Road and Rifle Range Road intersection is regularly inundated during minor storm events and requires upgrading to improve safety for all road users, including motorists, cyclists and pedestrians. The upgrade to raise the road levels and improve the stormwater infrastructure will improve the general safety and operation of this intersection.

The design also proposes to formalise a channelised right turn onto Rifle Range Road in accordance with current standards. The aim of this dedicated right turn lane is to reduce the potential for rear end collisions with vehicles undertaking the right turn manoeuvre onto Rifle Range Road.

Finally, the design proposes to incorporate new dedicated bus stops on both Rifle Range Road (northbound) and Lismore Road (eastbound). This is to facilitate pick ups/drop offs, in particular for school buses, and to ensure buses are prioritised over cars utilising the verge to park during school peak hours.

A Road Safety Audit (RSA) has been undertaken on the design and the findings incorporated into the construction plans.

RECOMMENDATION:

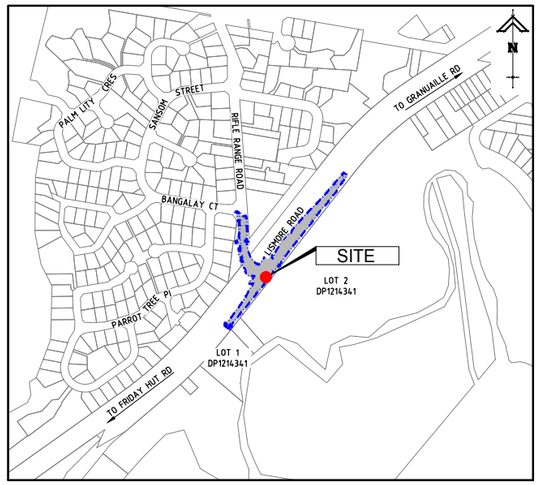
That Council supports the signage, line markings, bus stops and traffic control devices associated with the Rifle Range Road intersection works as shown in Attachment 1 (E2024/7781)

Attachments:

1 BE170269-02-Rifle Range Road_04_COMB, E2024/7781 , page 93⇩

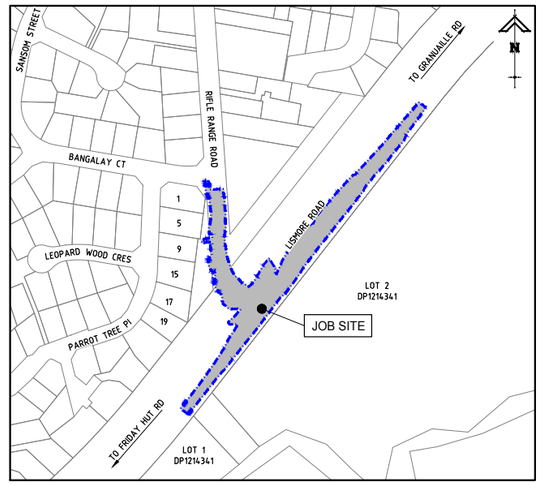
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DETAILED DESIGN
CONTRACT BE170269-02



LOCALITY PLAN
N.T.S.

SCHEDULE OF DRAWINGS	
DRAWING No.	DRAWING TITLE
C000	COVER SHEET
C100	OVERALL SITE LAYOUT PLAN
C101	ROADWORKS TYPICAL CROSS SECTION AND DETAILS - SHEET 1 OF 2
C102	ROADWORKS TYPICAL CROSS SECTION AND DETAILS - SHEET 2 OF 2
C103	PAVEMENT DETAILS
C104	BUS STOP DETAILS
C105	EXISTING BASE PLAN - SHEET 1 OF 2
C106	EXISTING BASE PLAN - SHEET 2 OF 2
C200	BULK EARTHWORS LAYOUT PLAN - SHEET 1 OF 2
C201	BULK EARTHWORS LAYOUT PLAN - SHEET 2 OF 2
C300	ROADWORK ALIGNMENT PLAN
C310	LONGITUDINAL SECTION - SHEET 1 OF 2
C311	LONGITUDINAL SECTION - SHEET 2 OF 2
C320	LISMORE ROAD CROSS SECTION - SHEET 1 OF 4
C321	LISMORE ROAD CROSS SECTION - SHEET 2 OF 4
C322	LISMORE ROAD CROSS SECTION - SHEET 3 OF 4
C323	LISMORE ROAD CROSS SECTION - SHEET 4 OF 4
C324	RIFLE RANGE ROAD CROSS SECTION - SHEET 1 OF 2
C325	RIFLE RANGE ROAD CROSS SECTION - SHEET 2 OF 2
C330	SIGNAGE AND LINEMARKING PLAN
C340	PAVEMENT LAYOUT PLAN
C350	TURNING MOVEMENT FOR BUS
C351	TURNING MOVEMENT FOR SRV
C400	STORMWATER CATCHMENT LAYOUT PLAN
C401	STORMWATER DRAINAGE LAYOUT PLAN
C410	STORMWATER DRAINAGE LONGSECTIONS
C411	STORMWATER DRAINAGE STRUCTURAL DETAILS - SHEET 1 OF 2
C412	STORMWATER DRAINAGE STRUCTURAL DETAILS - SHEET 2 OF 2
C420	STORMWATER DRAINAGE CALCULATIONS TABLE
C450	CULVERT STRUCTURAL NOTES
C451	CULVERT STRUCTURAL DETAILS - SHEET 1 OF 4
C452	CULVERT STRUCTURAL DETAILS - SHEET 2 OF 4
C453	CULVERT STRUCTURAL DETAILS - SHEET 3 OF 4
C454	CULVERT STRUCTURAL DETAILS - SHEET 4 OF 4



NEIGHBOURHOOD PLAN
N.T.S.

RMS ACCEPTANCE			
GEOTECHNICAL	NAME	RSTM	NAME
ROAD DESIGN	NAME	ASSET MANAGER	NAME

PREPARED FOR

BYRON SHIRE COUNCIL

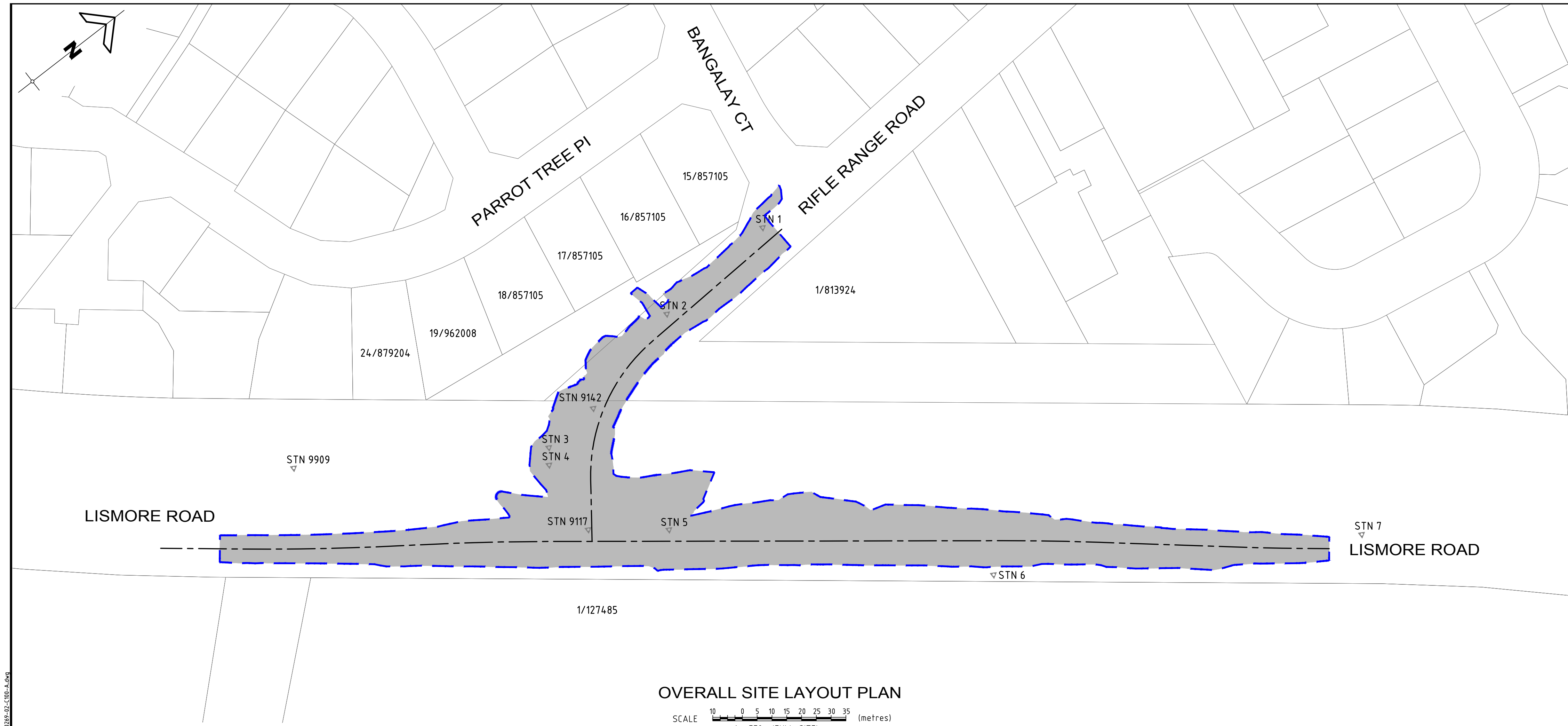
PREPARED BY

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

DATE : 28-11-23

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C000	G



OVERALL SITE LAYOUT PLAN

SCALE 10 0 5 10 15 20 25 30 35 (metres)
1 : 750 (FULL SIZE)

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 TO BE ESTABLISH ON SITE BY THE CONTRACTOR. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SEALING 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 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. CONTRACTOR IS TO UNDERTAKE A DIAL-BEFORE-YOU-DIG SEARCH PRIOR TO COMMENCEMENT.
6. 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.
7. 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.
8. 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.
9. TOPSOIL STRIPPING
   ALL TOPSOIL STRIPPED FROM WORK AREAS SHALL BE TEMPORARILY STOCKPILED FOR LATER RE-SPREADING TO ALL FOOTPATHS, ROAD VERGES, BATTERS, ALLOTMENTS AND PARK AREAS.
10. 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.

    ALL EARTHWORKS CONSTRUCTION FOR LISMORE ROAD TO BE IN ACCORDANCE WITH RMS SPECIFICATION R44 AND SUPPORTING MATERIAL SPECIFICATIONS.
11. COMPACTION STANDARDS
    ALL FILL MATERIAL PLACED UNDER THIS CONTRACT SHALL BE COMPACTED IN ACCORDANCE WITH RMS SPECIFICATION R44 AND SUPPORTING MATERIAL SPECIFICATIONS.
12. 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 RMS SPECIFICATION R11 AND SUPPORTING MATERIAL SPECIFICATIONS.
13. ELECTRICAL RETICULATION
    ALIGNMENTS OF ALL CONDUIT CROSSINGS ARE TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO EXCAVATION. ALL ELECTRICAL WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT CONSULTANT'S DRAWINGS.
14. TOPSOIL REPLACEMENT AND GRASSING
    FOLLOWING COMPLETION OF ROADWORKS CONSTRUCTION AND BULK EARTHWORKS OPERATIONS, THE FULL EXTENT OF FOOTPATHS, ROAD VERGES, BATTERS, ALLOTMENTS AND PARK AREAS IS TO BE RE-TOPSOILED TO A MINIMUM DEPTH OF 100mm AND GRASSED AS FURTHER DETAILED IN THE SPECIFICATION.
15. TESTING
    ALL TESTING SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. TESTING AUTHORITY IN ACCORDANCE WITH THE PROJECT SPECIFICATION.
16. "AS CONSTRUCTED" SURVEY
    "AS CONSTRUCTED" SURVEY SHALL BE CARRIED OUT BY THE CONTRACTOR.
17. 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 BYRON SHIRE COUNCIL.

LEGEND:

EXTENT OF PROPOSED WORKS

SURVEY CONTROL TABLE

STATION ID	EASTING (m)	NORTHING (m)	ELEVATION (ADH)	STATION DESCRIPTION
STN 1	350385.268	1824935.842	47.47	SCREW IN KERB
STN 2	350388.455	1824892.366	45.03	SCREW IN KERB
STN 9142	350398.392	1824853.204	43.65	SCREW IN KERB
STN 3	350399.660	1824833.228	46.86	DPY
STN 4	350404.344	1824829.675	46.81	BOLT
STN 9909	350352.229	1824760.865	47.95	
STN 9117	350429.699	1824826.747	44.63	SCREW IN BITUMEN
STN 5	350446.464	1824848.311	44.45	BOLT
STN 6	350525.730	1824925.615	45.55	BOLT
STN 7	350591.270	1825032.253	43.20	

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-07-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

DISCLAIMER
This drawing and its contents are electronically generated, are confidential and may only be used for the purpose for which they were intended.
Burchills Engineering Solutions will not accept responsibility for any consequences arising from the use of the drawing for other than its intended purpose or where the drawing has been altered, amended or changed either manually or electronically by any third party.

NOTE
This is an uncontrolled document issued for information purposes only, unless the checked sections are signed or completed.
Figured dimensions take precedence over scale. Do not scale reduced size drawings. Verify dimensions prior to commencing any on-site or off-site works or fabrication.

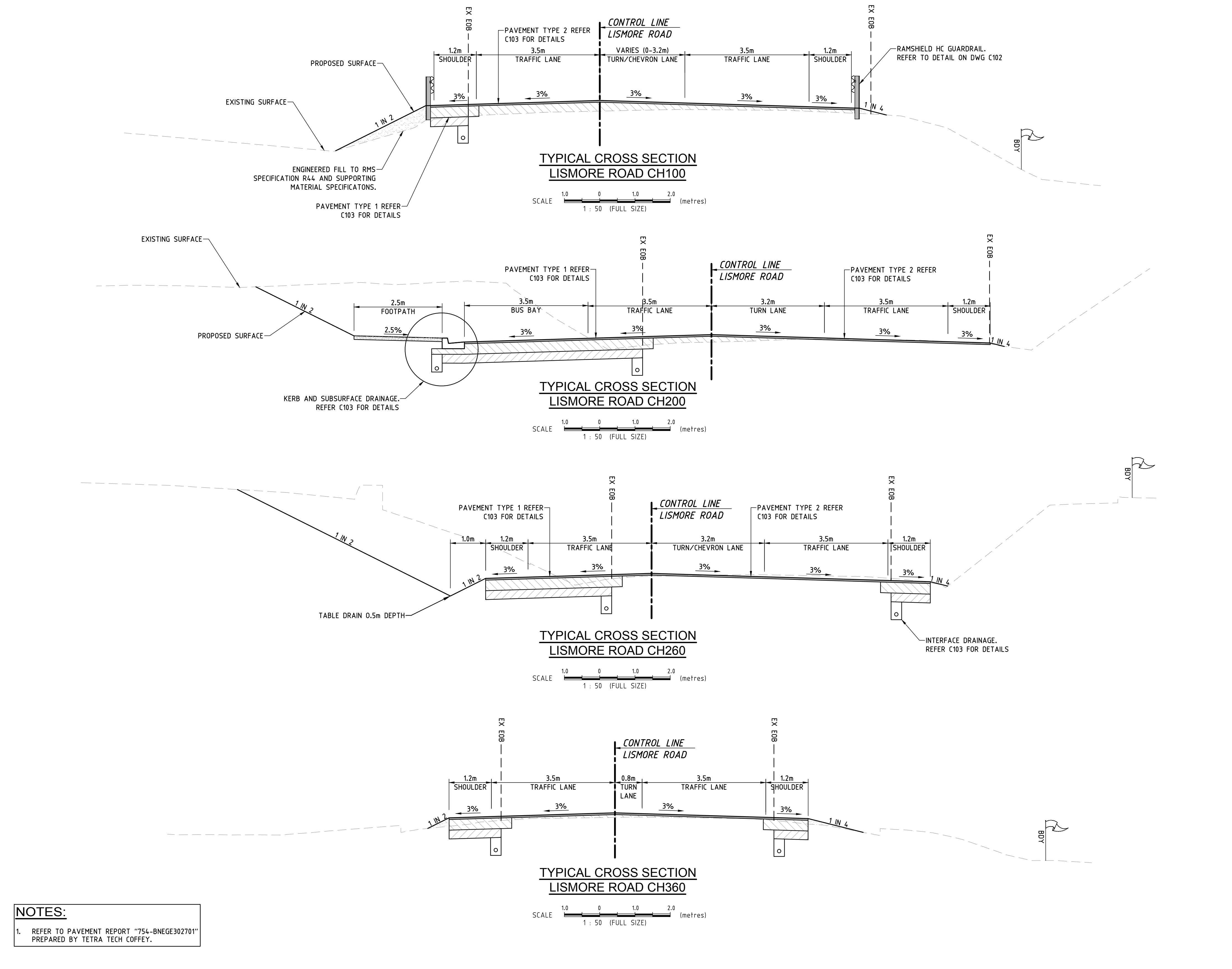
BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I Moreton Bay
Phone: +61 7 5509 6400
Fax: +61 7 5509 6411
Email: admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :
OVERALL SITE LAYOUT PLAN

TfNSW REG. No. : DS2023/000976 DATE : 28-11-23
PROJECT LEADER : DEREK WALTON
DESIGNER : VAN LE
DRAFTSPERSON : VAN LE
CHECKED : DEREK WALTON
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365
SCALE : AS NOTED DATUM : AHD FULL SIZE : A1
PROJECT No.: BE170269-02 DRAWING No. : C100 VERSION: F

PLOTTED: 28.11.2023 at 14:00 FILENAME: C:\12dS\data\BurchillsSYN\BE170269_Rifle Range Road Int, Bangalow_45\!Civil\Acad\00\3. 230911 detail design\BE170269-02-C100-A.dwg



RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-07-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

DISCLAIMER

This drawing and its contents are electronically generated, are confidential and may only be used for the purpose for which they were intended.
Burchills Engineering Solutions will not accept responsibility for any consequences arising from the use of the drawing for other than its intended purpose or where the drawing has been altered, amended or changed either manually or electronically by any third party.

NOTE

This is an uncontrolled document issued for information purposes only, unless the checked sections are signed or completed.
Figured dimensions take precedence over scale. Do not scale reduced size drawings. Verify dimensions prior to commencing any on-site or off-site works or fabrication.

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

ROADWORKS TYPICAL CROSS SECTION AND DETAILS - SHEET 1 OF 2

TfNSW REG. No. : DS2023/000976 | DATE : 28-11-23

PROJECT LEADER : DEREK WALTON

DESIGNER : VAN LE

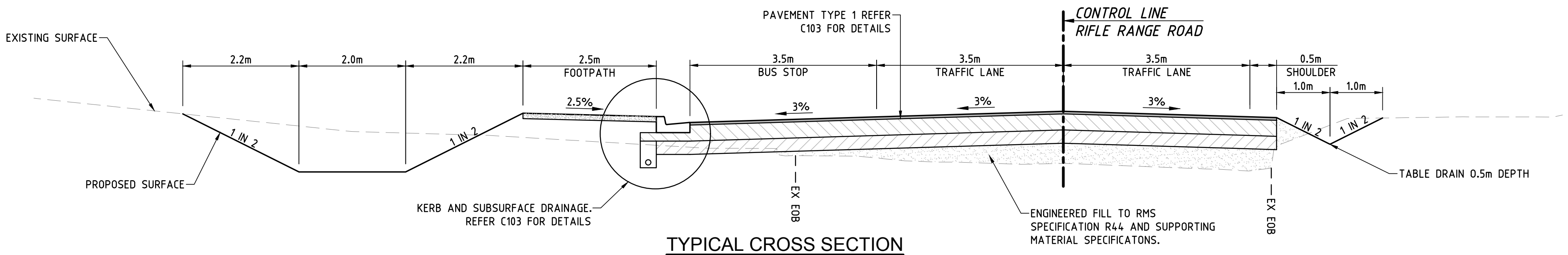
DRAFTSPERSON : VAN LE

CHECKED : DEREK WALTON

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

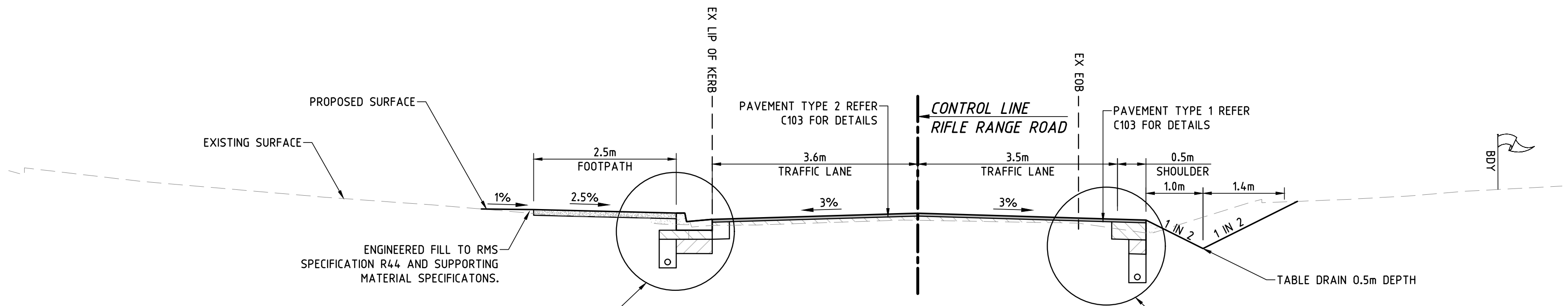
SCALE : AS NOTED | DATUM : AHD | FULL SIZE : A1

PROJECT No.: BE170269-02 | DRAWING No. : C101 | VERSION: F



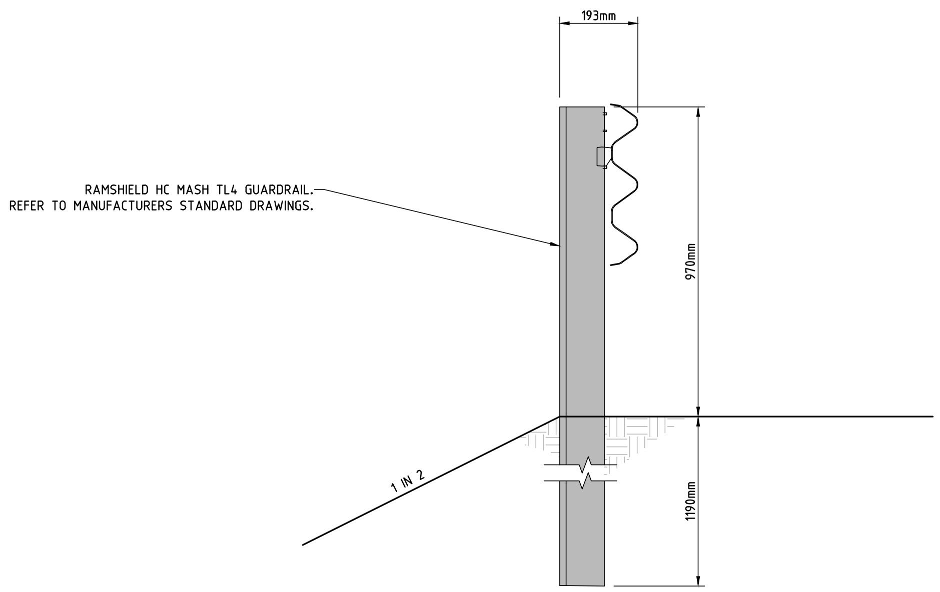
TYPICAL CROSS SECTION
RIFLE RANGE ROAD CH39

SCALE 1 : 50 (FULL SIZE) (metres)



TYPICAL CROSS SECTION
RIFLE RANGE ROAD CH100

SCALE 1 : 50 (FULL SIZE) (metres)



GUARDRAIL TYPICAL SECTION

NOT TO SCALE

NOTES:

1. REFER TO PAVEMENT REPORT "754-BNEGE302701" PREPARED BY TETRA TECH COFFEY.

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

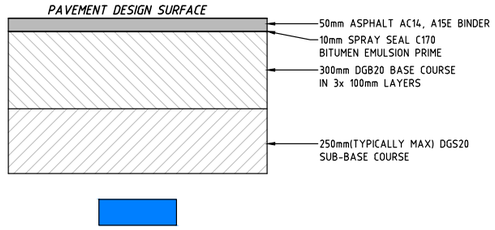
VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-07-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

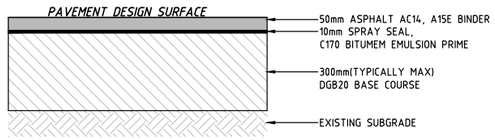
DRAWING TITLE :
ROADWORKS TYPICAL CROSS SECTION AND DETAILS - SHEET 2 OF 2

TfNSW REG. No. : DS2023/000976 DATE : 28-11-23
PROJECT LEADER : DEREK WALTON
DESIGNER : VAN LE
DRAFTSPERSON : VAN LE
CHECKED : DEREK WALTON
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365
SCALE : AS NOTED DATUM : AHD FULL SIZE : A1
PROJECT No.: BE170269-02 DRAWING No. : C102 VERSION: F



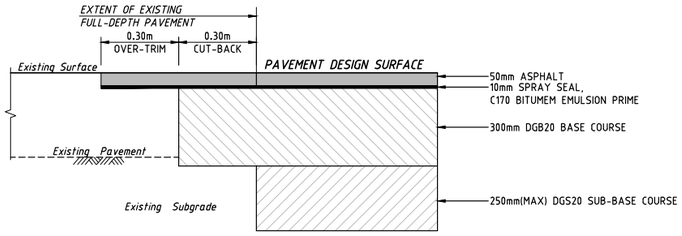
TYPE 1
ROAD WIDENING PAVEMENT

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



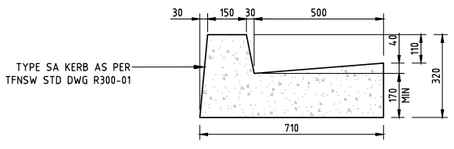
TYPE 2
ROAD REHABILITATION

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



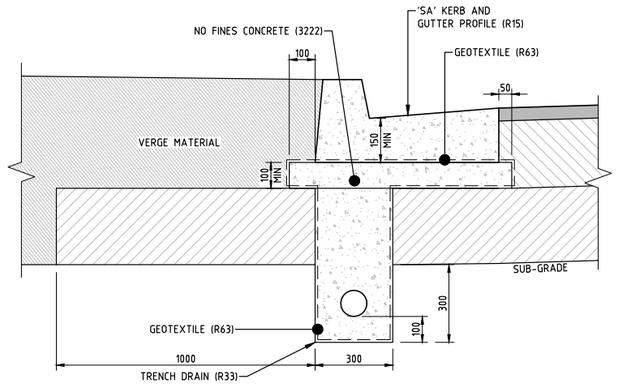
PAVEMENT TIE-IN DETAILS

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



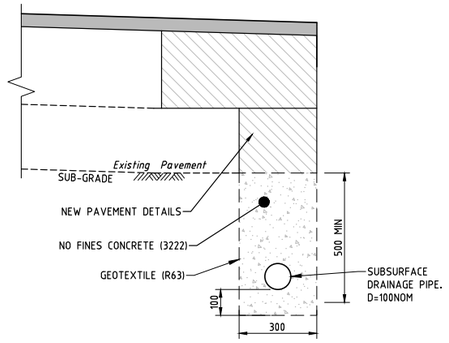
UPRIGHT KERB TYPE SA

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



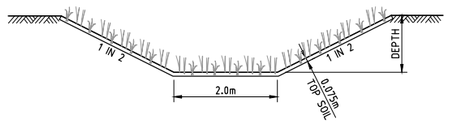
SUBSURFACE PAVEMENT DRAIN - DETAIL A

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



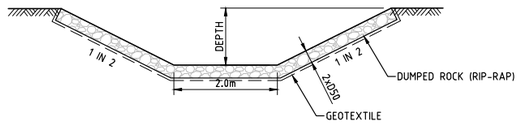
INTERFACE PAVEMENT DRAIN - DETAIL B

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



OPEN DRAIN TYPE A - GRASS LINED

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



OPEN DRAIN TYPE B - ROCK

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

PAVEMENT AND KERB NOTES:

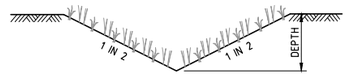
1. CONSTRUCTION TO BE UNDERTAKEN IN ACCORDANCE WITH R71 WITH PROOF ROLLING AND DENSITY/MOISTURE TESTS TAKEN AT EACH LIFT AS REQUIRED.
2. PAVEMENT MATERIAL FOR LISMORE ROAD SHALL CONFORM TO THE CURRENT RMS SPECIFICATIONS R106 & R107 AND SUPPORTING MATERIAL SPECIFICATIONS
3. DESIGN ROAD CLASSIFICATION - REFER TYPICAL SECTION ABOVE.
4. PAVEMENT MATERIAL TO RIFLE RANGE ROAD SHALL CONFORM TO THE CURRENT NRDCM.
5. BATTER SLOPES AND PAVEMENT CROSSFALLS SHOWN ON THIS DRAWING ARE TYPICAL ONLY. FOR VARIATION FROM THE STANDARD PROFILES REFER RELEVANT ROADWORK DRAWINGS.
6. ALL KERB SHALL BE CONCRETE CLASS N32.
7. FOR DETAILS OF SUBSURFACE DRAINS REFER NRLG STD DWGS R-09
8. 2.5m WIDE REINFORCED CONCRETE FOOTPATH INCLUDING KERB RAMPS AND JOINTING TO BE CONSTRUCTED IN ACCORDANCE WITH NRLG STD DWGS R-04, R-07.

PAVEMENT NOTES :

1. SUBGRADE TESTS SHALL BE UNDERTAKEN TO CONFIRM EXISTING CBR VALUES AND THE PAVEMENT DESIGN.
2. PAVEMENT MATERIAL FOR LISMORE ROAD SHALL CONFORM TO THE CURRENT RMS SPECIFICATIONS R116 AND SUPPORTING MATERIAL SPECIFICATIONS
3. DESIGN ROAD CLASSIFICATION - REFER TYPICAL SECTION C101 & C102 .
4. PAVEMENT MATERIAL TO RIFLE RANGE ROAD SHALL CONFORM TO THE CURRENT NRDCM.
5. CONSTRUCTION AND COMPACTION OF PAVEMENT SHALL BE UNDERTAKEN IN MAXIMUM LAYERS OF 150mm THICK AS PER TfNSW R71.
6. REFER TO 'MR65 LISMORE ROAD, AT RIFLE RANGE ROAD, BANGALOW - GEOTECHNICAL INVESTIGATION AND PAVEMENT THICKNESS DESIGN', PREPARED BY COFFEY, FOR PAVEMENT CONSTRUCTION METHODOLOGY.
7. REFER TO PAVEMENT REPORT "754-BNEGE302701" PREPARED BY TETRA TECH COFFEY.

NOTES:

1. 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.
2. ALL WORKS WITHIN LISMORE ROAD TO BE CONSTRUCTED IN ACCORDANCE WITH RMS SPECIFICATIONS AND STANDARD DRAWINGS. ALL WORKS COMPLETED WITHIN RIFLE RANGE ROAD SHALL BE CONSTRUCTED IN ACCORDANCE WITH B.S.C STANDARD SPECIFICATIONS AND DRAWINGS.
3. THE CONTRACTOR SHALL HAVE AN APPROVED SET OF CONSTRUCTION PLANS. ALL RELEVANT CURRENT B.S.C STANDARD SPECIFICATIONS AND DRAWINGS AND ALL RMS PROJECT SPECIFICATIONS ON SITE AT ALL TIMES DURING THE CONSTRUCTION PHASE.
4. THE CONTRACTOR SHALL MAINTAIN MINIMUM VERTICAL CLEARANCE FROM ALL EXISTING UTILITIES WHERE CROSSINGS OCCUR.
5. 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.



TYPICAL CROSS SECTION
VEGETATED SWALE V DRAIN

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

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
G	REISSUED FOR CONSTRUCTION	28-11-23
F	REISSUED FOR CONSTRUCTION	15-09-23
E	REISSUED FOR CONSTRUCTION	17-07-23
D	ISSUE FOR CONSTRUCTION	07-06-23
C	PLAN AMENDED	18-03-22
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

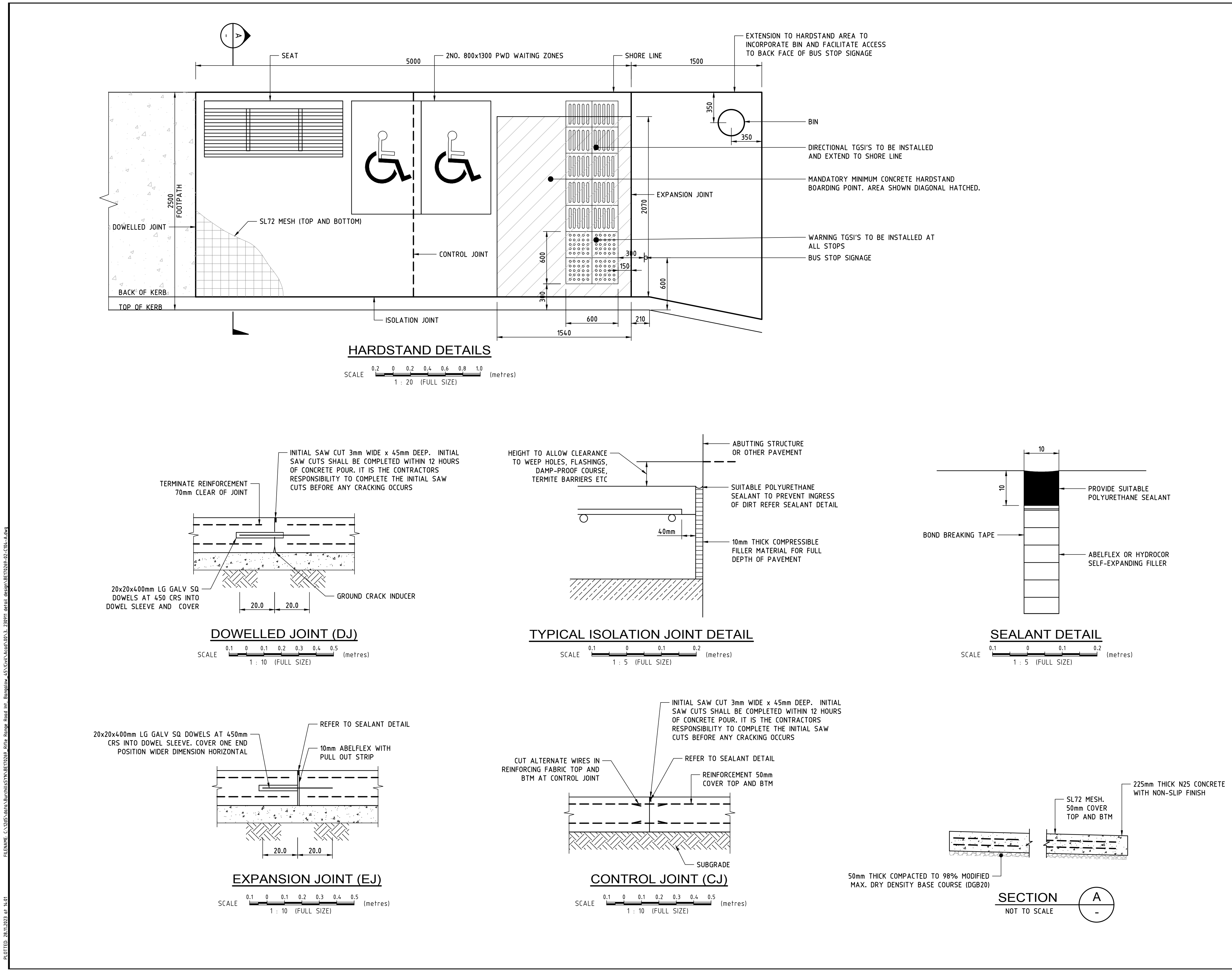
DRAWING TITLE :
PAVEMENT DETAILS

TINSW REG. No. :	DS2023/000976	DATE :	28-11-23
PROJECT LEADER :	DEREK WALTON		
DESIGNER :	VAN LE		
DRAFTSPERSON :	VAN LE		
CHECKED :	DEREK WALTON		

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C103	G



RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-07-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

DISCLAIMER
This drawing and its contents are electronically generated, are confidential and may only be used for the purpose for which they were intended.
Burchills Engineering Solutions will not accept responsibility for any consequences arising from the use of the drawing for other than its intended purpose or where the drawing has been altered, amended or changed either manually or electronically by any third party.

NOTE
This is an uncontrolled document issued for information purposes only, unless the checked sections are signed or completed.
Figured dimensions take precedence over scale. Do not scale reduced size drawings. Verify dimensions prior to commencing any on-site or off-site works or fabrication.

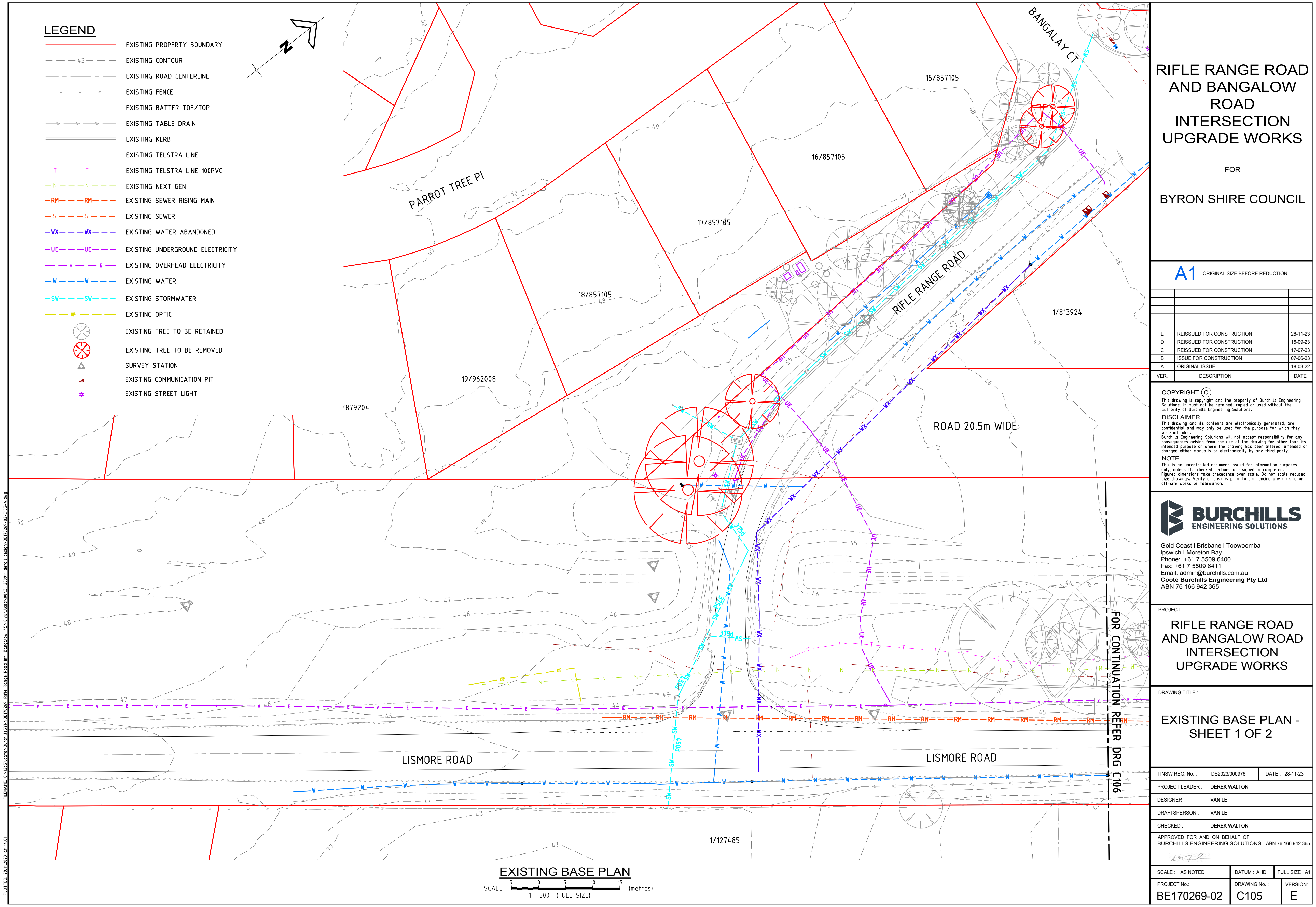
BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I Moreton Bay
Phone: +61 7 5509 6400
Fax: +61 7 5509 6411
Email: admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :
BUS STOP DETAILS

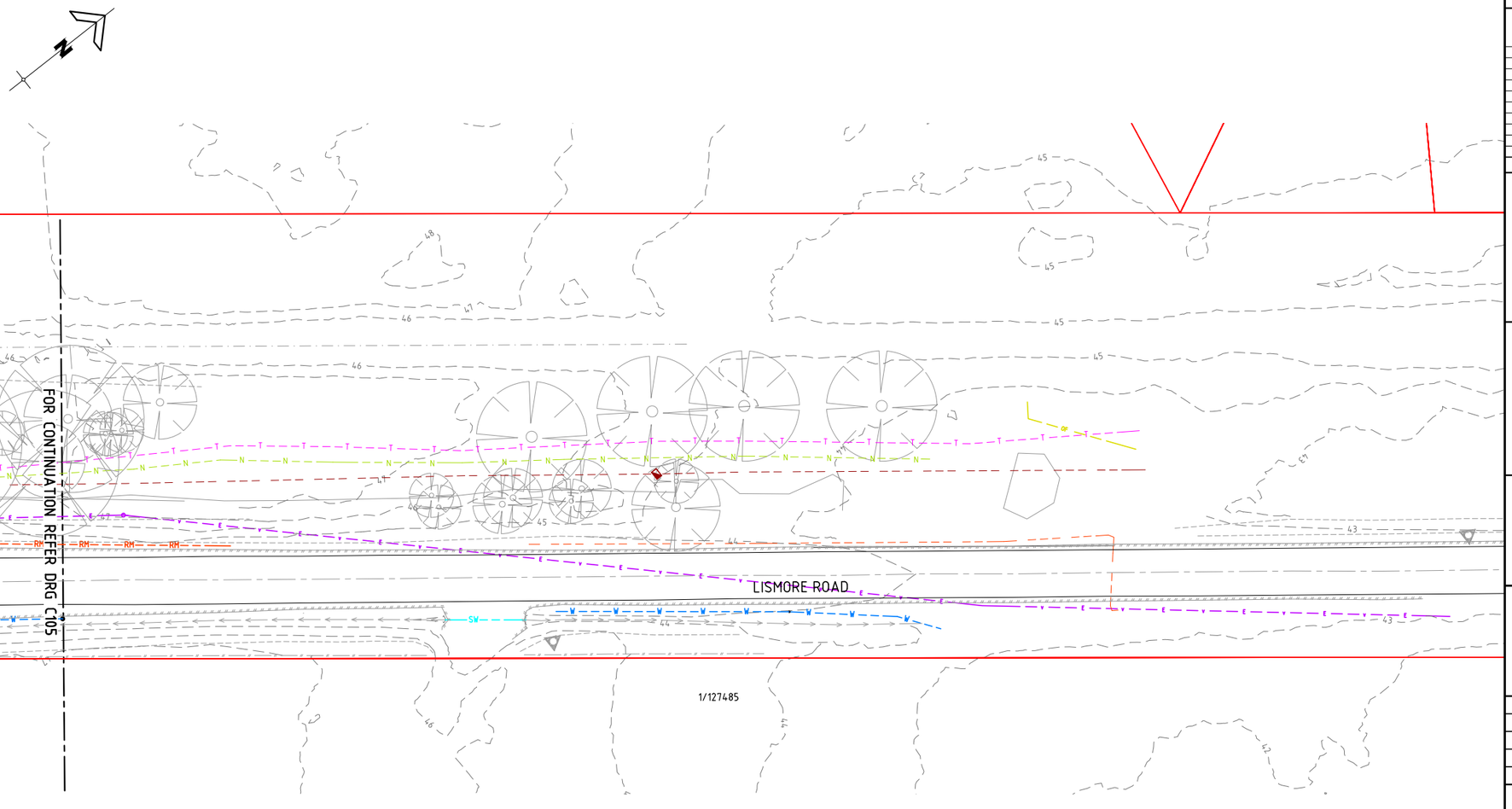
TfNSW REG. No. : DS2023/000976 | DATE : 28-11-23
PROJECT LEADER : DEREK WALTON
DESIGNER : VAN LE
DRAFTSPERSON : VAN LE
CHECKED : DEREK WALTON
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

SCALE : AS NOTED | DATUM : AHD | FULL SIZE : A1
PROJECT No.: BE170269-02 | DRAWING No. : C104 | VERSION: F


LEGEND
EXISTING PROPERTY BOUNDARY
EXISTING CONTOUR
EXISTING ROAD CENTERLINE
EXISTING FENCE
EXISTING BATTER TOE/TOP
EXISTING TABLE DRAIN
EXISTING KERB
EXISTING TELSTRA LINE
EXISTING TELSTRA LINE 100PVC
EXISTING NEXT GEN
EXISTING SEWER RISING MAIN
EXISTING SEWER
EXISTING WATER ABANDONED
EXISTING UNDERGROUND ELECTRICITY
EXISTING OVERHEAD ELECTRICITY
EXISTING WATER
EXISTING STORMWATER
EXISTING OPTIC
EXISTING TREE TO BE RETAINED
EXISTING TREE TO BE REMOVED
SURVEY STATION
EXISTING COMMUNICATION PIT
EXISTING STREET LIGHT
N
PARROT TREE Pl
BANGALAY CT
RIFLE RANGE ROAD
ROAD 20.5m WIDE
LISMORE ROAD
LISMORE ROAD
15/857105
16/857105
17/857105
18/857105
19/962008
1/813924
1/127485
FOR CONTINUATION REFER DRG C106
EXISTING BASE PLAN
SCALE 1 : 300 (FULL SIZE) (metres)
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS
FOR
BYRON SHIRE COUNCIL
A1 ORIGINAL SIZE BEFORE REDUCTION
E REISSUED FOR CONSTRUCTION 28-11-23
D REISSUED FOR CONSTRUCTION 15-09-23
C REISSUED FOR CONSTRUCTION 17-07-23
B ISSUE FOR CONSTRUCTION 07-06-23
A ORIGINAL ISSUE 18-03-22
VER. DESCRIPTION DATE
COPYRIGHT ©
DISCLAIMER
NOTE
BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I 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
PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS
DRAWING TITLE:
EXISTING BASE PLAN - SHEET 1 OF 2
TfNSW REG. No.: DS2023/000976
DATE: 28-11-23
PROJECT LEADER: DEREK WALTON
DESIGNER: VAN LE
DRAFTSPERSON: VAN LE
CHECKED: DEREK WALTON
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365
SCALE: AS NOTED
DATUM: AHD
FULL SIZE: A1
PROJECT No.: BE170269-02
DRAWING No.: C105
VERSION: E

LEGEND

- EXISTING PROPERTY BOUNDARY
- EXISTING CONTOUR
- EXISTING ROAD CENTERLINE
- EXISTING FENCE
- EXISTING BATTER TOE/TOP
- EXISTING TABLE DRAIN
- EXISTING KERB
- EXISTING TELSTRA LINE
- EXISTING TELSTRA LINE 100PVC
- EXISTING NEXT GEN
- EXISTING SEWER RISING MAIN
- EXISTING SEWER
- EXISTING WATER ABANDONED
- EXISTING UNDERGROUND ELECTRICITY
- EXISTING OVERHEAD ELECTRICITY
- EXISTING WATER
- EXISTING STORMWATER
- EXISTING OPTIC
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- SURVEY STATION
- EXISTING COMMUNICATION PIT
- EXISTING STREET LIGHT



EXISTING BASE PLAN

SCALE 5 0 5 10 15 (metres)

1 : 300 (FULL SIZE)

FILENAME: C:\12d\Jobs\Burchills\STN\BE170269 Rifle Range Road Int. Bangalow_45\Civil\Atoll\V03.3_250911 detail design\BE170269-02-C106v-A.dwg

PLOTTED: 28.11.2023 at 14:01

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
E	REISSUED FOR CONSTRUCTION	28-11-23
D	REISSUED FOR CONSTRUCTION	15-09-23
C	REISSUED FOR CONSTRUCTION	17-07-23
B	ISSUE FOR CONSTRUCTION	07-06-23
A	ORIGINAL ISSUE	18-03-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

EXISTING BASE PLAN - SHEET 2 OF 2

TINSW REG. No. :	DS2023/000976	DATE : 28-11-23
PROJECT LEADER :	**DEREK WALTON**	
DESIGNER :	**VAN LE**	
DRAFTSPERSON :	**VAN LE**	
CHECKED :	**DEREK WALTON**	

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C106	E

LEGEND

- EXISTING CONTOUR (38.35)
- DESIGN CONTOUR (38.35)
- EXISTING TABLE DRAIN
- EXISTING EDGE OF BITUMEN
- EXISTING KERB
- EXISTING BATTER
- PROPOSED ROAD CENTRELINE
- PROPOSED KERB
- PROPOSED FOOTPATH/VERGE
- PROPOSED SHOULDER
- EARTHWORKS AREA OF FILL
- EARTHWORKS AREA OF CUT
- PROPOSED BATTER
- PROPOSED TABLE DRAIN
- PROPOSED RAMSHIELD HC GUARDRAIL

GENERAL EARTHWORKS NOTES:

1. ALL EARTHWORKS CONSTRUCTION UNDER THIS CONTRACT IS TO BE PERFORMED STRICTLY IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER'S REPORT PREPARED BY THE PRINCIPAL'S GEOTECHNICAL CONSULTANT.
2. ALL COMPACTION TESTING UNDER THIS CONTRACT IS TO BE CARRIED OUT TO AS3798 LEVEL 1 STANDARD BY A NATA-ACCREDITED TESTING AUTHORITY. CERTIFICATION FOR ALL EARTHWORKS CONSTRUCTION AND TESTING IS TO BE PROVIDED BY A REGISTERED PROFESSIONAL ENGINEER QUEENSLAND (RPEQ) ENGAGED BY THE CONTRACTOR.
3. ALL DESIGN LEVELS SHOWN ON THE CONTRACT DRAWINGS ARE FINISHED SURFACE LEVELS FOLLOWING TOPSOIL REPLACEMENT.
4. ALL STRUCTURAL FILL MATERIAL PLACED SHALL BE COMPACTED TO THE FOLLOWING MINIMUM DENSITY IN ACCORDANCE WITH THE SPECIFICATION AND THE GEOTECHNICAL REPORT.
5. AS PER ANNEXURES IN R44 ALL EARTHWORKS BATTERS ARE TO BE HYDROMULCHED WITH APPROVED SEED MIX.
6. EXISTING DAMS ARE TO BE DE-WATERED AND CLEANED-OUT. ALL UNSUITABLE OR SATURATED MATERIAL IS TO BE REMOVED AND REPLACED WITH SELECTED ON-SITE STRUCTURAL FILL MATERIAL AND COMPACTED AS SPECIFIED.
7. PROVIDE CONDITION SURVEY OF ADJACENT RESIDENTIAL BUILDINGS FOR ALL PROPERTIES IF REQUIRED LOCATED WITHIN NOMINAL 100m OF EARTHWORKS OPERATIONS WHERE VIBRATORY EQUIPMENT IS TO BE USED. CONDITION SURVEY TO BE UNDERTAKEN BY QUALIFIED PERSONNEL WITH BUILDING EXPERIENCE.

BULK EARTHWORKS SUMMARY

STRUCTURAL FILLING

AREA	NETT SOLID FILL	incl. COMPACTION FACTOR (0.85)
OVERALL FILLING		
(ALLOTMENTS, ROADS, BATTERS)	1,729 cu.m.	
TOTAL FILL	1,729 cu.m.	2,034 cu.m.

EXCAVATION

AREA	NETT CUT	
OVERALL EXCAVATION		
NOT INCLUDING ROAD BOX	2,036 cu.m.	
TOTAL CUT	2,036 cu.m.	

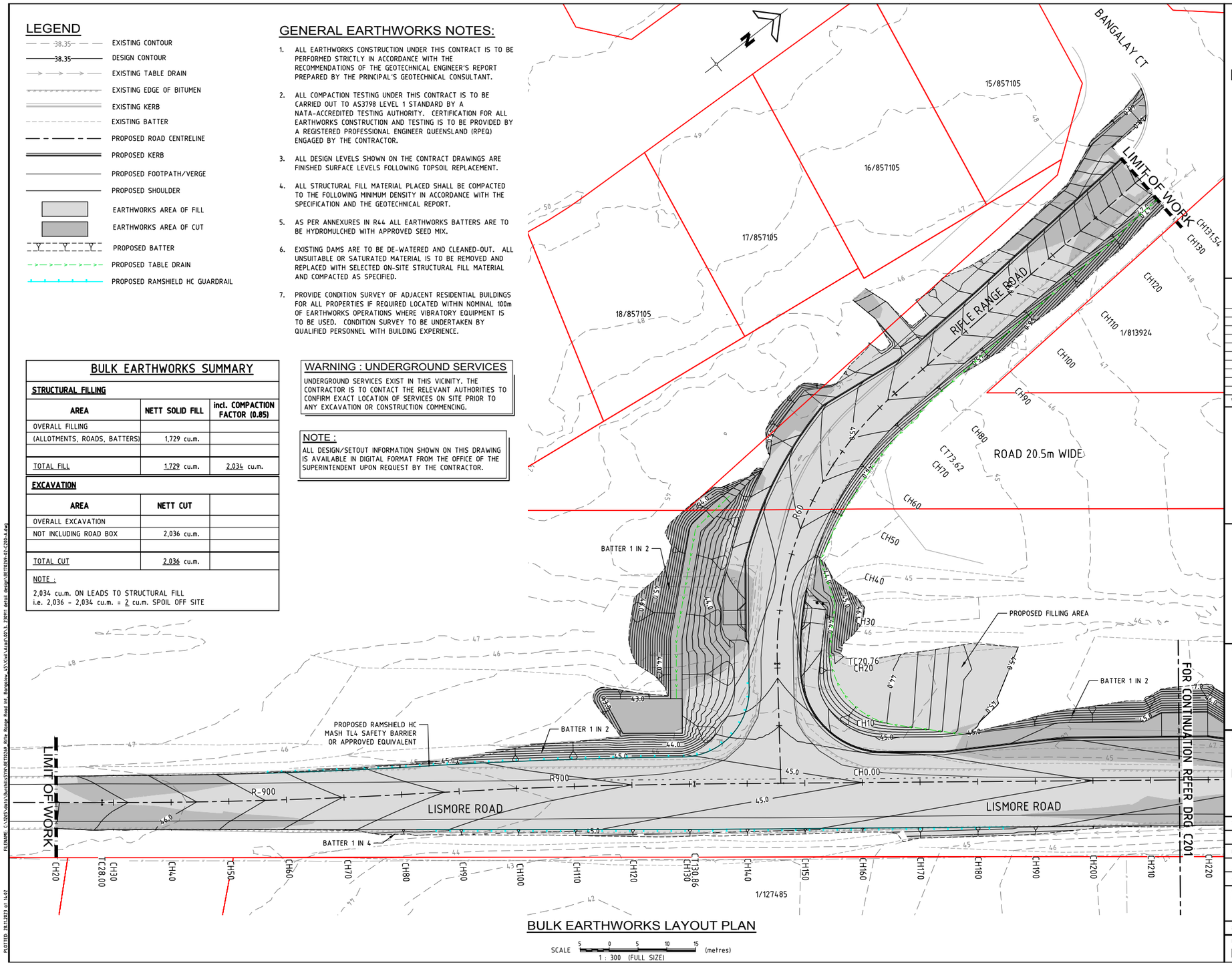
NOTE :
2,034 cu.m. ON LEADS TO STRUCTURAL FILL
i.e. 2,036 - 2,034 cu.m. = 2 cu.m. SPOIL OFF SITE

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.

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.



BULK EARTHWORKS LAYOUT PLAN

SCALE 1 : 300 (FULL SIZE) (metres)

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-07-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :
BULK EARTHWORS LAYOUT PLAN - SHEET 1 OF 2

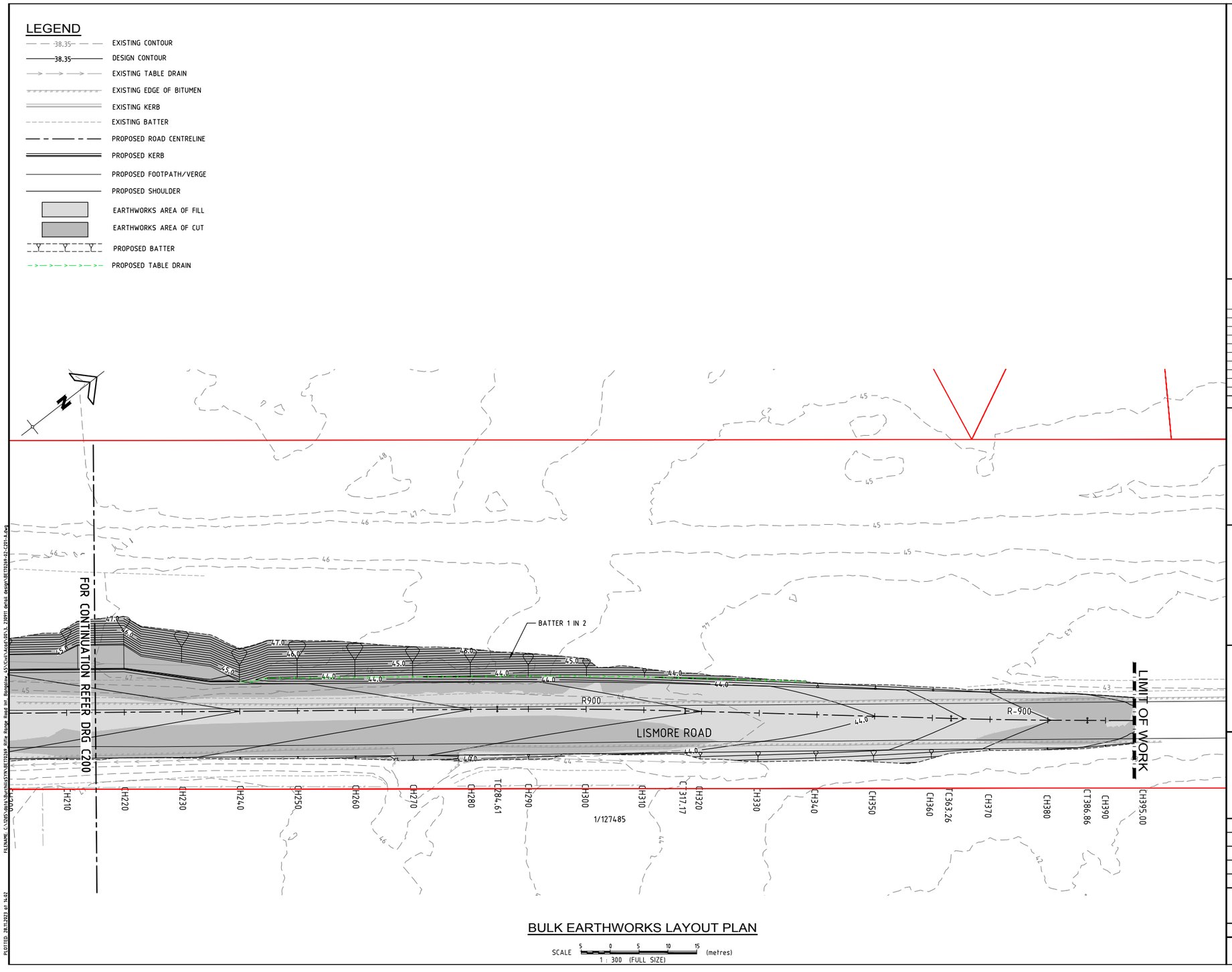
TINSW REG. No. :	DS2023/000976
DATE :	28-11-23
PROJECT LEADER :	DEREK WALTON
DESIGNER :	VAN LE
DRAFTSPERSON :	VAN LE
CHECKED :	DEREK WALTON

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

SCALE : AS NOTED | DATUM : AHD | FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C200	F

FILENAME: C:\12d\Work\Burchills\SYN\BE170269_Rifle Range Road int. Bangalow -45's\Civil\Arcad\C05\3_ 230911 detail design\BE170269-02-C200-A.dwg
PLOTTED: 28.11.2023 at 14:42



RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
G	REISSUED FOR CONSTRUCTION	28-11-23
F	REISSUED FOR CONSTRUCTION	15-09-23
E	REISSUED FOR CONSTRUCTION	17-07-23
D	ISSUE FOR CONSTRUCTION	07-06-23
C	PLAN AMENDED	18-03-22
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

BULK EARTHWORS LAYOUT PLAN - SHEET 2 OF 2

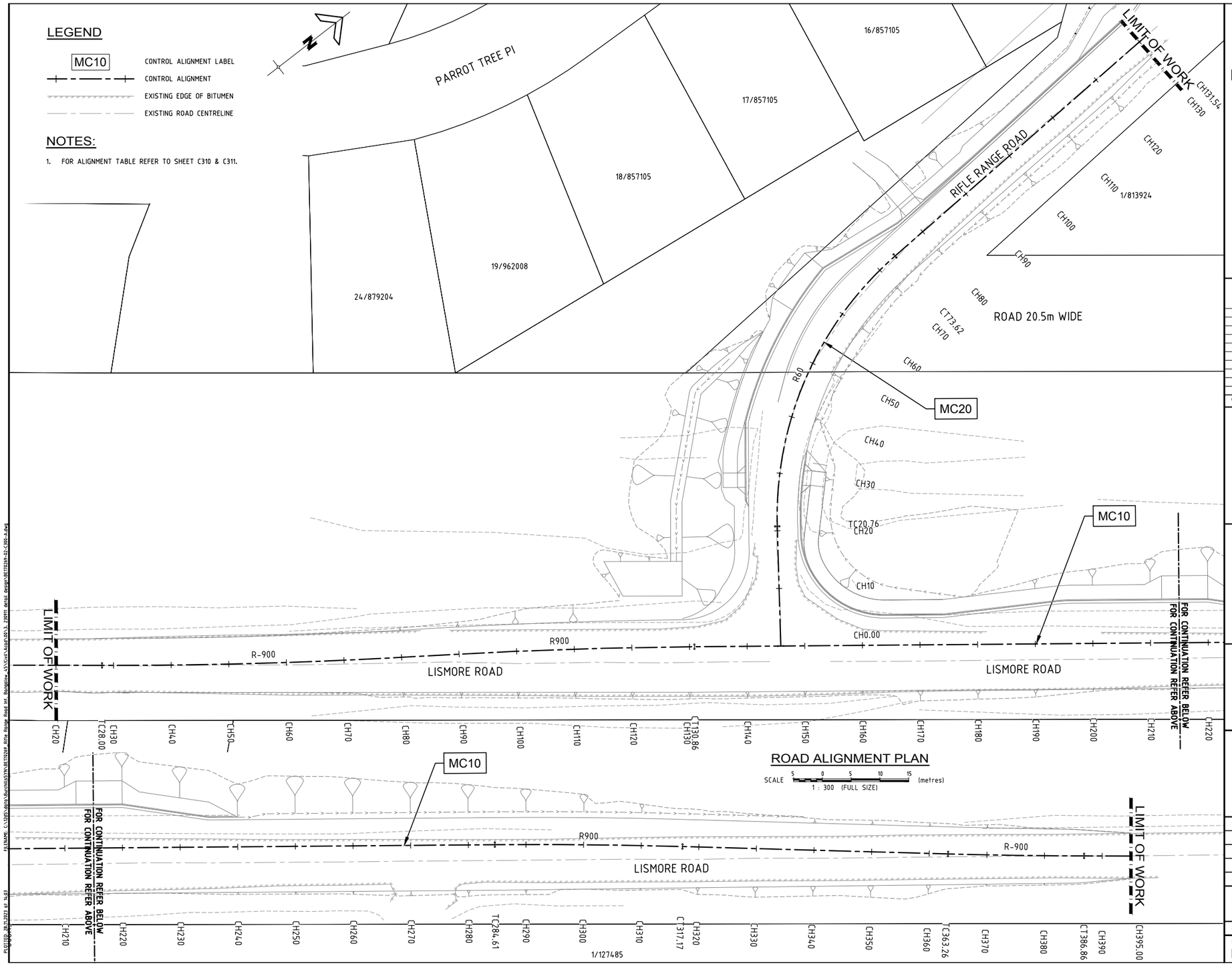
TINSW REG. No. :	DS2023/000976	DATE : 28-11-23
PROJECT LEADER :	**DEREK WALTON**	
DESIGNER :	**VAN LE**	
DRAFTSPERSON :	**VAN LE**	
CHECKED :	**DEREK WALTON**	

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C201	G

FILENAME: C:\2265\data\Burchills\STN\BE170269 Rifle Range Road Int. Bangalow_v3\civil\dgn\BE170269-02-C201-A.dwg
PLOTTED: 28.11.2023 at 14:02



RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-07-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

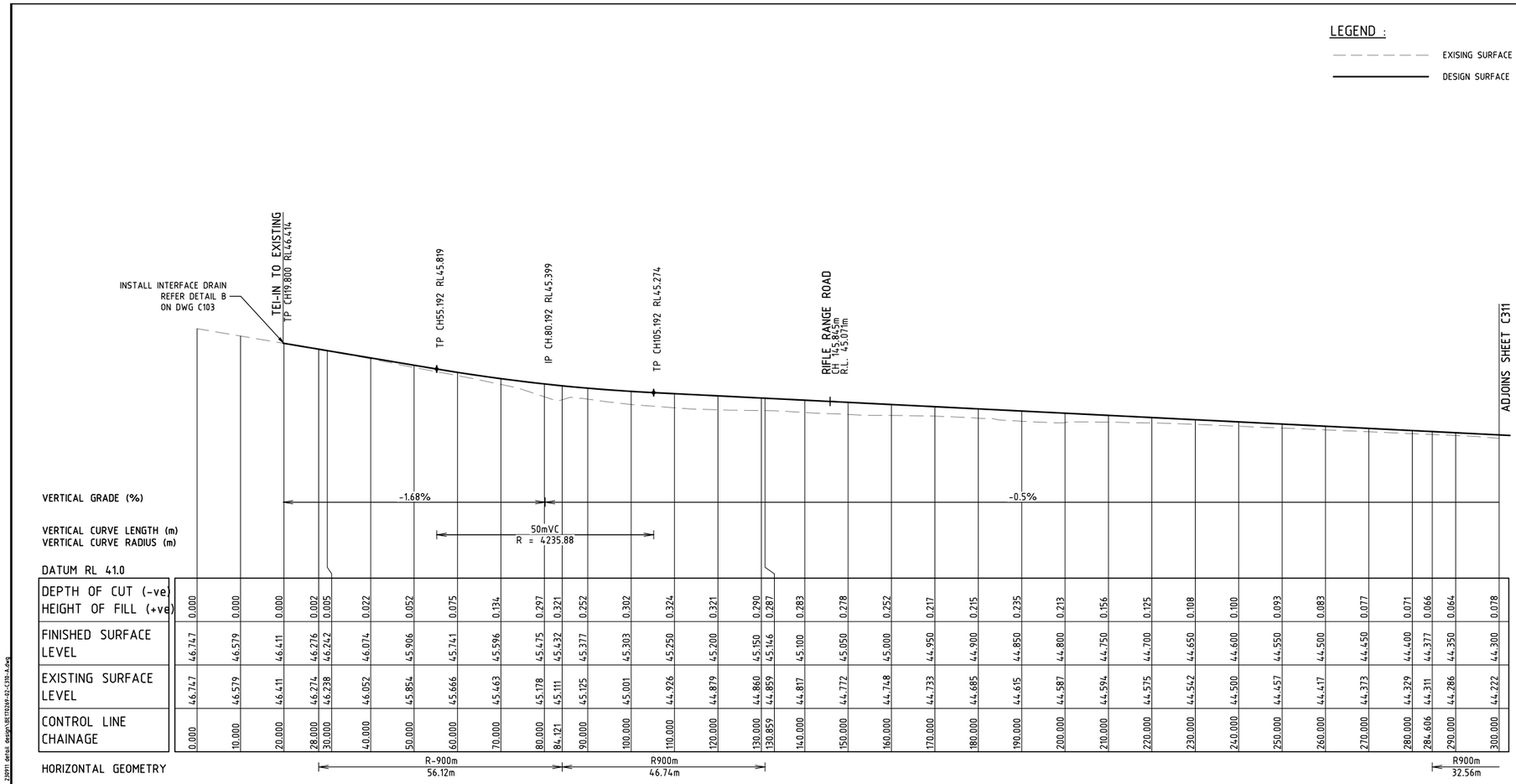
DRAWING TITLE :
ROADWORK ALIGNMENT PLAN

TINSW REG. No. :	DS2023/000976	DATE : 28-11-23
PROJECT LEADER :	DEREK WALTON	
DESIGNER :	VAN LE	
DRAFTSPERSON :	VAN LE	
CHECKED :	DEREK WALTON	

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C300	F



CONTROL LINE CHAINAGE	DEPTH OF CUT (-ve) HEIGHT OF FILL (+ve)	FINISHED SURFACE LEVEL	EXISTING SURFACE LEVEL
0.000	0.000	46.747	46.747
10.000	0.000	46.579	46.579
20.000	0.000	46.411	46.411
28.000	0.002	46.276	46.274
30.000	0.005	46.242	46.238
40.000	0.022	46.074	46.052
50.000	0.052	45.906	45.854
60.000	0.075	45.741	45.666
70.000	0.134	45.596	45.463
80.000	0.297	45.475	45.178
84.121	0.321	45.432	45.111
90.000	0.252	45.377	45.125
100.000	0.302	45.303	45.001
110.000	0.324	45.250	44.926
120.000	0.321	45.200	44.879
130.000	0.290	45.150	44.860
130.859	0.287	45.146	44.859
140.000	0.283	45.100	44.817
150.000	0.278	45.050	44.772
160.000	0.252	45.000	44.748
170.000	0.217	44.950	44.733
180.000	0.215	44.900	44.685
190.000	0.235	44.850	44.615
200.000	0.213	44.800	44.587
210.000	0.156	44.750	44.594
220.000	0.125	44.700	44.575
230.000	0.108	44.650	44.542
240.000	0.100	44.600	44.500
250.000	0.093	44.550	44.457
260.000	0.083	44.500	44.417
270.000	0.077	44.450	44.373
280.000	0.071	44.400	44.329
284.606	0.066	44.377	44.311
290.000	0.064	44.350	44.286
300.000	0.078	44.300	44.222

MC10 - LISMORE ROAD
LONGITUDINAL SECTION

Horizontal scale 1:500
Vertical scale 1:50

LISMORE ROAD CONTROL LINE SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	350346.060	1824708.710	46.750	38°19'19.67"			
TC	28.000	350363.430	1824730.670	46.280	38°19'19.67"			
IP 2	56.060	350380.830	1824752.690	45.800		R = -900.000	56.120	3°34'21.93"
CC	84.120	350396.830	1824775.760	45.430	34°44'57.74"			
IP 3	107.490	350410.150	1824794.960	45.260		R = 900.000	46.740	2°58'31.70"
CT	130.860	350424.460	1824813.450	45.150	37°43'29.44"			
TC	284.610	350518.530	1824935.060	44.380	37°43'29.44"			
IP 4	300.890	350528.490	1824947.940	44.300		R = 900.000	32.560	2°04'22.44"
CT	317.170	350538.910	1824960.450	44.210	39°47'51.88"			
TC	363.260	350568.420	1824995.860	43.830	39°47'51.88"			
IP 5	375.060	350575.970	1825004.930	43.670		R = -900.000	23.600	1°30'09.51"
CT	386.860	350583.290	1825014.190	43.520	38°17'42.37"			
IP 6	395.000	350588.330	1825020.580	43.420	38°17'42.37"			

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

SCALE 1.0 0 1.0 2.0 (metres)
1 : 50 (FULL SIZE)

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-07-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

LONGITUDINAL SECTION - SHEET 1 OF 2

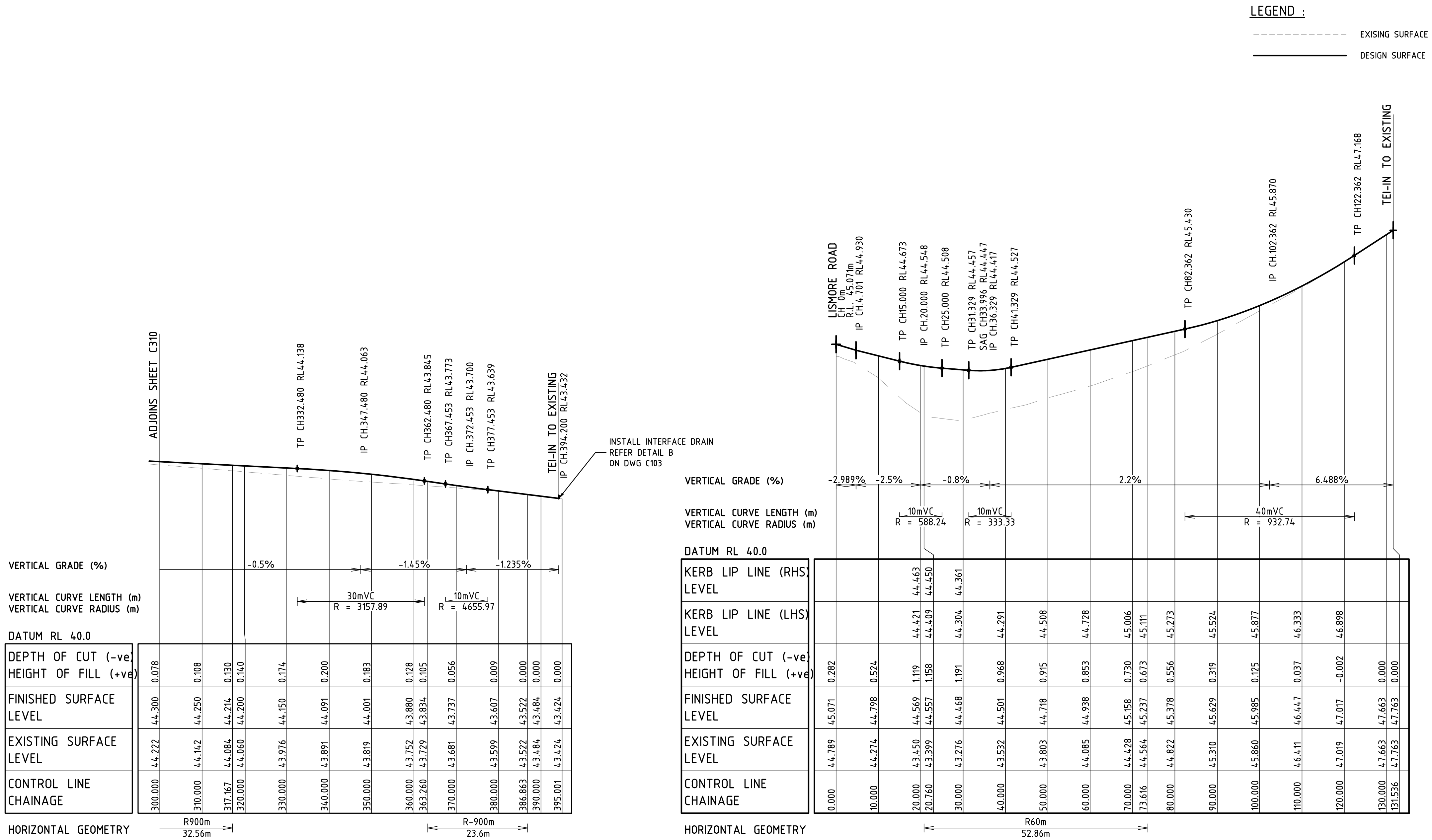
TINSW REG. No. :	DS2023/000976	DATE : 28-11-23
PROJECT LEADER :	DEREK WALTON	
DESIGNER :	VAN LE	
DRAFTSPERSON :	VAN LE	
CHECKED :	DEREK WALTON	

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C310	F

PLOTTED: 28.11.2023 at 14:03 FILENAME: C:\USERS\obrien\Burchills\SYN\BE170269 Rifle Range Road int. Bangalow _AS\Civil\Xtract\V8\3. 239111 detail design\BE170269-02-C310-A.dwg



MC10 - LISMORE ROAD
LONGITUDINAL SECTION

Horizontal scale 1:500
Vertical scale 1:50

RIFLE RANGE ROAD
LONGITUDINAL SECTION

Horizontal scale 1:500
Vertical scale 1:50

RIFLE RANGE ROAD CONTROL LINE SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	350433.630	1824825.300	45.070	306°30'09.33"			
TC	20.760	350416.940	1824837.650	44.560	306°30'09.33"			
IP 2	47.190	350394.200	1824854.480	44.660		R = 60.000	52.860	50°28'25.57"
CT	73.620	350392.710	1824882.720	45.240	356°58'34.90"			
IP 3	131.540	350389.660	1824940.560	47.760	356°58'34.90"			

SCALE 1 : 500 (FULL SIZE) (metres)
SCALE 1 : 50 (FULL SIZE) (metres)

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-07-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

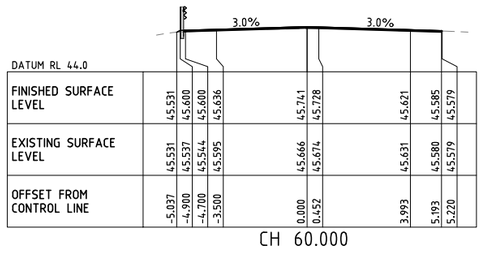
BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I Moreton Bay
Phone: +61 7 5509 6400
Fax: +61 7 5509 6411
Email: admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT: RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE: LONGITUDINAL SECTION - SHEET 2 OF 2

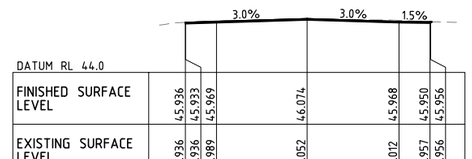
TfNSW REG. No.: DS2023/000976 DATE: 28-11-23
PROJECT LEADER: DEREK WALTON
DESIGNER: VAN LE
DRAFTSPERSON: VAN LE
CHECKED: DEREK WALTON
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

SCALE: AS NOTED | DATUM: AHD | FULL SIZE: A1
PROJECT No.: BE170269-02 | DRAWING No.: C311 | VERSION: F



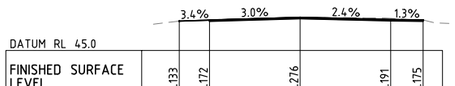
DATUM RL 44.0								
FINISHED SURFACE LEVEL	45.531	45.600	45.600	45.636	45.741	45.728	45.621	45.585	45.579
EXISTING SURFACE LEVEL	45.531	45.537	45.544	45.595	45.666	45.674	45.631	45.580	45.579
OFFSET FROM CONTROL LINE	-5.037	-4.900	-4.700	-3.500	0.000	0.452	3.993	5.193	5.220

CH 60.000



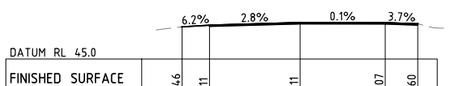
DATUM RL 44.0								
FINISHED SURFACE LEVEL	45.936	45.933	45.969	46.074	45.968	45.950	45.956
EXISTING SURFACE LEVEL	45.936	45.936	45.989	46.052	46.012	45.957	45.956
OFFSET FROM CONTROL LINE	-4.705	-4.700	-3.500	0.000	3.551	4.751	4.775

CH 40.000



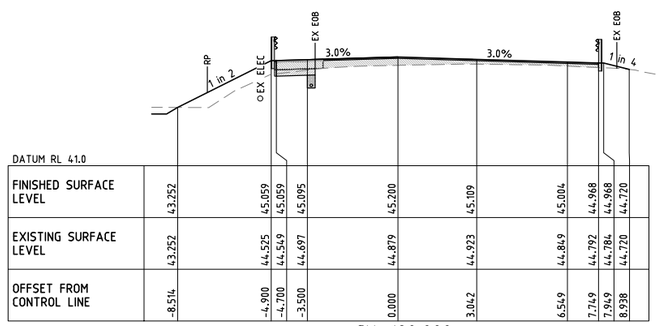
DATUM RL 45.0						
FINISHED SURFACE LEVEL	46.133	46.172	46.276	46.191	46.175
EXISTING SURFACE LEVEL	46.133	46.186	46.274	46.240	46.175
OFFSET FROM CONTROL LINE	-4.668	-3.500	0.000	3.500	4.754

CH 28.000



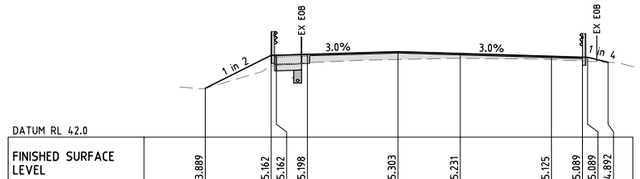
DATUM RL 45.0					
FINISHED SURFACE LEVEL	46.246	46.311	46.411	46.407	46.360
EXISTING SURFACE LEVEL	46.246	46.301	46.411	46.407	46.360
OFFSET FROM CONTROL LINE	-4.560	-3.500	0.000	3.289	4.548

CH 20.000



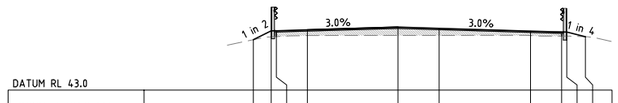
DATUM RL 41.0								
FINISHED SURFACE LEVEL	43.252	45.059	45.059	45.095	45.200	45.109	45.004	44.968	44.720
EXISTING SURFACE LEVEL	43.252	44.525	44.549	44.697	44.879	44.923	44.849	44.792	44.784	44.720
OFFSET FROM CONTROL LINE	-8.514	-4.900	-4.700	-3.500	0.000	3.042	6.549	7.749	7.949	8.938

CH 120.000



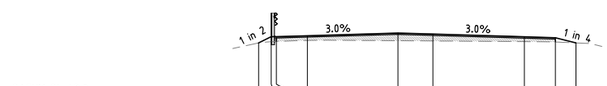
DATUM RL 42.0								
FINISHED SURFACE LEVEL	43.889	45.162	45.162	45.198	45.303	45.231	45.125	45.089	45.089	44.892
EXISTING SURFACE LEVEL	43.889	44.749	44.713	44.877	45.001	45.045	44.997	44.945	44.936	44.892
OFFSET FROM CONTROL LINE	-7.447	-4.900	-4.700	-3.500	0.000	2.409	5.929	7.129	7.329	8.120

CH 100.000



DATUM RL 43.0								
FINISHED SURFACE LEVEL	44.946	45.291	45.291	45.327	45.432	45.384	45.278	45.242	45.242	45.062
EXISTING SURFACE LEVEL	44.946	45.055	45.066	45.109	45.111	45.113	45.106	45.087	45.087	45.062
OFFSET FROM CONTROL LINE	-5.589	-4.900	-4.700	-3.500	0.000	1.590	5.122	6.322	6.522	7.242

CH 84.121



DATUM RL 43.0								
FINISHED SURFACE LEVEL	45.091	45.334	45.334	45.370	45.475	45.434	45.328	45.292	45.094
EXISTING SURFACE LEVEL	45.091	45.137	45.147	45.190	45.178	45.168	45.143	45.130	45.094
OFFSET FROM CONTROL LINE	-5.385	-4.900	-4.700	-3.500	0.000	1.349	4.883	6.083	6.878

CH 80.000

LEGEND :

EXISING SURFACE

DESIGN SURFACE

PROPOSED RAMSHIELD HC GUARDRAIL

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

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
G	REISSUED FOR CONSTRUCTION	28-11-23
F	REISSUED FOR CONSTRUCTION	15-09-23
E	REISSUED FOR CONSTRUCTION	17-07-23
D	ISSUE FOR CONSTRUCTION	07-06-23
C	PLAN AMENDED	18-03-22
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

LISMORE ROAD CROSS SECTION - SHEET 1 OF 4

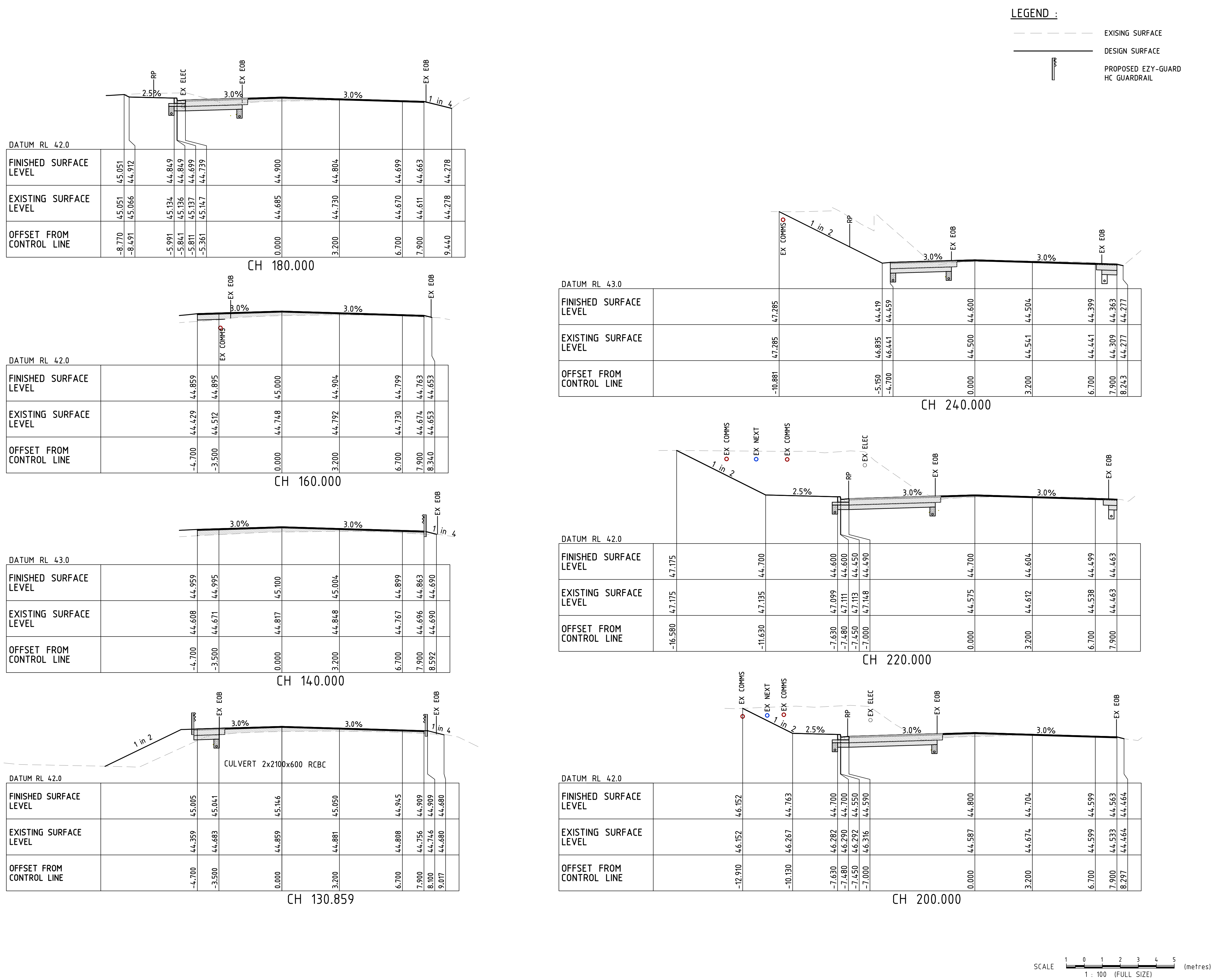
TINSW REG. No. :	DS2023/000976	DATE :	28-11-23
PROJECT LEADER :	**DEREK WALTON**		
DESIGNER :	**VAN LE**		
DRAFTSPERSON :	**VAN LE**		
CHECKED :	**DEREK WALTON**		

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C320	G

PLOTTED 28.11.2023 at 14:44 FILENAME: C:\JOBS\Jobs\Burchills\SYNERGY\BE170269_Rifle Range Road Int. Bangalow_43\Civil\Acad\d01\3. 239111 detail design\BE170269-02-C320-A.dwg



DATUM RL 42.0

FINISHED SURFACE LEVEL	45.051	44.912	44.849	44.849	44.699	44.739	44.900	44.804	44.699	44.663	44.278
EXISTING SURFACE LEVEL	45.051	45.066	45.134	45.136	45.137	45.147	44.685	44.730	44.670	44.611	44.278
OFFSET FROM CONTROL LINE	-8.770	-8.491	-5.991	-5.841	-5.811	-5.361	0.000	3.200	6.700	7.900	9.440

CH 180.000

DATUM RL 42.0

FINISHED SURFACE LEVEL	44.859	44.895	45.000	44.904	44.799	44.763	44.653
EXISTING SURFACE LEVEL	44.429	44.512	44.748	44.792	44.730	44.674	44.653
OFFSET FROM CONTROL LINE	-4.700	-3.500	0.000	3.200	6.700	7.900	8.340

CH 160.000

DATUM RL 43.0

FINISHED SURFACE LEVEL	44.959	44.995	45.100	45.004	44.899	44.863	44.690
EXISTING SURFACE LEVEL	44.608	44.671	44.817	44.848	44.767	44.696	44.690
OFFSET FROM CONTROL LINE	-4.700	-3.500	0.000	3.200	6.700	7.900	8.592

CH 140.000

DATUM RL 42.0

FINISHED SURFACE LEVEL	45.005	45.041	45.146	45.050	44.945	44.909	44.909	44.680
EXISTING SURFACE LEVEL	44.359	44.683	44.859	44.881	44.808	44.756	44.746	44.680
OFFSET FROM CONTROL LINE	-4.700	-3.500	0.000	3.200	6.700	7.900	8.100	9.017

CH 130.859

DATUM RL 43.0

FINISHED SURFACE LEVEL	47.285	44.419	44.459	44.600	44.504	44.399	44.363	44.277
EXISTING SURFACE LEVEL	47.285	46.835	46.441	44.500	44.541	44.441	44.309	44.277
OFFSET FROM CONTROL LINE	-10.881	-5.150	-4.700	0.000	3.200	6.700	7.900	8.243

CH 240.000

DATUM RL 42.0

FINISHED SURFACE LEVEL	47.175	44.700	44.600	44.600	44.450	44.490	44.700	44.604	44.499	44.463
EXISTING SURFACE LEVEL	47.175	47.135	47.099	47.111	47.113	47.148	44.575	44.612	44.538	44.463
OFFSET FROM CONTROL LINE	-16.580	-11.630	-7.630	-7.480	-7.450	-7.000	0.000	3.200	6.700	7.900

CH 220.000

DATUM RL 42.0

FINISHED SURFACE LEVEL	46.152	44.763	44.700	44.700	44.550	44.590	44.800	44.704	44.599	44.563	44.464
EXISTING SURFACE LEVEL	46.152	46.267	46.282	46.290	46.292	46.316	44.587	44.674	44.599	44.533	44.464
OFFSET FROM CONTROL LINE	-12.910	-10.130	-7.630	-7.480	-7.450	-7.000	0.000	3.200	6.700	7.900	8.297

CH 200.000

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

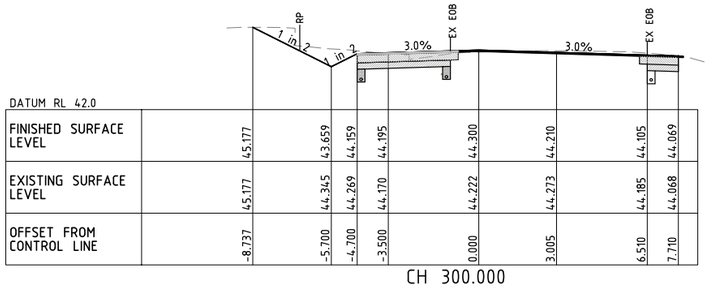
VER.	DESCRIPTION	DATE
G	REISSUED FOR CONSTRUCTION	28-11-23
F	REISSUED FOR CONSTRUCTION	15-09-23
E	REISSUED FOR CONSTRUCTION	17-07-23
D	ISSUE FOR CONSTRUCTION	07-06-23
C	PLAN AMENDED	18-03-22
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

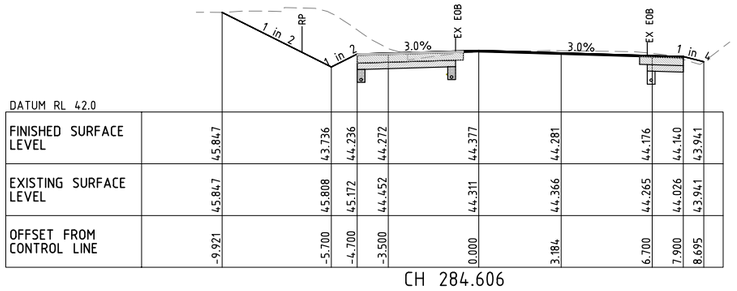
DRAWING TITLE :
LISMORE ROAD CROSS SECTION - SHEET 2 OF 4

TfNSW REG. No. : DS2023/000976 DATE : 28-11-23
PROJECT LEADER : DEREK WALTON
DESIGNER : VAN LE
DRAFTSPERSON : VAN LE
CHECKED : DEREK WALTON
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365
SCALE : AS NOTED DATUM : AHD FULL SIZE : A1
PROJECT No.: BE170269-02 DRAWING No. : C321 VERSION: G



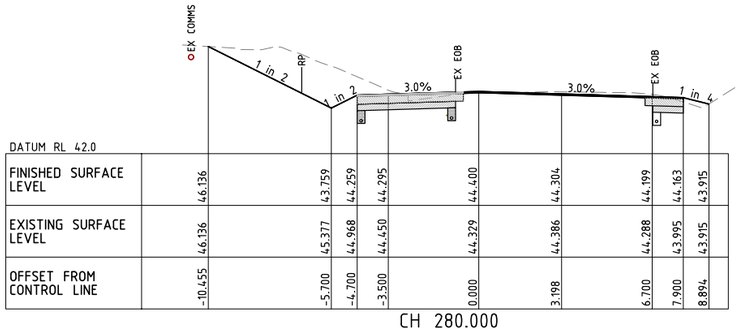
DATUM RL 42.0							
FINISHED SURFACE LEVEL	45.177	43.659	44.159	44.195	44.300	44.210	44.105	44.069
EXISTING SURFACE LEVEL	45.177	44.345	44.269	44.170	44.222	44.273	44.185	44.068
OFFSET FROM CONTROL LINE	-8.737	-5.700	-4.700	-3.500	0.000	3.005	6.510	7.710

CH 300.000



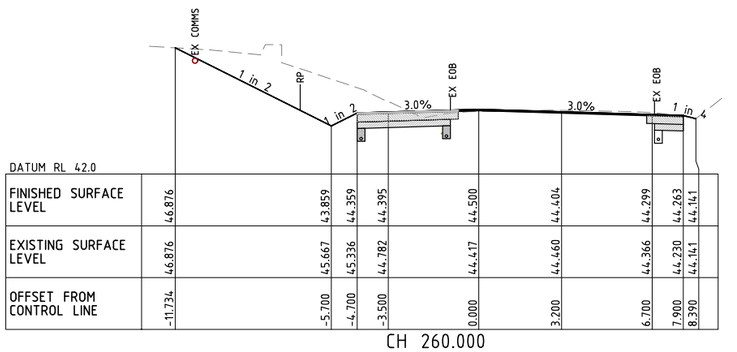
DATUM RL 42.0								
FINISHED SURFACE LEVEL	45.847	43.736	44.236	44.272	44.377	44.281	44.176	44.140	43.941
EXISTING SURFACE LEVEL	45.847	45.808	45.172	44.452	44.311	44.366	44.265	44.026	43.941
OFFSET FROM CONTROL LINE	-9.921	-5.700	-4.700	-3.500	0.000	3.184	6.700	7.900	8.695

CH 284.606



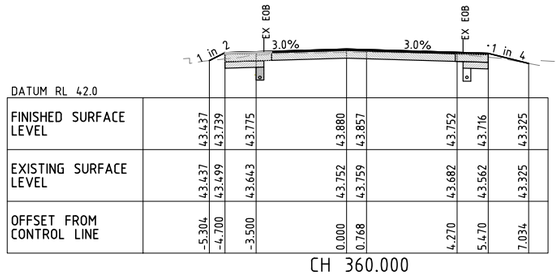
DATUM RL 42.0								
FINISHED SURFACE LEVEL	46.136	43.759	44.259	44.295	44.400	44.304	44.199	44.163	43.915
EXISTING SURFACE LEVEL	46.136	45.377	44.968	44.450	44.329	44.386	44.288	43.995	43.915
OFFSET FROM CONTROL LINE	-10.455	-5.700	-4.700	-3.500	0.000	3.198	6.700	7.900	8.894

CH 280.000



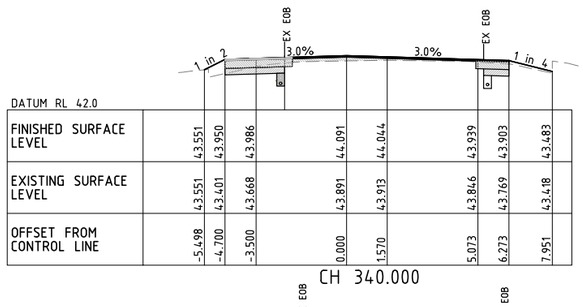
DATUM RL 42.0								
FINISHED SURFACE LEVEL	46.876	43.859	44.359	44.395	44.500	44.404	44.299	44.263	44.141
EXISTING SURFACE LEVEL	46.876	45.667	45.336	44.782	44.417	44.460	44.366	44.230	44.141
OFFSET FROM CONTROL LINE	-11.734	-5.700	-4.700	-3.500	0.000	3.200	6.700	7.900	8.390

CH 260.000



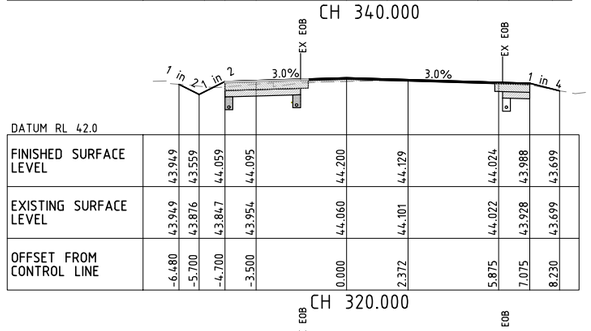
DATUM RL 42.0								
FINISHED SURFACE LEVEL	43.437	43.739	43.775	43.880	43.857	43.752	43.716	43.325
EXISTING SURFACE LEVEL	43.437	43.499	43.643	43.752	43.759	43.682	43.562	43.325
OFFSET FROM CONTROL LINE	-5.304	-4.700	-3.500	0.000	0.768	4.270	5.470	7.034

CH 360.000



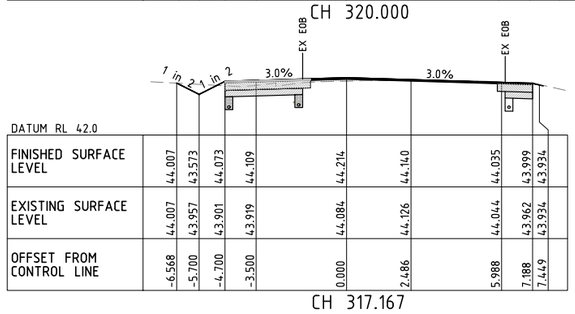
DATUM RL 42.0								
FINISHED SURFACE LEVEL	43.551	43.950	43.986	44.091	44.044	43.939	43.903	43.683
EXISTING SURFACE LEVEL	43.551	43.401	43.668	43.891	43.913	43.846	43.769	43.418
OFFSET FROM CONTROL LINE	-5.498	-4.700	-3.500	0.000	1.570	5.073	6.273	7.951

CH 340.000



DATUM RL 42.0								
FINISHED SURFACE LEVEL	43.949	43.559	44.059	44.095	44.200	44.129	44.024	43.988	43.699
EXISTING SURFACE LEVEL	43.949	43.876	43.847	43.954	44.060	44.101	44.022	43.928	43.699
OFFSET FROM CONTROL LINE	-6.480	-5.700	-4.700	-3.500	0.000	2.372	5.875	7.075	8.230

CH 320.000



DATUM RL 42.0								
FINISHED SURFACE LEVEL	44.007	43.573	44.073	44.109	44.214	44.140	44.035	43.999	43.934
EXISTING SURFACE LEVEL	44.007	43.957	43.901	43.919	44.084	44.126	44.044	43.962	43.934
OFFSET FROM CONTROL LINE	-6.568	-5.700	-4.700	-3.500	0.000	2.486	5.988	7.188	7.449

CH 317.167

LEGEND :

EXISING SURFACE

DESIGN SURFACE

SCALE 1 0 1 2 3 4 5 (metres)

1 : 100 (FULL SIZE)

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
G	REISSUED FOR CONSTRUCTION	28-11-23
F	REISSUED FOR CONSTRUCTION	15-09-23
E	REISSUED FOR CONSTRUCTION	17-07-23
D	ISSUE FOR CONSTRUCTION	07-06-23
C	PLAN AMENDED	18-03-22
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

LISMORE ROAD CROSS SECTION - SHEET 3 OF 4

TINSW REG. No. :	DS2023/000976	DATE : 28-11-23
PROJECT LEADER :	**DEREK WALTON**	
DESIGNER :	**VAN LE**	
DRAFTSPERSON :	**VAN LE**	
CHECKED :	**DEREK WALTON**	

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

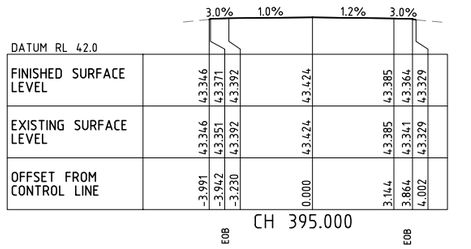
SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE170269-02	DRAWING No. : C322	VERSION: G

PLOTTED: 28.11.2023 at 14:25
FILENAME: C:\12025\Data\Burchills\SYN\BE170269_Rifle Range Road int. Bangalow - ASX\Civil\Acad\C03\3_210911.dwtd design\BE170269-02-C322-4.dwg

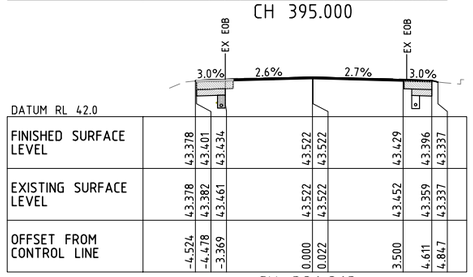
LEGEND :

EXISING SURFACE

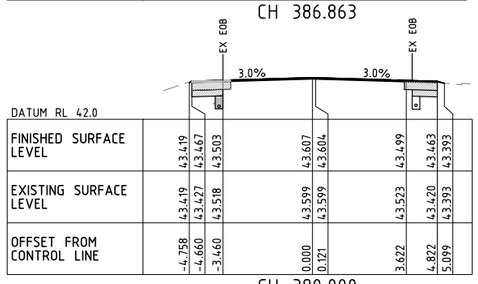
DESIGN SURFACE



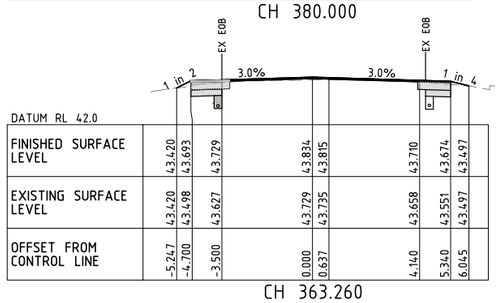
CH 395.000



CH 386.863



CH 380.000



CH 363.260

SCALE 1 0 1 2 3 4 5 (metres)

1 : 100 (FULL SIZE)

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-01-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

LISMORE ROAD CROSS SECTION - SHEET 4 OF 4

TINSW REG. No. :	DS2023/000976	DATE :	28-11-23
PROJECT LEADER :	**DEREK WALTON**		
DESIGNER :	**VAN LE**		
DRAFTSPERSON :	**VAN LE**		
CHECKED :	**DEREK WALTON**		

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

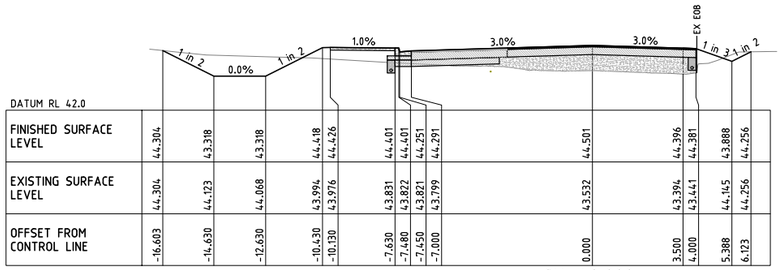
PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C323	F

PLOTTED 28.11.2023 at 14:45 FILENAME: C:\USERS\VAN.LE\BURCHILLS\TYM\BE170269_Rifle Range Road Int. Bangalow_43\Civil\Acad\535\3. 2399ft detail design\BE170269-02-C323-A.dwg

LEGEND :

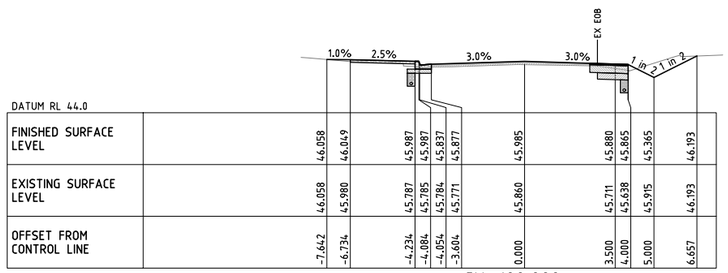
EXISING SURFACE

DESIGN SURFACE



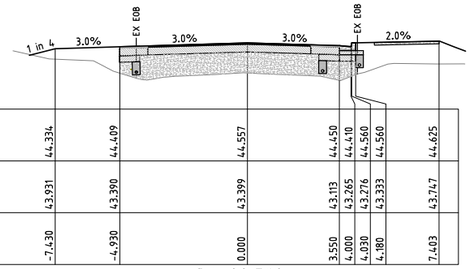
DATUM RL 42.0												
FINISHED SURFACE LEVEL	44.304	43.318	43.318	44.418	44.426	44.401	44.401	44.251	44.291	44.501	44.396	44.381	43.888	44.256
EXISTING SURFACE LEVEL	44.304	44.123	44.068	43.994	43.976	43.831	43.822	43.821	43.799	43.532	43.394	43.441	44.145	44.256
OFFSET FROM CONTROL LINE	-16.603	-14.630	-12.630	-10.430	-10.130	-7.630	-7.480	-7.450	-7.000	0.000	3.500	4.000	5.388	6.123

CH 40.000



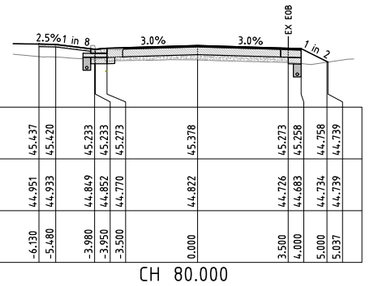
DATUM RL 44.0												
FINISHED SURFACE LEVEL	46.058	46.049	45.987	45.987	45.837	45.877	45.985	45.880	45.865	45.365	46.193	
EXISTING SURFACE LEVEL	46.058	45.980	45.787	45.785	45.784	45.771	45.860	45.711	45.638	45.915	46.193	
OFFSET FROM CONTROL LINE	-7.642	-6.734	-4.234	-4.084	-4.054	-3.804	0.000	3.500	4.000	5.000	6.657	

CH 100.000



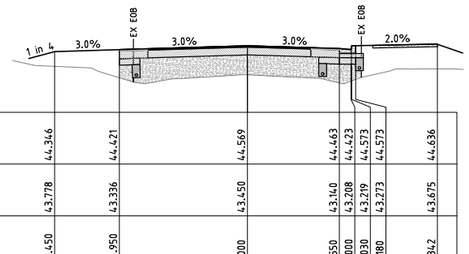
DATUM RL 42.0												
FINISHED SURFACE LEVEL	44.334	44.409	44.557	44.450	44.410	44.560	44.560	44.625				
EXISTING SURFACE LEVEL	43.931	43.390	43.399	43.113	43.265	43.276	43.333	43.747				
OFFSET FROM CONTROL LINE	-7.430	-4.930	0.000	3.550	4.000	4.030	4.180	7.403				

CH 20.760



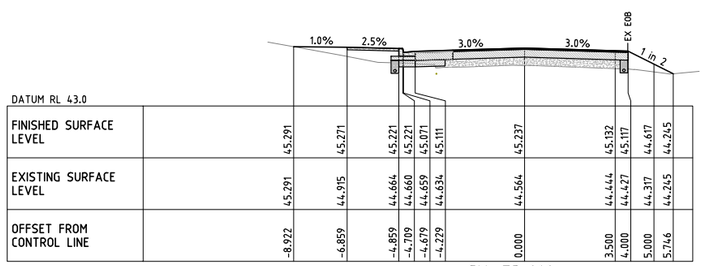
DATUM RL 43.0												
FINISHED SURFACE LEVEL	45.437	45.420	45.233	45.233	45.273	45.378	45.273	45.258	44.758	44.739		
EXISTING SURFACE LEVEL	44.951	44.933	44.849	44.852	44.770	44.822	44.726	44.683	44.734	44.739		
OFFSET FROM CONTROL LINE	-6.130	-5.480	-3.980	-3.950	-3.500	0.000	3.500	4.000	5.000	5.037		

CH 80.000



DATUM RL 42.0												
FINISHED SURFACE LEVEL	44.346	44.421	44.569	44.463	44.423	44.573	44.573	44.636				
EXISTING SURFACE LEVEL	43.778	43.336	43.450	43.140	43.208	43.219	43.273	43.675				
OFFSET FROM CONTROL LINE	-7.450	-4.950	0.000	3.550	4.000	4.030	4.180	7.342				

CH 20.000

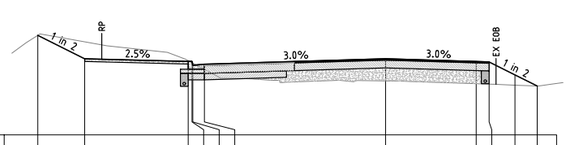


DATUM RL 43.0												
FINISHED SURFACE LEVEL	45.291	45.271	45.221	45.221	45.071	45.111	45.237	45.132	45.117	44.617	44.245	
EXISTING SURFACE LEVEL	45.291	44.915	44.664	44.660	44.659	44.634	44.564	44.444	44.427	44.317	44.245	
OFFSET FROM CONTROL LINE	-8.922	-6.859	-4.859	-4.709	-4.679	-4.229	0.000	3.500	4.000	5.000	5.746	

CH 73.616

DATUM RL 41.0												
FINISHED SURFACE LEVEL	44.406	44.481	44.631									
EXISTING SURFACE LEVEL	43.404	42.813	43.669									
OFFSET FROM CONTROL LINE	-7.500	-5.000	0.000									

CH 16.758



DATUM RL 42.0												
FINISHED SURFACE LEVEL	45.844	44.938	44.838	44.838	44.688	44.728	44.938	44.833	44.818	44.318	43.890	
EXISTING SURFACE LEVEL	45.844	45.596	44.869	44.789	44.773	44.533	44.085	43.976	43.960	43.919	43.890	
OFFSET FROM CONTROL LINE	-13.442	-11.630	-7.630	-7.480	-7.450	-7.000	0.000	3.500	4.000	5.000	5.857	

CH 60.000

SCALE 1 0 1 2 3 4 5 (metres)

1 : 100 (FULL SIZE)

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-01-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

RIFLE RANGE ROAD CROSS SECTION - SHEET 1 OF 2

TINSW REG. No. :	DS2023/000976	DATE : 28-11-23
PROJECT LEADER :	**DEREK WALTON**	
DESIGNER :	**VAN LE**	
DRAFTSPERSON :	**VAN LE**	
CHECKED :	**DEREK WALTON**	

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

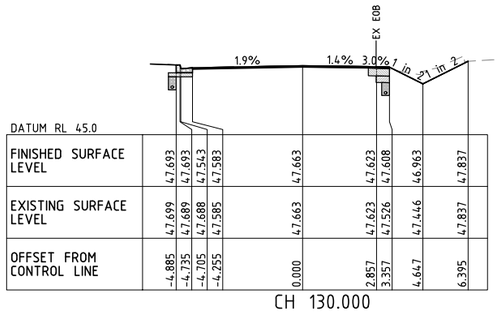
SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE170269-02	DRAWING No. : C324	VERSION: F

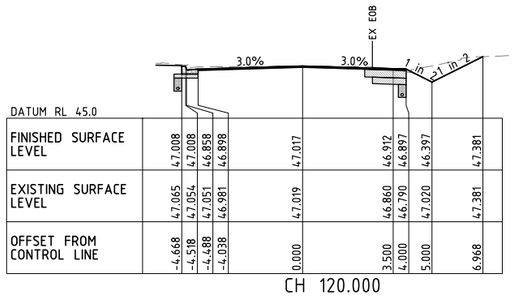
PLOTTED: 28.11.2023 at 11:56 FILENAME: C:\USERS\BRIAN.BURCHILLS\SYNCBIT\170269_Rifle Range Road Int. Bungalow_+S\Civil\Acad\SX3.3_230911 detail design\BE170269-02-C324-A.dwg

LEGEND :

EXISING SURFACE

DESIGN SURFACE





SCALE 1 0 1 2 3 4 5 (metres)

1 : 100 (FULL SIZE)

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-01-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

RIFLE RANGE ROAD CROSS SECTION - SHEET 2 OF 2

TINSW REG. No. :	DS2023/000976	DATE : 28-11-23	
PROJECT LEADER :	**DEREK WALTON**		
DESIGNER :	**VAN LE**		
DRAFTSPERSON :	**VAN LE**		
CHECKED :	**DEREK WALTON**		

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE170269-02	DRAWING No. : C325	VERSION: F

PLOTTED: 28.11.2023 at 14:56

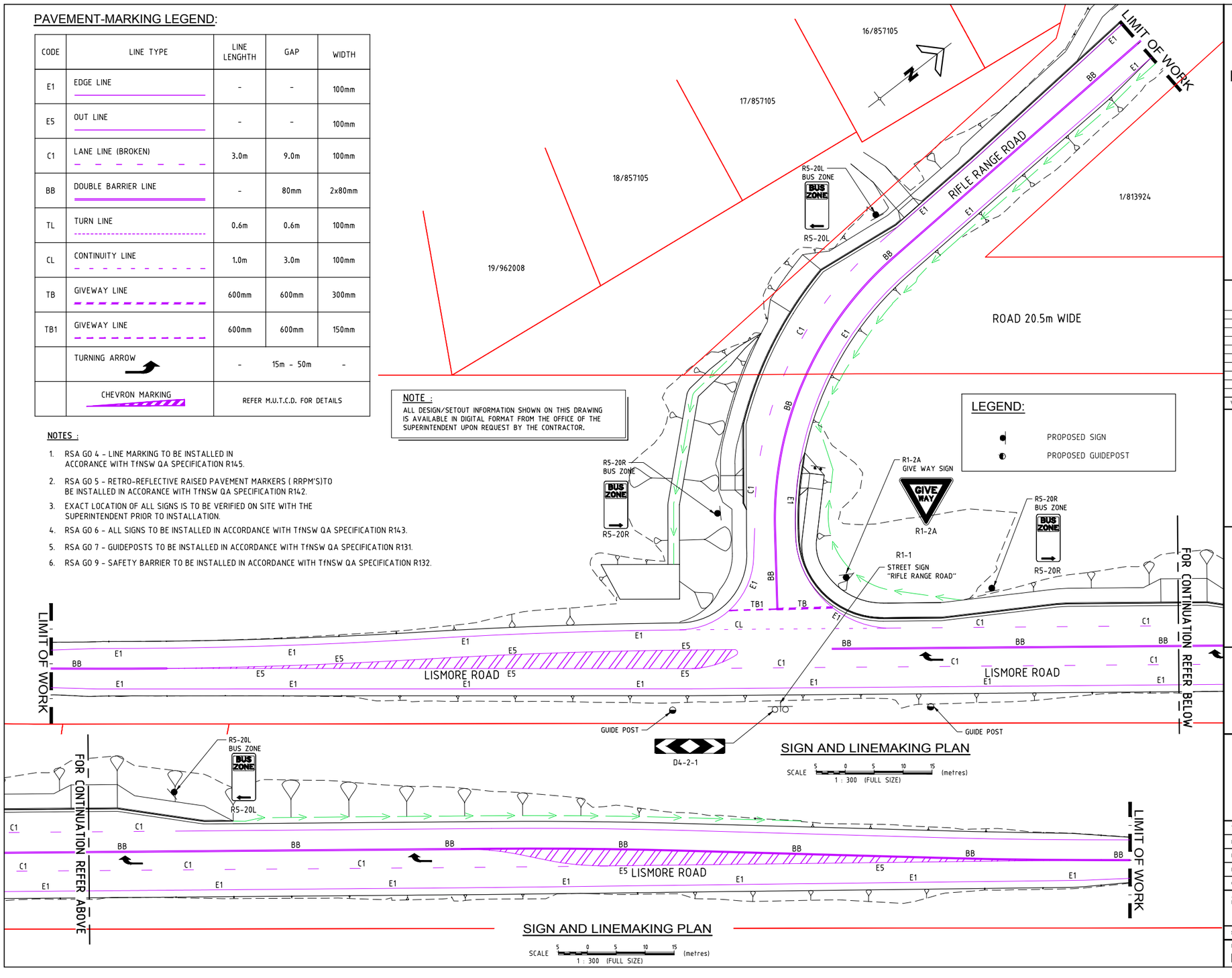
FILENAME: C:\1DRV\data\BurchillsSYN\BE170269_Rifle Range Road int. Bangalow_43\Civil\Acad\C03\3. 230911 detail design\BE170269-02-C325-A.dwg

PAVEMENT-MARKING LEGEND:

CODE	LINE TYPE	LINE LENGHTH	GAP	WIDTH
E1	EDGE LINE	-	-	100mm
E5	OUT LINE	-	-	100mm
C1	LANE LINE (BROKEN)	3.0m	9.0m	100mm
BB	DOUBLE BARRIER LINE	-	80mm	2x80mm
TL	TURN LINE	0.6m	0.6m	100mm
CL	CONTINUITY LINE	1.0m	3.0m	100mm
TB	GIVEWAY LINE	600mm	600mm	300mm
TB1	GIVEWAY LINE	600mm	600mm	150mm
	TURNING ARROW	-	15m - 50m	-
	CHEVRON MARKING	REFER M.U.T.C.D. FOR DETAILS		

NOTES :

1. RSA GO 4 - LINE MARKING TO BE INSTALLED IN ACCORANCE WITH TfNSW QA SPECIFICATION R145.
2. RSA GO 5 - RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM'S)TO BE INSTALLED IN ACCORANCE WITH TfNSW QA SPECIFICATION R142.
3. EXACT LOCATION OF ALL SIGNS IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.
4. RSA GO 6 - ALL SIGNS TO BE INSTALLED IN ACCORDANCE WITH TfNSW QA SPECIFICATION R143.
5. RSA GO 7 - GUIDEPOSTS TO BE INSTALLED IN ACCORDANCE WITH TfNSW QA SPECIFICATION R131.
6. RSA GO 9 - SAFETY BARRIER TO BE INSTALLED IN ACCORDANCE WITH TfNSW QA SPECIFICATION R132.



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.

LEGEND:

- PROPOSED SIGN
- PROPOSED GUIDEPOST

SIGN AND LINEMAKING PLAN

SCALE 5 0 5 10 15 (metres)
1 : 300 (FULL SIZE)

SIGN AND LINEMAKING PLAN

SCALE 5 0 5 10 15 (metres)
1 : 300 (FULL SIZE)

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
G	REISSUED FOR CONSTRUCTION	28-11-23
F	REISSUED FOR CONSTRUCTION	15-09-23
E	REISSUED FOR CONSTRUCTION	17-07-23
D	ISSUE FOR CONSTRUCTION	07-06-23
C	PLAN AMENDED	18-03-22
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

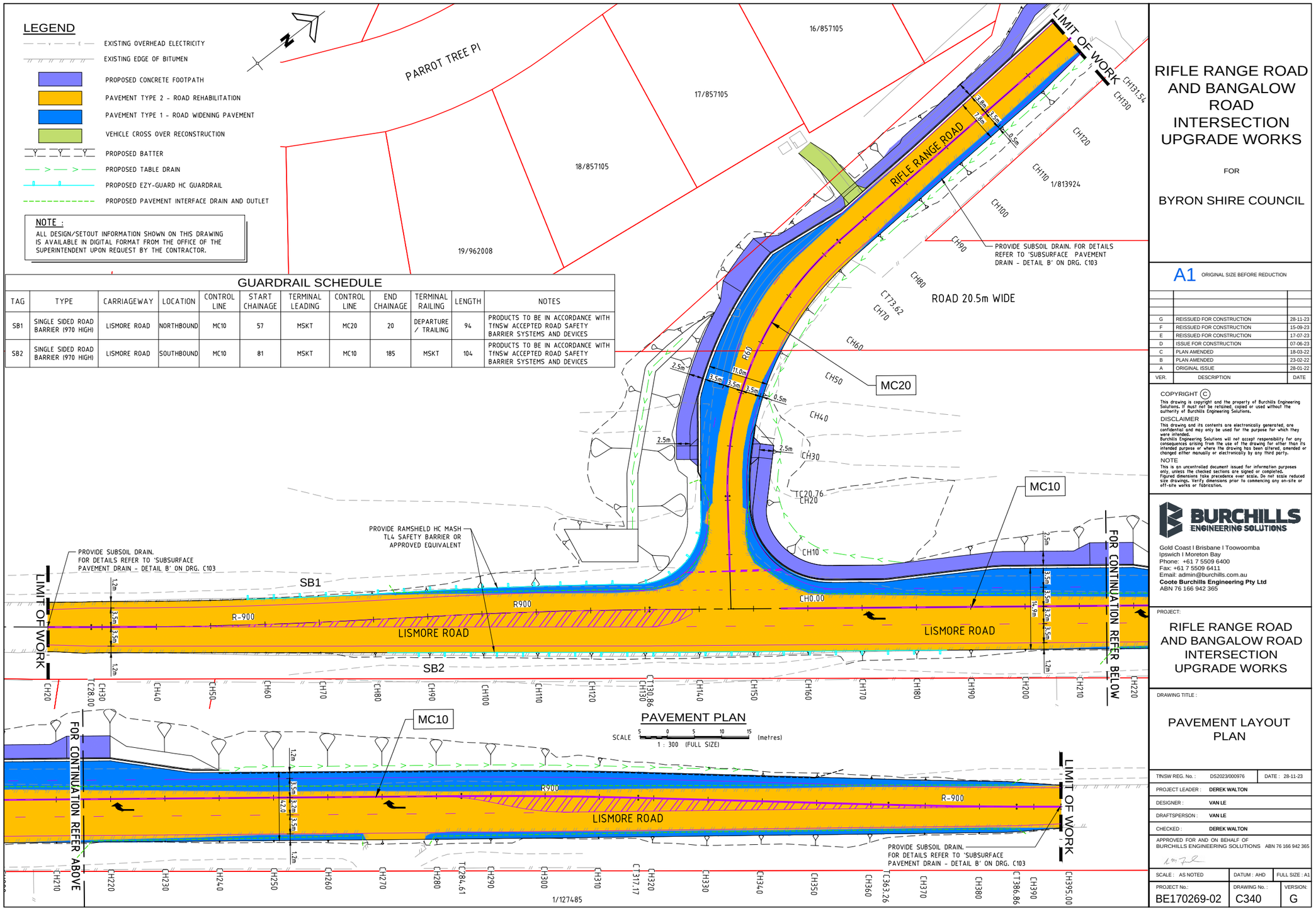
DRAWING TITLE :
SIGNAGE AND LINEMARKING PLAN

TfNSW REG. No. :	DS2023/000976	DATE :	28-11-23
PROJECT LEADER :	DEREK WALTON		
DESIGNER :	VAN LE		
DRAFTSPERSON :	VAN LE		
CHECKED :	DEREK WALTON		

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C330	G



GUARDRAIL SCHEDULE

TAG	TYPE	CARRIAGEWAY	LOCATION	CONTROL LINE	START CHAINAGE	TERMINAL LEADING	CONTROL LINE	END CHAINAGE	TERMINAL RAILING	LENGTH	NOTES
SB1	SINGLE SIDED ROAD BARRIER (970 HIGH)	LISMORE ROAD	NORTHBOUND	MC10	57	MSKT	MC20	20	DEPARTURE / TRAILING	94	PRODUCTS TO BE IN ACCORDANCE WITH TFNSW ACCEPTED ROAD SAFETY BARRIER SYSTEMS AND DEVICES
SB2	SINGLE SIDED ROAD BARRIER (970 HIGH)	LISMORE ROAD	SOUTHBOUND	MC10	81	MSKT	MC10	185	MSKT	104	PRODUCTS TO BE IN ACCORDANCE WITH TFNSW ACCEPTED ROAD SAFETY BARRIER SYSTEMS AND DEVICES

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
G	REISSUED FOR CONSTRUCTION	28-11-23
F	REISSUED FOR CONSTRUCTION	15-09-23
E	REISSUED FOR CONSTRUCTION	17-07-23
D	ISSUE FOR CONSTRUCTION	07-06-23
C	PLAN AMENDED	18-03-22
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

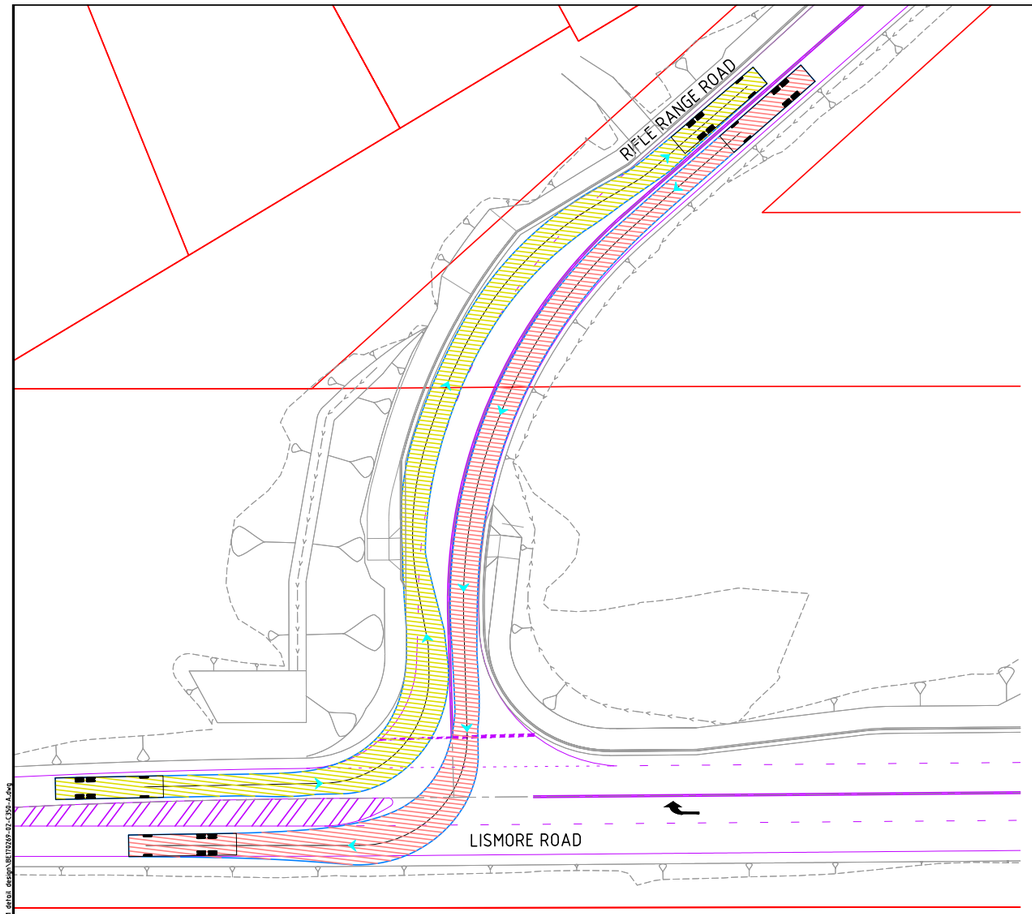
DRAWING TITLE :

PAVEMENT LAYOUT PLAN

TINSW REG. No. :	DS2023/000976
DATE :	28-11-23
PROJECT LEADER :	DEREK WALTON
DESIGNER :	VAN LE
DRAFTSPERSON :	VAN LE
CHECKED :	DEREK WALTON

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

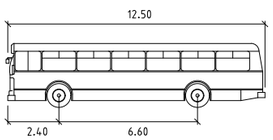
SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE170269-02	DRAWING No. : C340	VERSION: G



TURNING MOVEMENTS FOR BUS

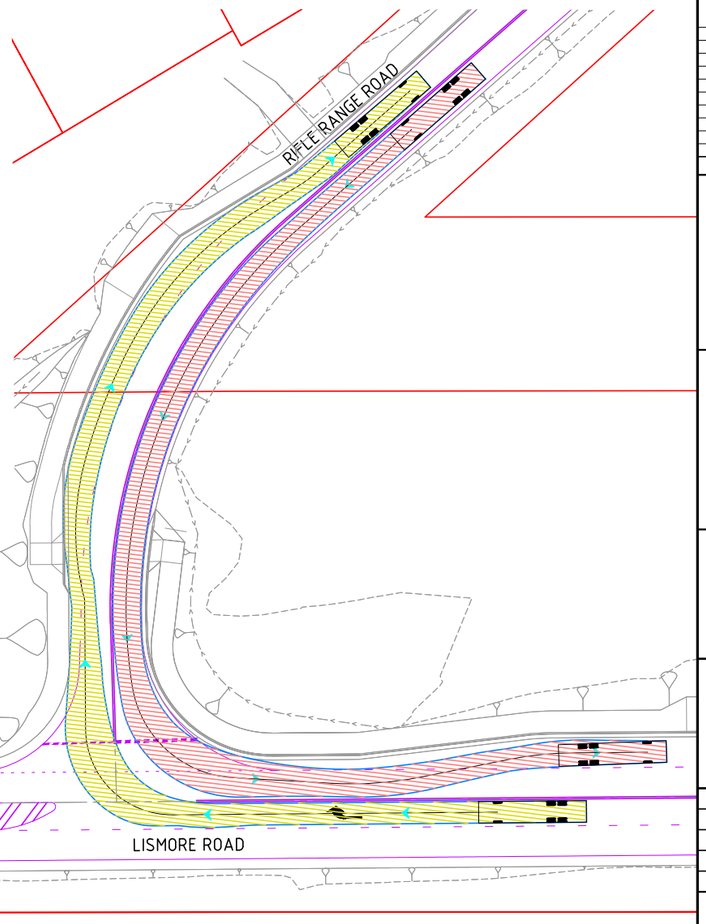
SCALE 5 0 5 10 15 (metres)

1 : 300 (FULL SIZE)



BUS1
meters

Width	:	2.50
Track	:	2.50
Lock to Lock Time	:	6.0
Steering Angle	:	35.2



RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
E	REISSUED FOR CONSTRUCTION	28-11-23
D	REISSUED FOR CONSTRUCTION	15-09-23
C	REISSUED FOR CONSTRUCTION	17-07-23
B	ISSUE FOR CONSTRUCTION	07-06-23
A	ORIGINAL ISSUE	18-03-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

TURNING MOVEMENT FOR BUS

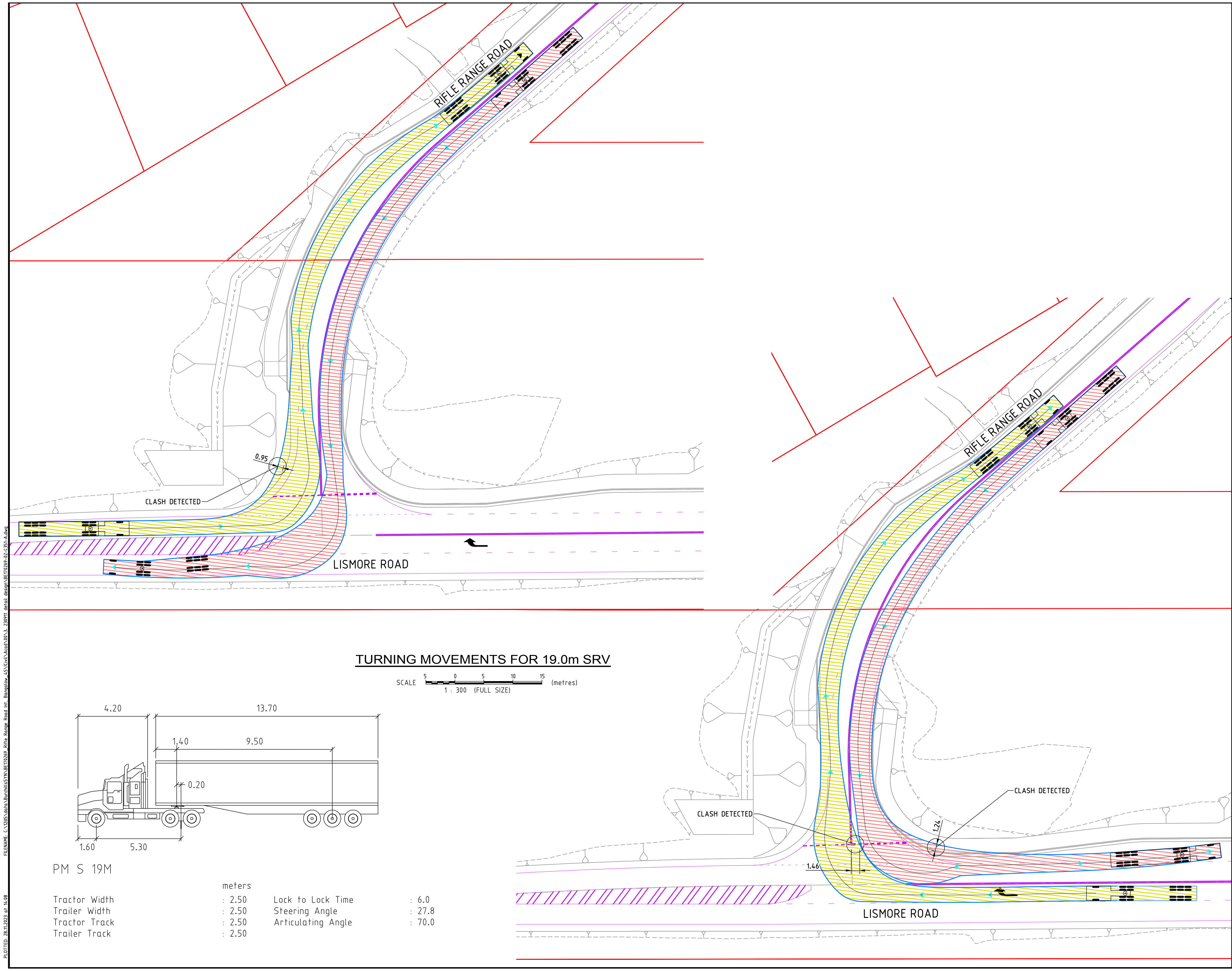
TINSW REG. No. :	DS2023/000976	DATE :	28-11-23
PROJECT LEADER :	DEREK WALTON		
DESIGNER :	VAN LE		
DRAFTSPERSON :	VAN LE		
CHECKED :	DEREK WALTON		

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C350	E

FILENAME: C:\TDES\data\Burchills\TVA\BE170269_Rifle Range Road Int. Bangalow_43\Civil\Mod\BE170269-02-C350-A.dwg
PLOTTED: 28/11/2023 at 14:07



RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
D	REISSUED FOR CONSTRUCTION	28-11-23
C	REISSUED FOR CONSTRUCTION	15-09-23
B	REISSUED FOR CONSTRUCTION	17-07-23
A	ORIGINAL ISSUE	07-06-23

DISCLAIMER
This drawing and its contents are electronically generated, are confidential and may only be used for the purpose for which they were intended.
Burchills Engineering Solutions will not accept responsibility for any consequences arising from the use of the drawing for other than its intended purpose or where the drawing has been altered, amended or changed either manually or electronically by any third party.

NOTE
This is an uncontrolled document issued for information purposes only, unless the checked sections are signed or completed.
Figured dimensions take precedence over scale. Do not scale reduced size drawings. Verify dimensions prior to commencing any on-site or off-site works or fabrication.

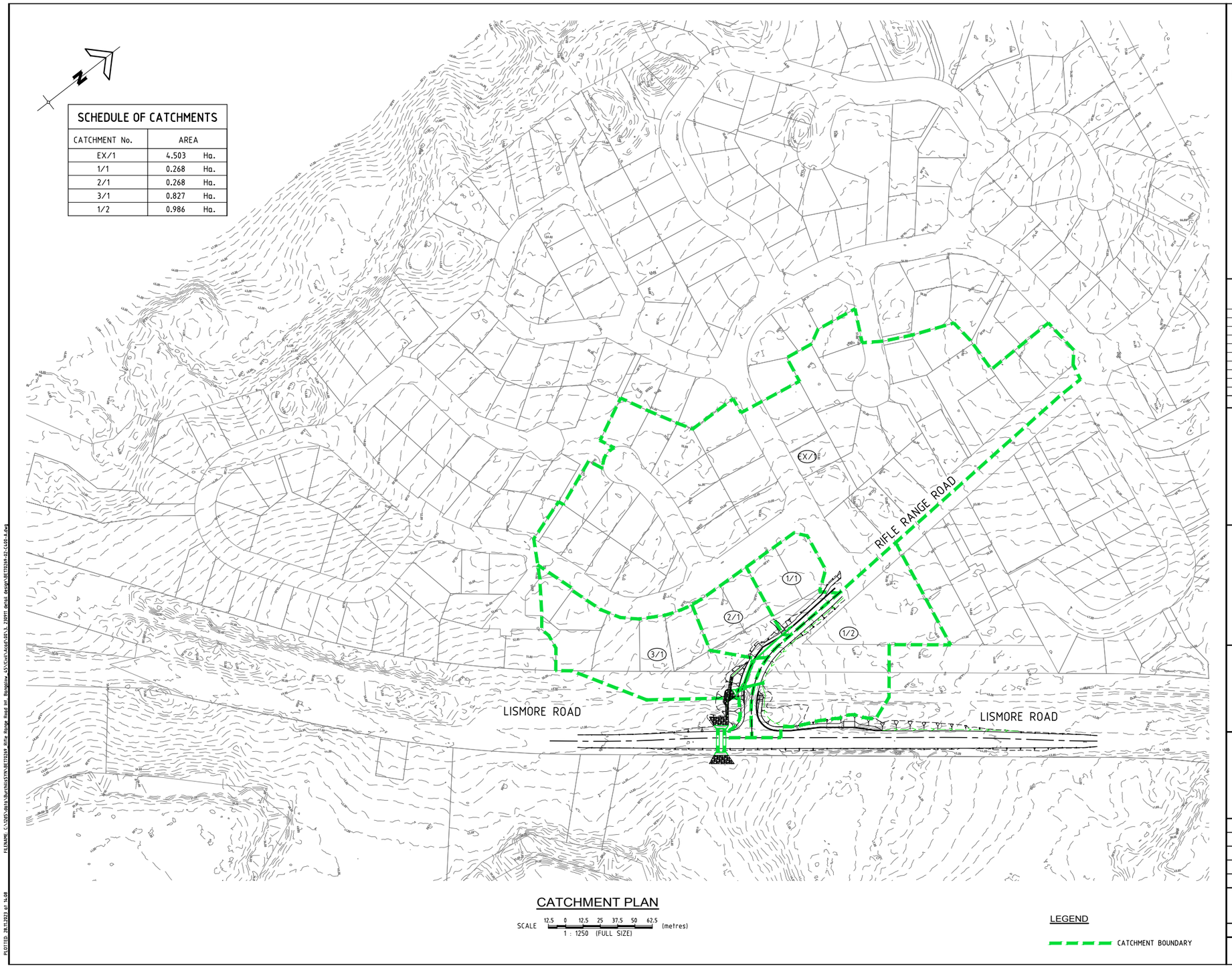
BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I Moreton Bay
Phone: +61 7 5509 6400
Fax: +61 7 5509 6411
Email: admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :
TURNING MOVEMENT FOR SRV

TfNSW REG. No. : DS2023/000976 — DATE : 28-11-23
PROJECT LEADER : DEREK WALTON
DESIGNER : VAN LE
DRAFTSPERSON : VAN LE
CHECKED : DEREK WALTON
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

SCALE : AS NOTED — DATUM : AHD — FULL SIZE : A1
PROJECT No.: BE170269-02 — DRAWING No. : C351 — VERSION: D



SCHEDULE OF CATCHMENTS	
CATCHMENT No.	AREA
EX/1	4.503 Ha.
1/1	0.268 Ha.
2/1	0.268 Ha.
3/1	0.827 Ha.
1/2	0.986 Ha.

CATCHMENT PLAN

SCALE 12.5 0 12.5 25 37.5 50 62.5 (metres)
1 : 1250 (FULL SIZE)

LEGEND

CATCHMENT BOUNDARY

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-07-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

STORMWATER CATCHMENT LAYOUT PLAN

TINSW REG. No. :	DS2023/000976	DATE :	28-11-23
PROJECT LEADER :	**DEREK WALTON**		
DESIGNER :	**VAN LE**		
DRAFTSPERSON :	**VAN LE**		
CHECKED :	**DEREK WALTON**		

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C400	F

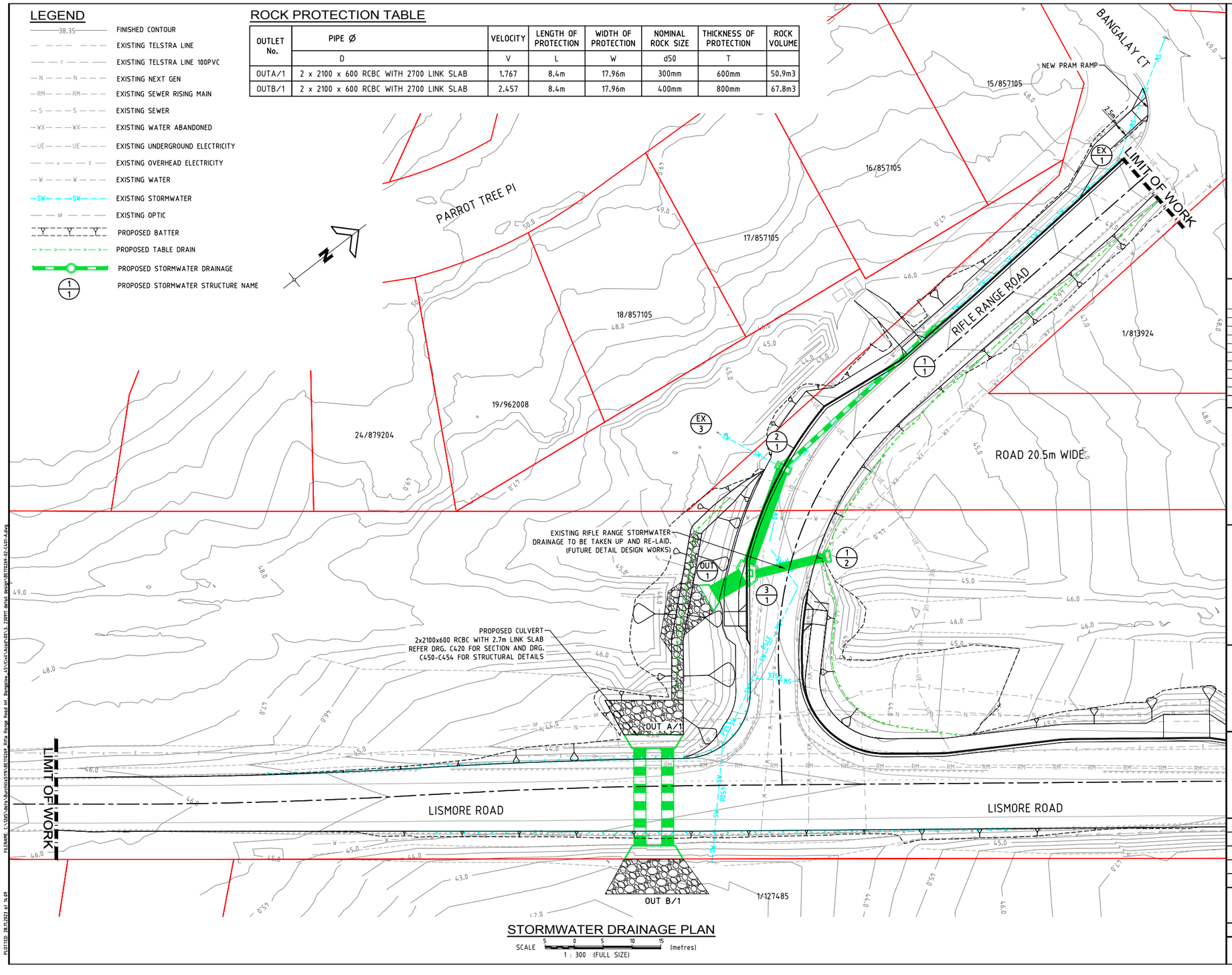
PLOTTED: 28.11.2023 at 14:08
FILENAME: C:\12025\data\Burchills\SYNLBE170269_Rifle Range Road Int. Bangalow_45\Civil\Acad\s30\3. 2309111 detail design\BE170269-02-C400-A.dwg

LEGEND

- FINISHED CONTOUR (38.35)
- EXISTING TELSTRA LINE
- EXISTING TELSTRA LINE 100PVC
- EXISTING NEXT GEN
- EXISTING SEWER RISING MAIN
- EXISTING SEWER
- EXISTING WATER ABANDONED
- EXISTING UNDERGROUND ELECTRICITY
- EXISTING OVERHEAD ELECTRICITY
- EXISTING WATER
- EXISTING STORMWATER
- EXISTING OPTIC
- PROPOSED BATTER
- PROPOSED TABLE DRAIN
- PROPOSED STORMWATER DRAINAGE
- 1/1 PROPOSED STORMWATER STRUCTURE NAME

ROCK PROTECTION TABLE

OUTLET No.	PIPE Ø	VELOCITY	LENGTH OF PROTECTION	WIDTH OF PROTECTION	NOMINAL ROCK SIZE	THICKNESS OF PROTECTION	ROCK VOLUME
	D	V	L	W	d50	T	
OUTA/1	2 x 2100 x 600 RCBC WITH 2700 LINK SLAB	1.767	8.4m	17.96m	300mm	600mm	50.9m3
OUTB/1	2 x 2100 x 600 RCBC WITH 2700 LINK SLAB	2.457	8.4m	17.96m	400mm	800mm	67.8m3



STORMWATER DRAINAGE PLAN

SCALE 5 0 5 10 15 (metres)

1 : 300 (FULL SIZE)

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	28-11-23
E	REISSUED FOR CONSTRUCTION	15-09-23
D	REISSUED FOR CONSTRUCTION	17-07-23
C	ISSUE FOR CONSTRUCTION	07-06-23
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

STORMWATER DRAINAGE LAYOUT PLAN

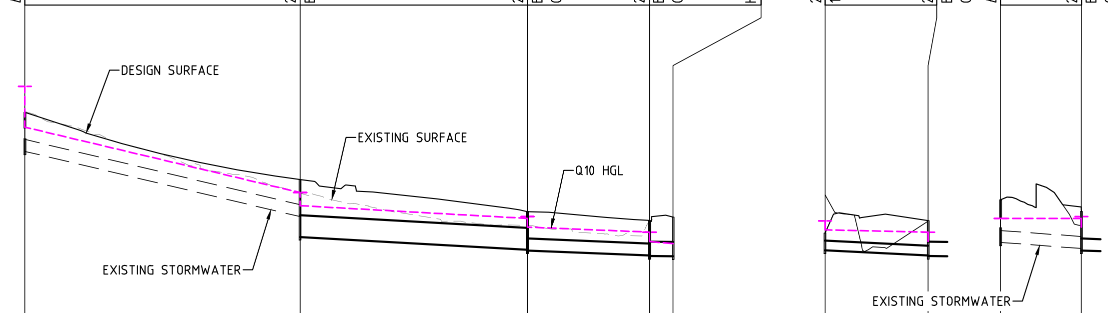
TINSW REG. No. :	DS2023/000976	DATE : 28-11-23
PROJECT LEADER :	DEREK WALTON	
DESIGNER :	VAN LE	
DRAFTSPERSON :	VAN LE	
CHECKED :	DEREK WALTON	

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C401	F

STORMWATER DRAINAGE LONGSECTIONS



LINE	STRUCTURE NAME	STRUCTURE DESCRIPTION	WATER LEVEL IN STRUCTURE	HYDRAULIC GRADE LEVEL	DEPTH TO INVERT	INVERT LEVEL OF DRAIN	DESIGN SURFACE LEVEL	RUNNING CHAINAGE	STRUCTURE LOCATION
1	EX/1	EXISTING ON GRADE GULLY PIT	48.452	48.452 / 47.171	1.227	46.412	47.639	0.000	E350384.653 N1824937.856
1	1/1	2.4m LINTEL GULLY ON GRADE BARRIER K&C LIP IN LINE	45.121	45.121 / 44.710	1.161 / 1.798	44.365 / 43.728	45.526	43.117	E350387.790 N1824894.853
1	2/1	2.4m LINTEL GULLY ON GRADE BARRIER K&C LIP IN LINE OVER 1050 ELONGATED MANHOLE	44.371	44.309 / 44.037	1.203 / 1.223	43.326 / 43.306	44.529	78.744	E350390.622 N1824859.339
1	3/1	2.4m LINTEL GULLY IN SAG BARRIER K&C LIP IN LINE OVER ACCESS CHAMBER	43.881	43.881 / 43.586	1.092 / 1.112	43.150 / 43.130	44.242	97.859	E350401.256 N1824843.455
1	OUT/1	HEADWALL	43.562	43.562	1.018	43.112	44.130	104.901	E350400.282 N1824836.481
2	1/2	2x DOME TOP COVER ON 1500 x 900 CHAMBER	44.230	44.230 / 43.950	0.529	43.289	43.818	0.000	E350407.412 N1824855.971
2	3/1	2.4m LINTEL GULLY IN SAG BARRIER K&C LIP IN LINE OVER ACCESS CHAMBER	43.881	43.881 / 43.586	1.092	43.150	44.242	13.947	E350401.256 N1824843.455
3	EX/3	EXISTING ON GRADE GULLY PIT	44.309	44.309 / 44.309	1.341	43.557	44.898	0.000	E350378.992 N1824854.315
3	2/1	2.4m LINTEL GULLY ON GRADE BARRIER K&C LIP IN LINE OVER OVER ACCESS CHAMBER	44.371	44.309 / 44.037	1.162	43.367	44.529	12.669	E350390.622 N1824859.339

LINE	PIPE	PIPE SIZEmm (Class)	PIPE GRADE %	PIPE SLOPE 1 in X	FULL PIPE FLOW VELOCITY (m/s)	PIPE FLOW (Cumecs)	PIPE CAPACITY AT GRADE (Cumecs)	LENGTH
1	EX/1 – 1/1	375(2)	4.75%	21.06	3.46	0.382	0.382	43.117
1	1/1 – 2/1	675(2)	1.13%	88.81	2.52	0.927	0.927	35.627
1	2/1 – 3/1	1800 x 375 (RCBC)	0.82%	122.35	2.01	1.353	1.353	19.115
1	3/1 – OUT/1	2700 x 445 (RCBC)	0.25%	399.97	1.70	2.058	1.555	7.042
2	1/2 – 3/1	1200 x 300 (RCBC)	1.00%	100.00	1.23	0.442	0.674	13.947
3	EX/3 – 2/1	375(2)	1.50%	66.68	0.00	0.000	0.215	12.669

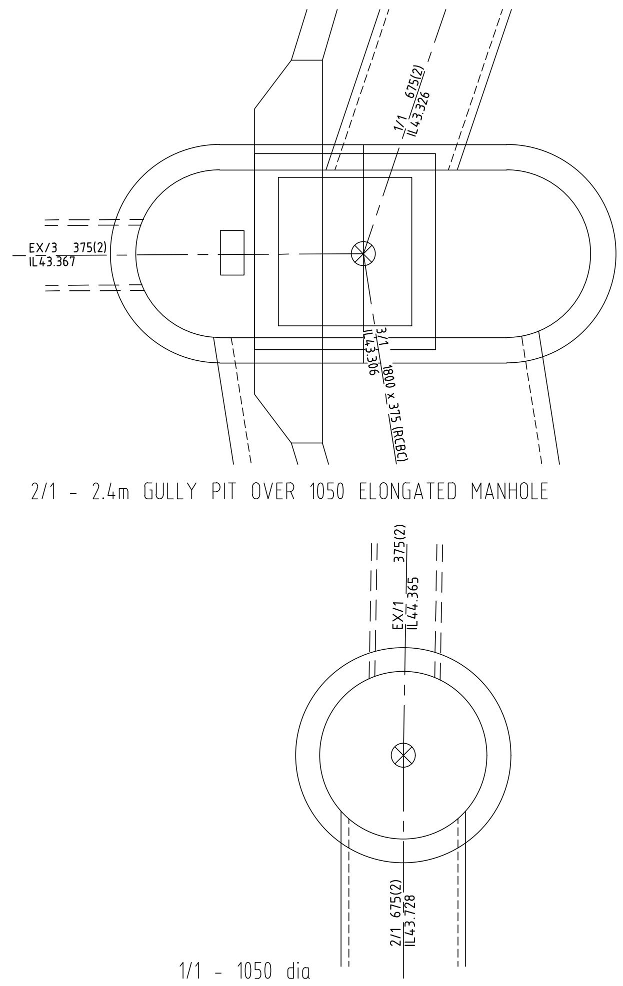
PART FULL FLOW VELOCITY (m/s)

DATUM RL 28.0

VERTICAL SCALE 1:100 (meters)
HORIZONTAL SCALE 1:500 (meters) (FULL SIZE)

NOTES:
REFER TO NORTHERN RIVERS LOCAL GOVERNMENT STANDARD DRAWINGS FOR DETAILS OF STORMWATER STRUCTURES.

STRUCTURE DETAILS



SCALE 1 : 20 (FULL SIZE) (metres)

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
F	REISSUED FOR CONSTRUCTION	15-09-23
E	REISSUED FOR CONSTRUCTION	17-07-23
D	ISSUE FOR CONSTRUCTION	07-06-23
C	PLAN AMENDED	18-03-22
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

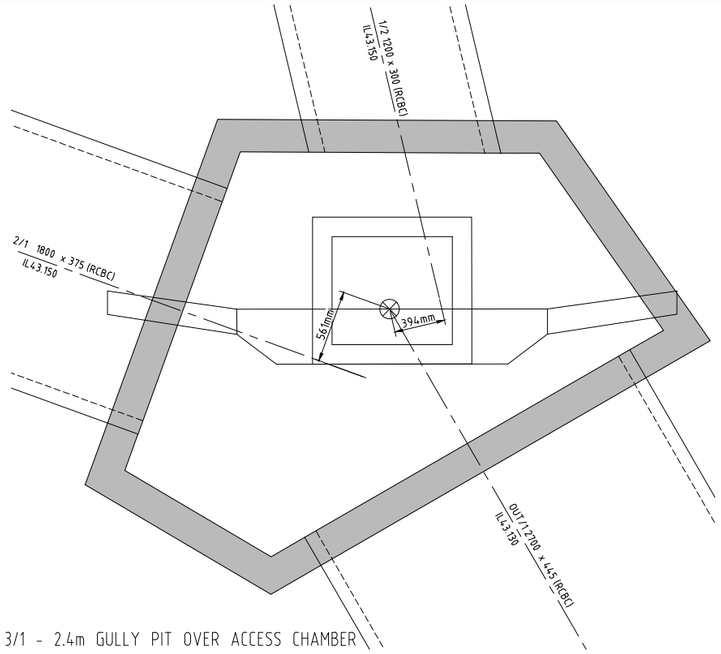
BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I Moreton Bay
Phone: +61 7 5509 6400
Fax: +61 7 5509 6411
Email: admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT: RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE: STORMWATER DRAINAGE LONGSECTIONS

TfNSW REG. No.: DS2023/000976 DATE: 15-09-23
PROJECT LEADER: DEREK WALTON
DESIGNER: VAN LE
DRAFTSPERSON: VAN LE
CHECKED: DEREK WALTON
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

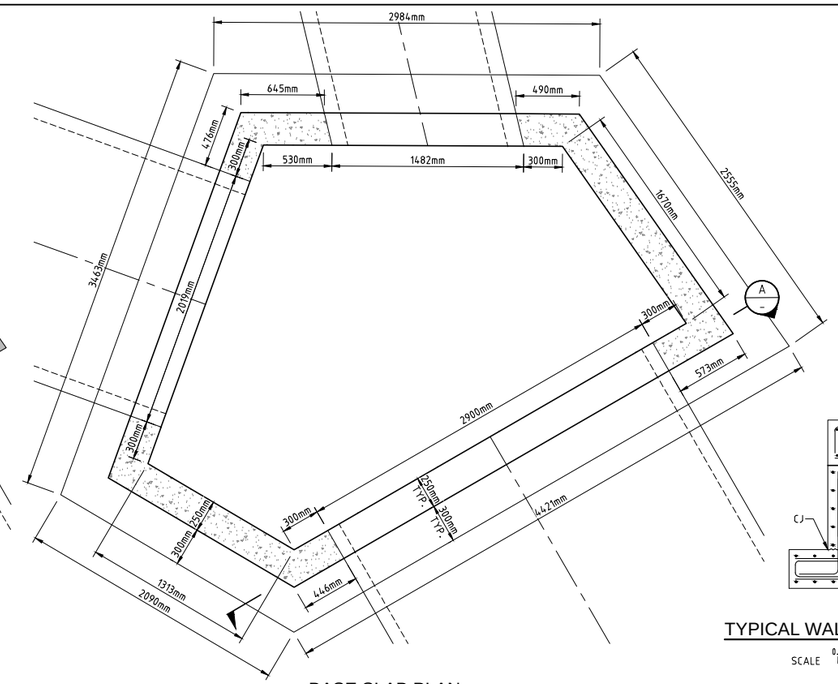
SCALE: AS NOTED | DATUM: AHD | FULL SIZE: A1
PROJECT No.: BE170269-02 | DRAWING No.: C410 | VERSION: F



3/1 - 2.4m GULLY PIT OVER ACCESS CHAMBER

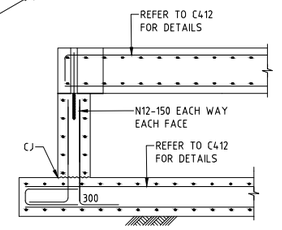
GENERAL ARRANGEMENT PLAN

SCALE 0.2 0 0.2 0.4 0.6 0.8 1.0 (metres)
1 : 20 (FULL SIZE)



BASE SLAB PLAN

SCALE 0.2 0 0.2 0.4 0.6 0.8 1.0 (metres)
1 : 20 (FULL SIZE)



TYPICAL WALL REINFORCEMENT DETAILS

SCALE 0.2 0 0.2 0.4 0.6 0.8 1.0 (metres)
1 : 20 (FULL SIZE)

GENERAL NOTES:

1. DIMENSIONS ARE NOT TO BE SCALED. SET OUT DIMENSIONS ARE TO BE VERIFIED WITH THE ENGINEER.
2. CONTRACTOR TO CHECK WORK IN DETAIL PRIOR TO CALLING FOR INSPECTION BY THE ENGINEER.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL FOOTINGS ARE INSPECTED BY A REPRESENTATIVE FROM THE GEOTECHNICAL CONSULTANT. IF IT IS DEEMED NECESSARY TO MODIFY THE FOOTING DESIGN TO SUIT THE CONDITIONS FOUNDED ONSITE THE ENGINEER SHALL BE INFORMED IMMEDIATELY.
4. THE DESIGN HAS CONSIDERED AN ALLOWANCE BEARING CAPACITY OF 100 kPa. A HOLD POINT SHALL BE IMPLEMENTED TO ALLOW A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM THIS DESIGN PARAMETER PRIOR TO UNDERTAKING THE WORKS.
5. ALL EARTHWORKS SHOULD BE SUPERVISED BY A SUITABLE QUALIFIED PERSON.
6. SITE PREPARATION WORKS AND EARTHWORKS SHOULD BE CARRIED OUT IN ACCORDANCE WITH AS3798 'GUIDELINES ON EARTHWORKS FOR RESIDENTIAL AND COMMERCIAL DEVELOPMENTS' AS A MIN.
7. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT STANDARDS AUSTRALIA CODES AS3600, AS1379 AND THE PROJECT SPECIFICATION.
8. DESIGN AND CONSTRUCT FORMWORK INCLUDING ERECTION, STRIPPING, BRACING AND BACK PROPPING SHALL BE IN ACCORDANCE WITH AS3610.
9. NO PENETRATIONS, RECESSES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT APPROVAL OF THE ENGINEER.
10. NO PENETRATIONS OF THE SLABS IS TO OCCUR WITHOUT THE APPROVAL OF THE ENGINEER.
11. CONCRETE SIZES SHOWN ARE MINIMUM AND NO REDUCTIONS BY DUCTS, PIPES, ETC. SHALL BE MADE WITHOUT THE APPROVAL OF THE ENGINEER. SIZES DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
12. THE CONCRETE SHALL BE COMPACTED USING HIGH FREQUENCY VIBRATORS.
13. CHARACTERISTIC CONCRETE STRENGTH (F'C) AND COVERS SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

ELEMENT	F'C AT 28 DAYS	MIN COVER (mm)	SLUMP (mm)	EXPOSURE CLASS TO AS5100
SLAB ON GROUND	40	60	100	B2
WALLS	40	60	80	B2
ALL OTHER CONCRETE ELEMENTS	40	60	80	B2

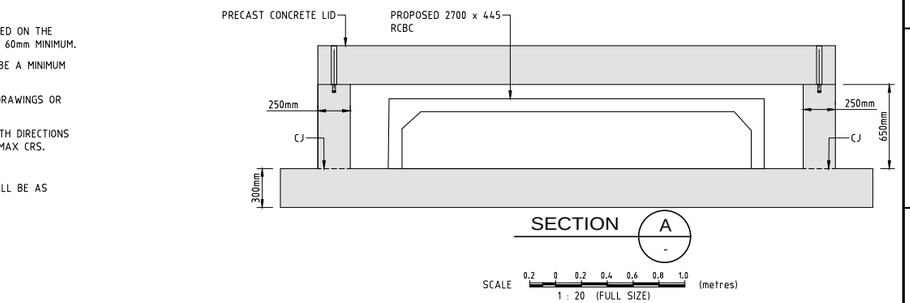
14. CLEAR COVER TO REINFORCEMENT INCLUDING FITMENTS SHALL BE AS NOTED ON THE DRAWINGS. WHERE NOT SPECIFICALLY DESIGNATED, THE COVER SHALL BE 60mm MINIMUM.
15. DISTRIBUTION REINFORCEMENT TO MAIN REINFORCEMENT IN SLABS SHALL BE A MINIMUM OF N12-300.
16. WELDING OF REINFORCEMENT IS NOT PERMITTED UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER.
17. TOP AND BOTTOM REINFORCEMENT IN SLABS SHALL BE SUPPORTED IN BOTH DIRECTIONS AT 1000mm MAXIMUM CENTRES. SLAB FABRIC TO BE SUPPORTED AT 800 MAX CRS.
18. HOOKS, LAPS AND BENDS TO BE IN ACCORDANCE WITH AS3600.
19. UNLESS SHOWN OTHERWISE IN THE DRAWINGS MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS:

REINFORCEMENT LAP SCHEDULE			
BAR DIAMETER	FOOTING LAP	SLAB LAP	WALL LAP
N12	500	450	500
N16	650	600	650
N20	800	700	800
N24	1000	1000	1000
N28	1350	1350	1150
N32	1750	1750	1300
N36	-	-	1450

WHERE TWO BARS OF DIFFERENT DIAMETERS LAP, THE MINIMUM LAP FOR THE SMALLER BAR DIAMETER SHALL BE USED.

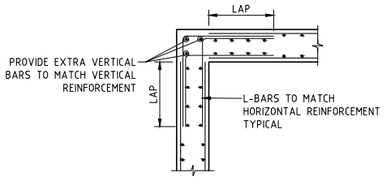
NOTES:

REFER TO NORTHERN RIVERS LOCAL GOVERNMENT STANDARD DRAWINGS FOR DETAILS OF STORMWATER STRUCTURES.



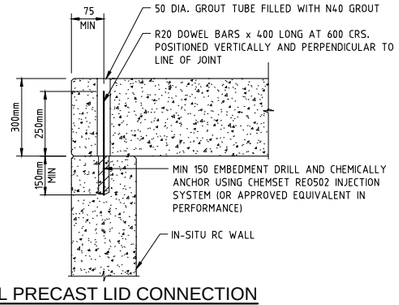
SECTION A -

SCALE 0.2 0 0.2 0.4 0.6 0.8 1.0 (metres)
1 : 20 (FULL SIZE)



TYPICAL JUNCTION DETAILS

SCALE 0.2 0 0.2 0.4 0.6 0.8 1.0 (metres)
1 : 20 (FULL SIZE)



TYPICAL PRECAST LID CONNECTION

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

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
A	REISSUED FOR CONSTRUCTION	28-11-23

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

STORMWATER DRAINAGE STRUCTURAL DETAILS - SHEET 1 OF 2

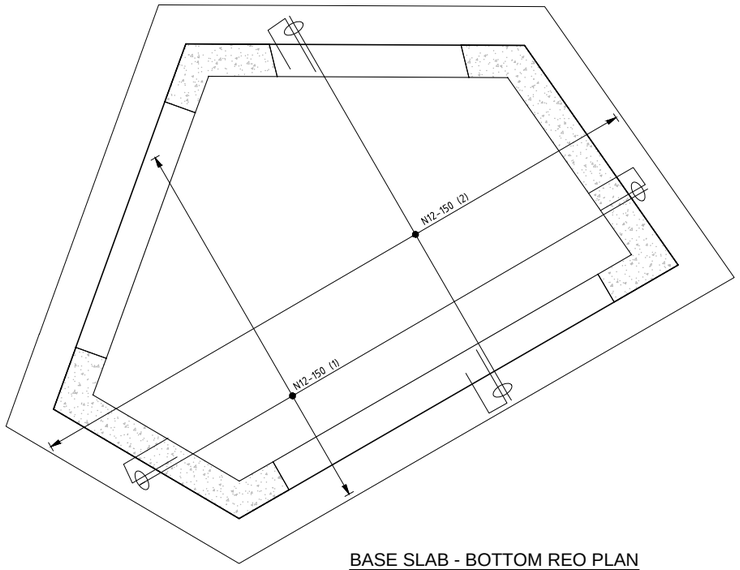
TINSW REG. No. :	DS2023/000976	DATE :	28-11-23
PROJECT LEADER :	DEREK WALTON		
DESIGNER :	VAN LE		
DRAFTSPERSON :	VAN LE		
CHECKED :	DEREK WALTON		

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

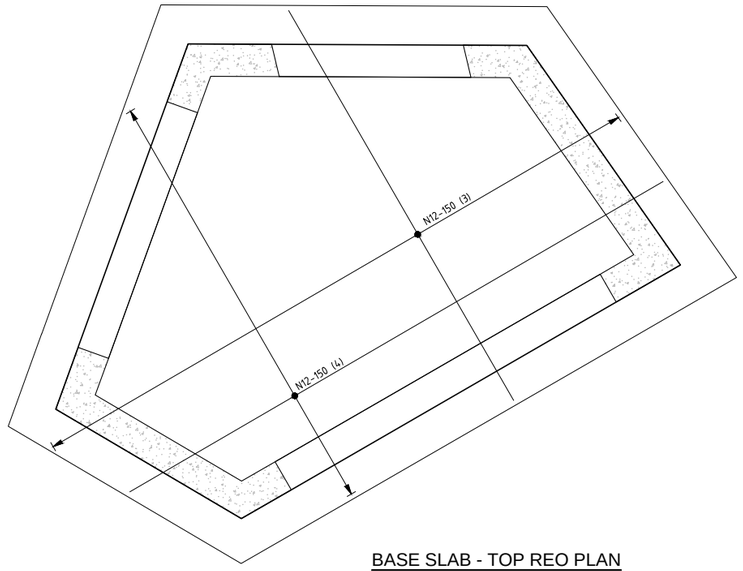
PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C411	A

FILENAME C:\JOBS\Work\Burchills\SYNERGY\BE170269_Rifle Range Road Int. Bangalow_v3\Civil\Xrefs\BE170269-42-C411-A.dwg
PLOTTED 29.11.2023 at 09:45



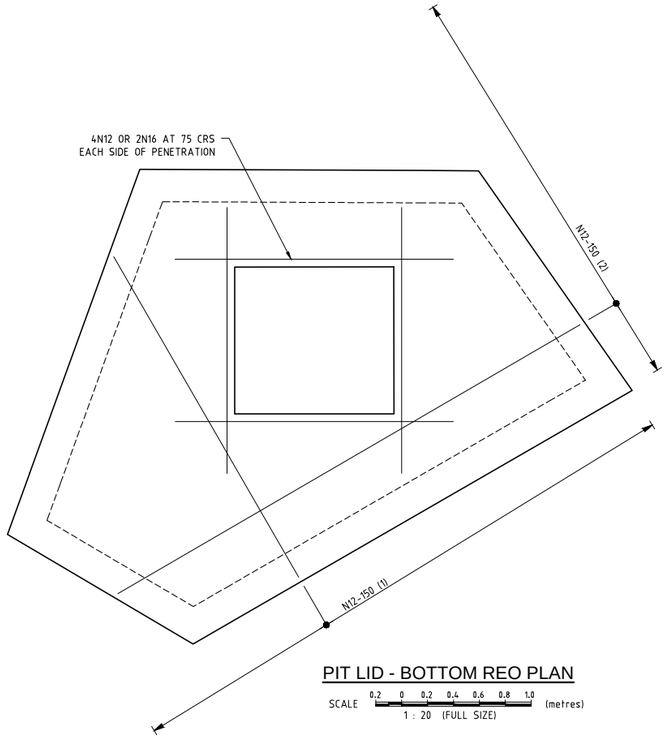
BASE SLAB - BOTTOM REO PLAN

SCALE 0.2 0 0.2 0.4 0.6 0.8 1.0 (metres)
1 : 20 (FULL SIZE)



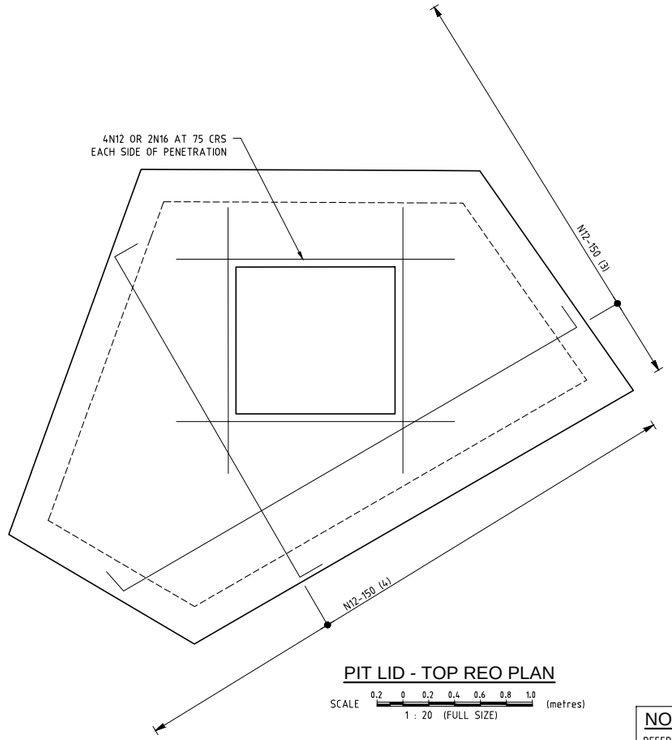
BASE SLAB - TOP REO PLAN

SCALE 0.2 0 0.2 0.4 0.6 0.8 1.0 (metres)
1 : 20 (FULL SIZE)



PIT LID - BOTTOM REO PLAN

SCALE 0.2 0 0.2 0.4 0.6 0.8 1.0 (metres)
1 : 20 (FULL SIZE)



PIT LID - TOP REO PLAN

SCALE 0.2 0 0.2 0.4 0.6 0.8 1.0 (metres)
1 : 20 (FULL SIZE)

NOTES:

REFER TO NORTHERN RIVERS LOCAL GOVERNMENT STANDARD DRAWINGS FOR DETAILS OF STORMWATER STRUCTURES.

PLOTTED: 29.11.2023 at 09:39
FILENAME: C:\USERS\dale\Burchills\TINSW\BE170269_Rifle Range Road Int. Bungalow_v3\Civil\Acad\A1\3. 239111 detail design\BE170269-02-C411-A.dwg

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
A	REISSUED FOR CONSTRUCTION	28-11-23

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

STORMWATER DRAINAGE STRUCTURAL DETAILS - SHEET 2 OF 2

TINSW REG. No. :	DS2023/000976	DATE : 28-11-23
PROJECT LEADER :	**DEREK WALTON**	
DESIGNER :	**VAN LE**	
DRAFTSPERSON :	**VAN LE**	
CHECKED :	**DEREK WALTON**	

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1

PROJECT No.:	DRAWING No. :	VERSION:
BE170269-02	C412	A

STORMWATER DRAINAGE CALCULATIONS TABLE

LOCATION / TIME / SUB-CATCHMENT RUNOFF / INLET DESIGN

DESIGN ARI (yrs)	STRUCTURE No.	DRAIN SECTION	SUB-CATCHMENTS CONTRIBUTING	LAND USE	SLOPE OF CATCHMENT (%)	tc SUB-CATCHMENT TIME OF CONC. (min)	I RAINFALL INTENSITY (mm/h)	C10 10yr RUNOFF CO-EFFICIENT	C CO-EFFICIENT OF RUNOFF	A SUB-CATCHMENT AREA (ha)	C×A EQUIVALENT AREA (ha)	+CA SUM OF (C × A) (ha)	Q SUB-CATCHMENT DISCHARGE (l/s)	FLOW IN K&C (INC. BYPASS) (l/s)	ROAD GRADE AT INLET (%)	MINOR FLOW ROAD CAPACITY (l/s)	INLET TYPE	Qg FLOW INTO INLET (l/s)	Qb BYPASS FLOW (l/s)	BYPASS STRUCTURE No.
10 100	EX/1	EX/1 to 1/1	EX/1			5.00 5.00	190 286		0.85 1.00	4.503 4.503	3.828 4.503	3.828 4.503	2020 3577	2020	0.00	382		382	1638	1/1
10 100	1/1	1/1 to 2/1	EX/1;1/1			5.00 5.00	190 286		0.85 1.00	0.268 0.268	0.228 0.268	0.228 0.268	120 213	1758	2.50		B24G	550	1208	2/1
10 100	EX/3	EX/3 to 2/1															M			
10 100	2/1	2/1 to 3/1	EX/1;1/1;2/1			5.00 5.00	190 286		0.85 1.00	0.268 0.268	0.228 0.268	0.228 0.268	120 213	1328	2.50		B24G	443	885	3/1
10 100	1/2	1/2 to 3/1	1/2			5.00 5.00	190 286		0.85 1.00	0.986 0.986	0.838 0.986	0.838 0.986	442 783	442	0.00	500	100	442	0	
10 100	3/1	3/1 to OUT/1	EX/1;1/1;2/1; 1/2;3/1			5.00 5.00	190 286		0.85 1.00	0.827 0.827	0.703 0.827	0.703 0.827	371 657 FLOW WIDTH/DEPTH 2.635Dpm	1256	0.00	285	B24S.144	285	971	

DRAIN DESIGN

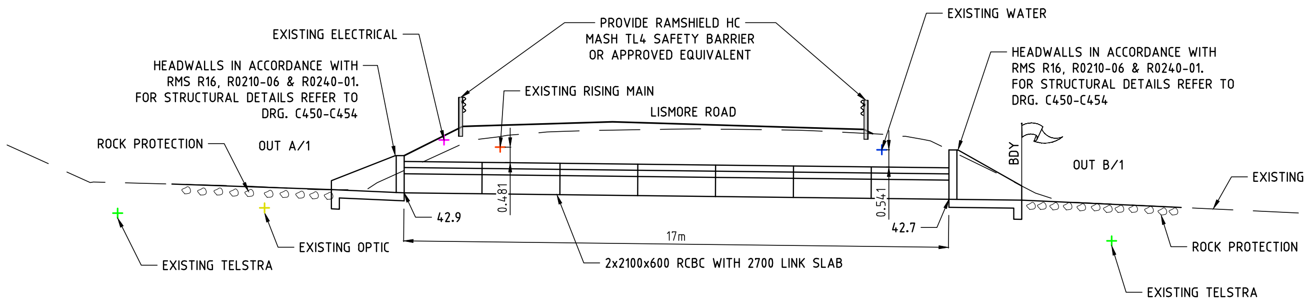
STRUCTURE No.	tc CRITICAL TIME OF CONC. (min)	I RAINFALL INTENSITY (mm/h)	+CA TOTAL (C × A) (ha)	Qt MAJOR TOTAL FLOW (l/s)	Qm MAJOR SURFACE FLOW CAPACITY (l/s)	Qs MAJOR SURFACE FLOW (l/s)	Qp PIPE FLOW (l/s)	L REACH LENGTH (m)	S PIPE GRADE (%)	PIPE / BOX DIMENSIONS (CLASS) (mm)	V FLOW VELOCITY FULL (PIPE GRADE VELOCITY) (m/s)	T TIME OF FLOW IN REACH (min)
EX/1	5.00 5.00	190 286	3.828 4.503	3577		(Pipe flow= Grate flow)	382	43.117	4.75	375(2)	3.46 (3.46)	0.21
1/1	5.21 5.21	189 282	4.056 4.771	3737		(Pipe flow= Sum upstr atten flows)	927	35.627	1.13	675(2)	2.52 (2.52)	0.24
EX/3	0.00 0.00	190 286	0.000 0.000	0		(Pipe flow= Grate flow)	0	12.669	1.50	375(2)	0.00 (1.94)	0.21
2/1	5.45 5.45	187 277	4.284 5.039	3877		(Pipe flow= Sum upstr atten flows)	1353	19.115	0.82	1800 x 375 (RCBC)	2.01 (2.01)	0.16
1/2	5.00 5.00	190 286	0.838 0.986	783		(Pipe flow= Grate flow)	442	13.947	1.00	1200 x 300 (RCBC)	1.23 (1.87)	0.22
3/1	5.61 5.61	186 275	5.825 6.852	5234		(Pipe flow= Sum upstr atten flows)	2058	7.042	0.25	2700 x 445 (RCBC)	1.70 (1.28)	0.04

HEADLOSSES / PART FULL

STRUCTURE No.	STRUCTURE CHART No.	STRUCTURE RATIOS FOR 'K' VALUE CALCULATIONS	V2/2g VELOCITY HEAD (m)	Ku U/S HEADLOSS COEFFICIENT	hu U/S PIPE STRUCT. HEADLOSS (m)	Kl LAT. HEADLOSS CO-EFFICIENT	hl LAT. PIPE STRUCT. HEADLOSS (m)	Kw W.S.E CO-EFFICIENT	hw CHANGE IN W.S.E (m)	Sf PIPE FRICTION SLOPE (%)	hf PIPE FRICTION HEADLOSS (L × Sf) (m)	DEPTH (m)	Vp VELOCITY (m/s)
EX/1		Qg 0.382 Qo 0.382 Do 375 CHRT 32: Vo2/2gDo 1.63 H/Do Kg side flow 2.10 end flow 1.99	0.610	2.10	1.281			2.10	1.281	4.75	2.050		
1/1		Qg 0.547 Qo 0.927 Do 675 Flow EX/1 made eqv grate flow CHRT 32: Vo2/2gDo 0.47 H/Do Kg side flow 3.55 end flow 3.17 K vals above for stepped pipes as grate flow grate flow decreased by 0.380 from EX/1	0.324	1.27	0.411	CHART 33 Angle 1 S/Do 2.5 Du/Do 0.56 Qg/Qo 0.59 K 1.04 S/Do 2.03 cor 0.23 Ku 1.27 Kw 1.27 K vals step pipes as pipe flow Ku 1.27 Kw 1.27		1.27	0.411	1.13	0.401		
EX/3			0.000	0.20	0.000			0.20	0.000	0.00	0.000		
2/1		Qg 0.436 Qo 1.353 Do 620 Flow EX/3 made eqv grate flow Angle 29 Chart 36 S/Do 2.5 chart Du/Do 1.09 K0 1.57 K0.5 1.89 Qu/Qo 0.68 Cg 0.72 K 1.80 S/Do 3.0 K0 1.36 K0.5 1.59 K 1.53 S/Do 2.5 K0 1.57 K0.5 1.89 K 1.80	0.206	1.32	0.272	Interp val for S/Do 2.84 Kw 1.62 CHART 35 S/Do 3.0 K0 1.04 K0.5 1.37 K 1.28 S/Do 2.5 K0 1.34 K0.5 1.41 K 1.39 Interp val for S/Do 2.84 Ku 1.32 K vals above for stepped pipes as grate flow		1.62	0.334	0.82	0.156		
1/2		Qg 0.442 Qo 0.442 Do 480 CHRT 32: Vo2/2gDo 0.26 H/Do Kg side flow 3.62 end flow 3.15	0.077	3.62	0.280			3.62	0.280	0.43	0.069		
3/1		Qg 0.279 Qo 2.058 Do 770 Routine 2.1 CHART 48 Du/Do 0.62 Qu/Qo 0.21 K 1.89 d/Do 2.0 chrt Qg/Qo 0.14 Kg 0.08 d/Do 1.5 chrt Qg/Qo 0.14 Kg 0.09 d/Do 1.02 Interp value Kg 0.10 Ku=Kw= 1.99 Combined pipes in line case Join Pipes:	0.147	2.00	0.295	1/2 and 2/1 Vel1 2.387 Vel2 4.453 Eq Dia 757 Angle 111 Flow 1.779 CHART 33 Angle 0 S/Do 2.5 Du/Do 0.98 Qg/Qo 0.14 K 0.61 S/Do 1.28 cor 0.19 Ku 0.80 Kw 0.80 Interpolated Ku= 2.00 Kw= 2.00		2.00	0.295	0.44	0.016		

DESIGN LEVELS

STRUCTURE No.	OBVERT LEVELS (m)	DRAIN SECTION H.G.L (m)	UPSTREAM H.G.L (m)	LAT. H.G.L (m)	W.S.E. (m)	SURFACE OR K&C INVERT LEVEL (m)	STRUCTURE No.
EX/1	46.787 44.740	47.171 45.121	48.452		48.452	47.639	EX/1
1/1	44.413 44.011	44.710 44.309	45.121		45.121	45.526	1/1
EX/3	43.932 43.742	44.309 44.309	44.309		44.309	44.898	EX/3
2/1	43.681 43.525	44.037 43.881	44.309		44.371	44.529	2/1
1/2	43.612 43.451	43.950 43.881	44.230		44.230	43.850	1/2
3/1	43.579 43.562	43.586 43.562	43.881		43.881	44.242	3/1



PROPOSED CULVERT SECTION

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

NOTES:
REFER TO RMS SPECIFICATIONS AND STANDARD DRAWINGS FOR DETAILS OF STORMWATER CULVERT AND HEADWALLS.

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
G	REISSUED FOR CONSTRUCTION	28-11-23
F	REISSUED FOR CONSTRUCTION	15-09-23
E	REISSUED FOR CONSTRUCTION	17-07-23
D	ISSUE FOR CONSTRUCTION	07-06-23
C	PLAN AMENDED	18-03-22
B	PLAN AMENDED	23-02-22
A	ORIGINAL ISSUE	28-01-22

BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT: RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE: STORMWATER DRAINAGE CALCULATIONS TABLE

TfNSW REG. No.: DS2023/000976 DATE: 28-11-23
PROJECT LEADER: DEREK WALTON
DESIGNER: VAN LE
DRAFTSPERSON: VAN LE
CHECKED: DEREK WALTON
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1
PROJECT No.: BE170269-02 DRAWING No.: C420 VERSION: G

GENERAL NOTES:

1. THE STRUCTURAL DRAWINGS MUST BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY MUST BE REFERRED TO THE SUPERINTENDENT FOR RESOLUTION PRIOR TO COMMENCEMENT OF THE WORK. DETAIL NOTES ON THESE DRAWINGS AND THE SPECIFICATION CLAUSES TAKE PRECEDENCE OVER THE GENERAL NOTES.
2. ALL MATERIALS AND WORKMANSHIP MUST BE IN ACCORDANCE WITH THE RELEVANT CURRENT STANDARDS AUSTRALIA CODES, THE BUILDING CODE OF AUSTRALIA AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES, EXCEPT WHEN VARIED BY THE CONTRACT DOCUMENTS.
3. ALL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS MUST BE VERIFIED BY THE CONTRACTOR ON SITE, PRIOR TO COMMENCEMENT OF ANY FABRICATION OR CONSTRUCTION WORKS. THE STRUCTURAL DRAWINGS MUST NOT BE SCALED FOR DIMENSIONS.
4. ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES, U.N.O.
5. THE METHOD OF CONSTRUCTION AND THE MAINTENANCE OF SAFETY DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR. IF ANY STRUCTURAL ELEMENT PRESENTS DIFFICULTY IN RESPECT OF CONSTRUCTABILITY OR SAFETY, THE MATTER MUST BE REFERRED TO THE SUPERINTENDENT FOR RESOLUTION PRIOR TO COMMENCEMENT OF THE WORK.
6. NO HOLES OR CHASES OTHER THAN THOSE ON THE STRUCTURAL DRAWINGS MUST BE MADE IN ANY STRUCTURAL MEMBER, WITHOUT PRIOR WRITTEN APPROVAL OF THE SUPERINTENDENT.
7. THESE NOTES MUST ALSO APPLY TO ALL MATERIALS AND PROPRIETARY PRODUCTS USED IN CONSTRUCTION OF THE WORK.
8. THE CONTRACTOR MUST BE RESPONSIBLE TO ENSURE ALL MATERIALS AND PROPRIETARY PRODUCTS SOURCED COMPLY WITH THE APPROPRIATE QUALITY AND RELEVANT STANDARDS NOTED WITHIN THESE GENERAL NOTES.

FORMWORK:

1. THE DESIGN, CERTIFICATION, CONSTRUCTION, INSPECTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK MUST BE THE RESPONSIBILITY OF THE CONTRACTOR, EXCEPT TO THE EXTENT THAT FORMWORK DESIGN IS SHOWN ON THE STRUCTURAL DRAWINGS.
2. FORMWORK MUST BE DESIGNED TO ACCOMMODATE MOVEMENTS AND/OR LOAD RE-DISTRIBUTION DUE TO ANY POST TENSIONING.
3. THE FORMWORK MUST NOT BE DESIGNED TO RELY ON RESTRAINT OR SUPPORT FROM THE PERMANENT STRUCTURE.
4. DURING CONSTRUCTION, SUPPORT PROPPING WILL BE REQUIRED WHERE LOADS FROM STACKED MATERIALS, FORMWORK AND OTHER SUPPORTED SLABS INDUCE LOADS IN A SLAB OR BEAM WHICH EXCEED THE DESIGN CAPACITY FOR STRENGTH OR SERVICEABILITY LIMIT STATES AT THAT AGE. ONCE THE NOMINATED 28 DAY STRENGTH HAS BEEN ATTAINED, THESE LOADS MUST NOT EXCEED THE DESIGN SUPERIMPOSED LOADS SET OUT IN THESE GENERAL NOTES.
5. DO NOT PLACE PERMANENT LOADS ON THE CONCRETE STRUCTURE UNTIL AFTER FORMWORK AND PROPPING IS REMOVED.
6. REFER TO THE SPECIFICATION FOR TEST PANEL REQUIREMENTS. REINFORCEMENT FOR TEST PANELS MUST BE SIMILAR TO THAT IN THE PERMANENT STRUCTURE BEING REPRESENTED BY THE TEST PANEL.
7. BEFORE PLACING REINFORCEMENT IN THE FORMWORK, APPLY A RELEASE AGENT TO THE FACE OF THE FORMWORK COMPATIBLE WITH THE REQUIRED SURFACE FINISH.
8. DIMENSIONAL TOLERANCES MUST COMPLY WITH AS3610 FOR THE APPROPRIATE FINISH CLASS.
9. CHAMFER RE-ENTRANT ANGLES AND FILLET AT CORNERS BY 25MM U.N.O.
10. BEFORE PLACING CONCRETE, REMOVE ALL WATER, DUST, AND DEBRIS FROM THE FORMWORK.
11. FILL ALL HOLES LEFT BY FORM TIE BOLTS WITH MORTAR MATCHING THE SURFACE COLOUR OF THE FINISHED SURFACE. CAMBER - REFER NOTE C9

CONCRETE:

1. ALL WORKMANSHIP AND MATERIALS MUST BE IN ACCORDANCE WITH THE CURRENT EDITION OF AS3600 INCLUDING AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. READYMIX CONCRETE SUPPLY MUST COMPLY WITH AS1379.
3. CONCRETE QUALITY:
GENERAL REQUIREMENTS ARE GIVEN IN THE FOLLOWING TABLE. REFER TO THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS FOR SPECIAL CLASS CONCRETE.

ELEMENT	CONC. CLASS	STRENGTH GRADE (MPa)	CEMENT TYPE	MAX. AGG SIZE (mm)	SLUMP (mm)	MAX. SHRINKAGE STRAIN @ 56 DAYS (u - 10 - 6)
WALL	SPECIAL	40	SL	20	80	500-600 MAX.

SL – SHRINKAGE LIMITED

4. PROJECT CONTROL TESTING MUST BE CARRIED OUT ON ALL SPECIAL CLASS CONCRETE IN ACCORDANCE WITH AS1379, CLAUSE 6.5.
5. ADMIXTURES CONTAINING CHLORIDES MUST NOT BE USED.
6. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY AND FIRE RESISTANCE MUST BE AS FOLLOWS U.N.O.

ELEMENT, INT OR EXT SURFACE	EXPOSURE CLASS TO AS3600	CONCRETE GRADE	MIN. COVER (mm)	ADJUST COVER FOR FIRE RATING (mm)
WALLS	A1	32	50	-

AT EXTERNALLY EXPOSED SURFACES METALLIC ITEMS INCLUDING FORM BOLTS, FORM SPACERS, METALLIC BAR CHAIRS AND TIEWIRE MUST NOT BE PLACED IN THE COVER ZONE.

7. CONCRETE SIZES SHOWN DO NOT INCLUDE THICKNESSES OF APPLIED FINISHES.
8. REINFORCEMENT MUST BE SUPPORTED ON PURPOSE MADE CONCRETE, STEEL OR PLASTIC SUPPORTS DEPENDING ON THE EXPOSURE CONDITION TO PROVIDE THE SPECIFIED CLEAR AT EXTERNAL SURFACES EITHER ALL PLASTIC OR CONCRETE SUPPORTS MUST BE USED.
9. SUPPORTS MUST BE LOCATED AT NOT MORE THAN 60 BAR DIAMETERS EACH WAY FOR BARS AND NOT MORE THAN 750mm EACH WAY FOR MESH.
10. BARS DENOTED N MUST BE TYPE D500N.
11. REINFORCEMENT NOTATION

N12 – 300	3/N 28
SPACING (mm)	BAR DIAMETER (mm)
BAR DIAMETER (mm)	TYPE OF BAR
TYPE OF BAR	NUMBER OF BARS

12. SITE BENDING OF REINFORCEMENT BARS MUST BE DONE USING A RE-BENDING TOOL WITHOUT HEATING. THE BARS MUST BE RE-BENT AGAINST A FLAT SURFACE OR A PIN WITH A DIAMETER NOT LESS THAN THE MINIMUM PIN SIZE PRESCRIBED IN AS3600.
13. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
14. WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-400 SPLICED WHERE NECESSARY AND LAP 400mm WITH MAIN BARS U.N.O.
15. ALL DOWELS PLACED IN DOWEL JOINTS AND IN EXPANSION JOINTS IN CONCRETE SLABS MUST BE PLACED WITHIN THE FOLLOWING TOLERANCES.
VERTICAL ALIGNMENT +/-2 DEGREES FROM LEVEL.
HORIZONTAL ALIGNMENT +/-2 DEGREES FROM LINE PERPENDICULAR TO FACE OF THE JOINT.
POSITION +/- 5 mm.
16. GIVE A MINIMUM OF 24 HOURS NOTICE FOR INSPECTION OF REINFORCEMENT BY THE SUPERINTENDENT OR AS REQUIRED BY THE SPECIFICATION.
17. THE FINISHED CONCRETE MUST BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE MUST BE COMPACTED WITH MECHANICAL VIBRATORS.
18. CURING OF ALL CONCRETE MUST BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF 7 DAYS, U.N.O. APPROVED SPRAY-ON CURING COMPOUNDS THAT COMPLY WITH AS3799 MAY BE USED WHERE FLOOR FINISHES WILL NOT BE AFFECTED. POLYTHENE SHEETING OR WET HESSIAN MAY BE USED TO RETAIN CONCRETE MOISTURE WHERE PROTECTED FROM WIND AND TRAFFIC. CURING MUST COMMENCE IMMEDIATELY AFTER CONCRETE PLACEMENT.

STRUCTURAL STEEL:

1. ALL WORKMANSHIP AND MATERIAL MUST BE IN ACCORDANCE WITH AS4100 AND AS1554 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. U.N.O., ALL STEEL MUST BE OF THE FOLLOWING GRADE IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARD.
3. WORKSHOP FABRICATION DRAWINGS MUST BE SUBMITTED TO THE SUPERINTENDENT IN ACCORDANCE WITH THE SPECIFICATION FOR REVIEW AT LEAST 7 DAYS PRIOR TO COMMENCEMENT OF FABRICATION. FABRICATION MUST NOT COMMENCE WITHOUT THE SUPERINTENDENT'S APPROVAL OF THE WORKSHOP DRAWINGS.
4. THE CONTRACTOR MUST ENSURE THAT FIXINGS BETWEEN STEELWORK AND OTHER BUILDING ELEMENTS ARE COORDINATED AND INSTALLED. WHERE POSSIBLE THE FIXINGS MUST BE SHOWN ON THE WORKSHOP FABRICATION DRAWINGS.
5. ALL MEMBERS MUST BE SUPPLIED IN SINGLE LENGTHS. SPLICES MUST ONLY BE PERMITTED IN LOCATIONS SHOWN ON THE STRUCTURAL DRAWINGS.
6. ALL STEELWORK MUST BE SECURELY TEMPORARILY BRACED BY THE CONTRACTOR AS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION. CONSULT STRUCTURAL ENGINEER FOR ADDITIONAL DESIGN OF TEMPORARY PROPPING OR BRACING IF REQUIRED.
7. PROTECTIVE COATING:
STRUCTURAL STEELWORK NOT ENCASED IN CONCRETE MUST HAVE THE FOLLOWING MINIMUM PROTECTIVE COATING U.N.O. IN THE SPECIFICATION.
ALL MEMBERS - ALL SURFACES

SURFACE PREPARATION : POWER TOOL CLEAN TO AS1627.2 OR ABRASIVE BLAST CLEAN TO AS1627.4 CLASS 2.5

PRIMER : HIGH BUILD INORGANIC ZINC PHOSPHATE
DRY FILM THICKNESS : MINIMUM 75 MICRONS – MAXIMUM 100 MICRONS
TOP COAT : TO OWNER'S SPECIFICATIONS
EXTERNAL MEMBERS : REFER TO SPECIFICATION
8. STEELWORK INTENDED TO BE CONCRETE ENCASED MUST BE UNPAINTED. ENCASING CONCRETE MUST BE GRADE N25 U.N.O. PROVIDING A COVER ADEQUATE TO SUIT FIRE RATING OR EXPOSURE CONDITIONS. CONCRETE ENCASEMENT MUST BE CENTRALLY REINFORCED WITH 5mm WIRE TO AS4617 OR 6mm STRUCTURAL GRADE BARS TO AS4617 AT 150mm PITCH.

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

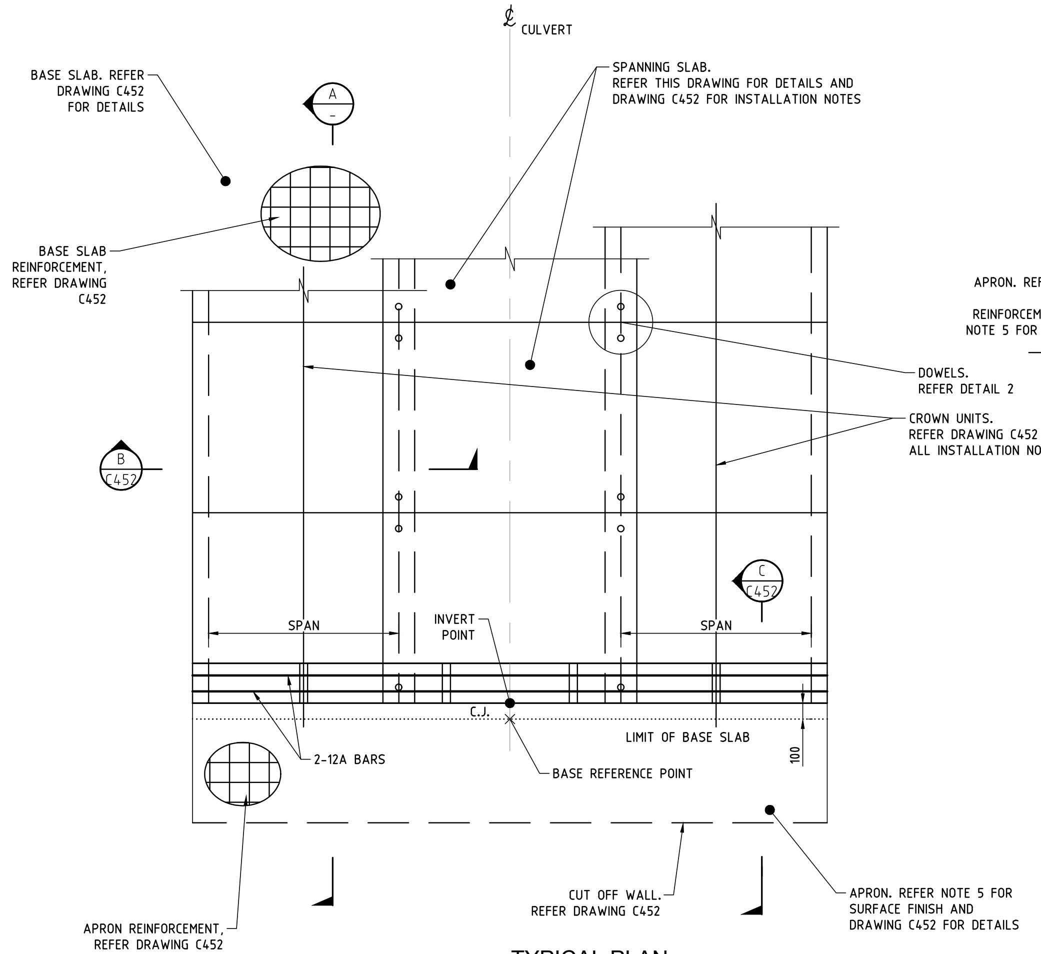
VER.	DESCRIPTION	DATE
E	REISSUED FOR CONSTRUCTION	28-11-23
D	REISSUED FOR CONSTRUCTION	15-09-23
C	REISSUED FOR CONSTRUCTION	17-07-23
B	ISSUE FOR CONSTRUCTION	07-06-23
A	ORIGINAL ISSUE	08-05-23

BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

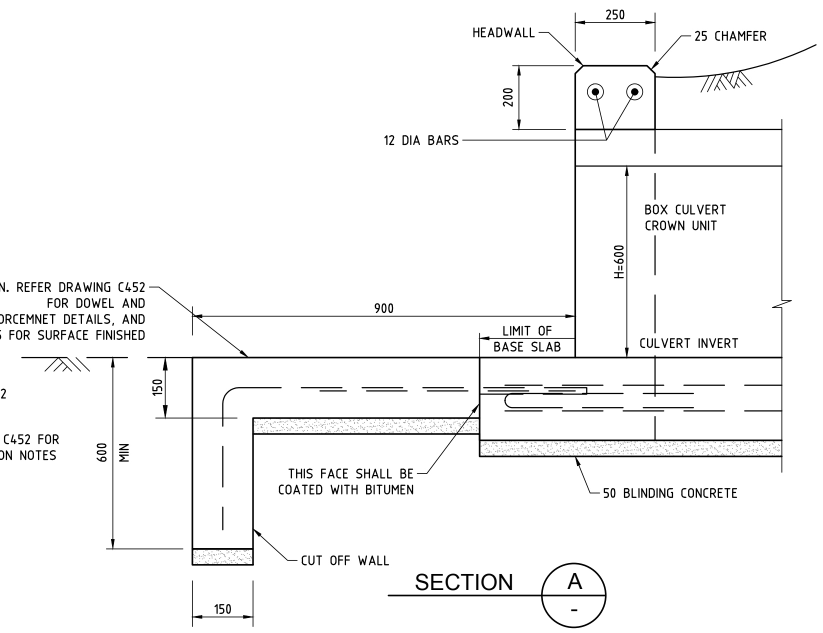
DRAWING TITLE :
CULVERT STRUCTURAL NOTES

TfNSW REG. No. :	DS2023/000976	DATE : 28-11-23	
PROJECT LEADER :	DEREK WALTON		
DESIGNER :	VAN LE		
DRAFTSPERSON :	VAN LE		
CHECKED :	DEREK WALTON		
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365			
SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1	
PROJECT No.: BE170269-02	DRAWING No. : C450	VERSION: E	



TYPICAL PLAN

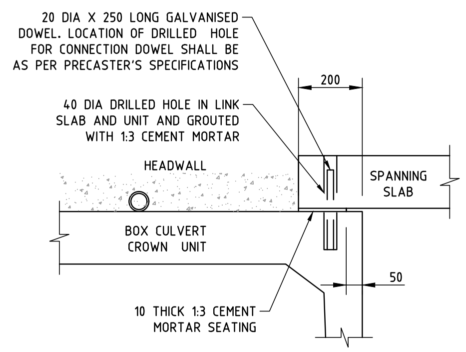
SCALE 1 : 20 (FULL SIZE) (metres)



SECTION A

TYPICAL DETAILS FOR APRON AND BASE SLAB

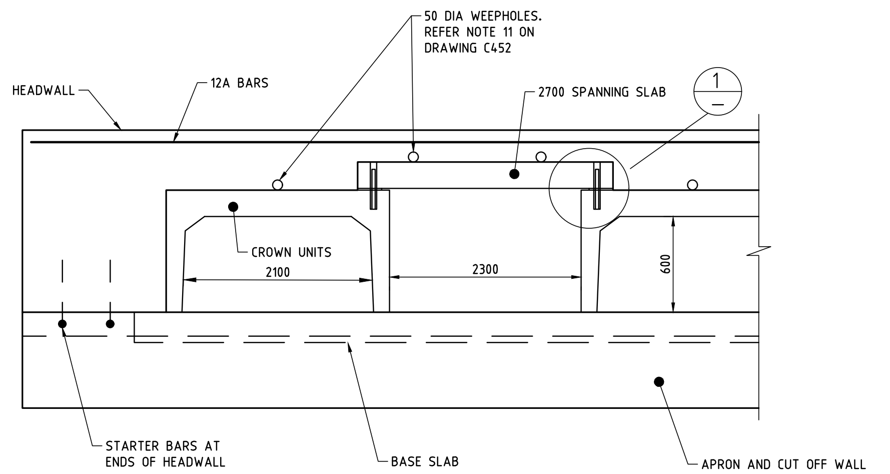
SCALE 1 : 10 (FULL SIZE) (metres)



DETAIL 1

SPANNING SLAB SUPPORT

SCALE 1 : 10 (FULL SIZE) (metres)



TYPICAL ELEVATION - SPANNING SLAB DETAILS
GENERAL ARRANGEMENT - SLAB LINK BOX CULVERT

SCALE 1 : 20 (FULL SIZE) (metres)

GENERAL NOTES:

1. SCOPE: THIS DRAWING IS TO DETAIL CAST INSITU BASE SLAB, APRONS AND HEADWALLS FOR PRECAST R C BOX CULVERTS AND SLAB LINK BOX CULVERTS WHERE H (HEIGHT OF OPENING) = 600.
2. DESIGN TRAFFIC LOADING: HLP400, M1600, A160 AND W80 ARE IN ACCORDANCE WITH AS5100.2.
   MAXIMUM HEIGHT OF FILL OVER THE CULVERT SHALL BE 2000.
   MAXIMUM DESIGN PRESSURE (Ed) UNDER THE CULVERT SLAB BASES ARE PROVIDED IN THE BASE SLAB DETAILS AND DIMENSIONS TABLE ON DRAWING C452.
   MAXIMUM DESIGN PRESSURE (Ed) UNDER THE CULVERT APRON IS 75 kPA.
3. DOWELLED CONTRACTION JOINTS SHALL BE PROVIDED WHERE (a) THE LENGTH AND/OR (b) THE WIDTH OF THE BASE SLAB EXCEED 20m. WHEN CONTRACTION JOINTS ARE REQUIRED ACROSS THE WIDTH, THEY SHALL BE LOCATED AT 1/4 SPAN POINTS OF CROWN UNITS AND ARE TO BE CONTINUED ACROSS THE APRON. 24 HOURS MINIMUM SHALL BE ALLOWED BETWEEN POURS.
4. APRON AND BASE SLAB MINIMUM REINFORCEMENT FOR SHRINKAGE AND TEMPERATURE EFFECTS ARE DESIGNED CONSIDERING THE FULL RESTRAINT CONDITION TO AS 5100. FOR THE SLAB ON GROUND CONDITION, ONLY THE TOP HALF OF THE SLAB THICKNESS IS CONSIDERED FOR CALCULATION OF THIS REINFORCEMENT.
5. CONCRETE DESIGN LIFE 100 YEARS.
   EXPOSURE CLASSIFICATION AND COVER TO REINFORCEMENT SHALL BE IN ACCORDANCE WITH AS 5100. MINIMUM CONCRETE STRENGTH AND COVER TO REINFORCEMENT SHALL BE AS SHOWN IN TABLE BELOW

EXPOSURE CLASSIFICATION	B2
MINIMUM CONCRETE STRENGTH	S40/20
MINIMUM COVER UNO'	60

   BLINDING CONCRETE N20/20.
   SURFACE ROUGHENING OF THE APRONS SHALL BE BROOM FINISH USING A BROOM NOT LESS THAN 400 WIDE TO ACHIEVE AN AVERAGE TEXTURE DEPTH OF 0.8. THE DIRECTION OF BRUSHING SHALL BE PERPENDICULAR TO THE DIRECTION OF FLOW.

6. ANGLE GRADE 300 TO AS/NZS 3679.1. BOLTS AND SCREWS CLASS 4.6 TO AS 1111.1.
   NUTS CLASS 5 TO AS 1112.1. WASHERS CLASS 5 TO AS 1237.1.
   AFTER FABRICATION ALL BOLTS AND NUTS SHALL BE HOT DIP GALVANISED TO AS 1214, AND ALL OTHER STEELWORK AS/NZS 4680.

7. INFILL BETWEEN LEGS OF MULTIPLE CELL CULVERTS SHALL BE ACHIEVED BY PLACING CONCRETE PLUGS OF 250 MINIMUM LENGTH AT BOTH ENDS OF THE CULVERT, USING SAME GRADE OF CONCRETE AS HEADWALL, AND INFILL THE REMAINING GAP WITH 1:10 LEAN MIX HAVING MAXIMUM AGGREGATE SIZE OF 10nm PACKED DRY.

8. REINFORCING STEEL, SHALL BE IN ACCORDANCE WITH AS/NZS 4671, AND ACRS CERTIFIED. DEFORMED BARS GRADE D500N. ROUND BARS GRADE R250N. MESH GRADE D500L. REINFORCEMENT SHALL BE HOT DIP GALVANIZED TO AS/NZS 4680 WHERE SHOWN.

9. WEEPHOLES SHALL BE PROVIDED IN THE HEADWALLS HORIZONTALLY AS FOLLOW: MINIMUM OF 1 WEEPHOLE FOR EACH CULVERT CROWN UNIT, PLACED CENTRALLY; LOCATION OF WEEPHOLES SHALL BE DETERMINED SUCH THAT REINFORCEMENT COVER REQUIREMENTS ARE MET; AND, APPROVED DRAINAGE FILTER SHALL BE PROVIDED AT EACH WEEPHOLE.

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
E	REISSUED FOR CONSTRUCTION	28-11-23
D	REISSUED FOR CONSTRUCTION	15-09-23
C	REISSUED FOR CONSTRUCTION	17-07-23
B	ISSUE FOR CONSTRUCTION	07-06-23
A	ORIGINAL ISSUE	08-05-23

BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I 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

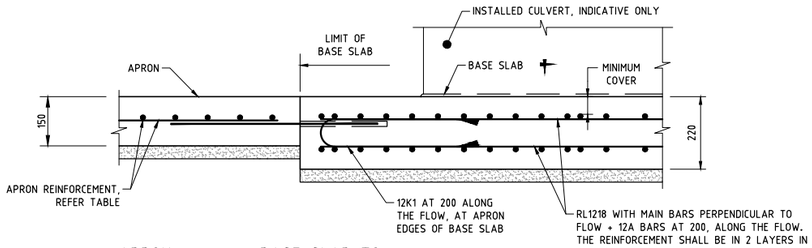
PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :
CULVERT STRUCTURAL DETAILS - SHEET 1 OF 4

TfNSW REG. No. : DS2023/000976	DATE : 28-11-23
PROJECT LEADER : DEREK WALTON	
DESIGNER : VAN LE	
DRAFTSPERSON : VAN LE	
CHECKED : DEREK WALTON	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
SCALE : AS NOTED	DATUM : AHD / FULL SIZE : A1
PROJECT No.: BE170269-02	DRAWING No. : C451 / VERSION: E

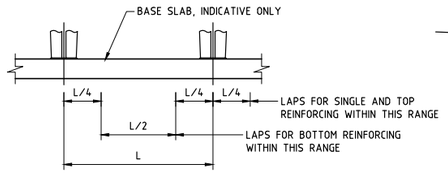
NOTES FOR INSTALLATION OF PRECAST UNITS:

1. DOWELED CONNECTIONS SHALL BE IN ACCORDANCE WITH THIS DRAWING.
2. DO NOT USE FLUID GROUT AS HYDROSTACTIC HEAD WILL DAMAGE CULVERT LEGS.
3. HOLDING DOWN ANCHORS SHALL BE INSTALLED WHERE THE LEG(S) OF THE CROWN UNIT EXTEND MORE THAN 300 BEYOND THE OUTSIDE FACE OF THE HEADWALL
   REFER DETAILS ON THIS DRAWING FOR HOLDING DOWN ANCHOR PLACEMENT AND INSTALLATION.
4. LEAN MIX CONCRETE SHALL BE PLACED BETWEEN SPANNING SLABS ON CROWN UNIT CELLS.
   LEAN MIX CONCRETE INFILL IS NOT REQUIRED ON THE OUTERMOST CROWN UNITS.

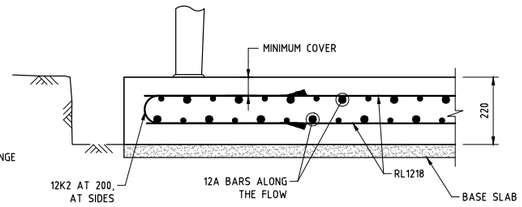


APRON | BASE SLAB TO APRON JOINT | BASE SLAB

SECTION C / C451

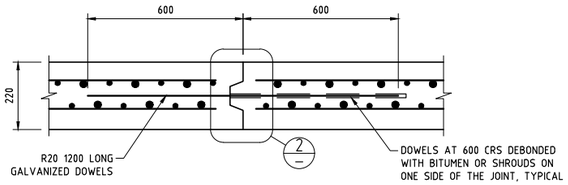


REINFORCING BAR LAP LOCATIONS - ALL BASE SLABS



SECTION B / C451

TYPICAL BASE SLAB AND APRONS FOR SMALL BOX CULVERTS



BASE SLAB DOWELLED CONTRACTION JOINTS

FOR USE TRAVERSELY AND/OR LONGITUDINALLY. REFER NOTE 3 ON DRAWING C451

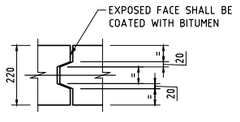
APRON AND CUT OFF WALL DIMENSIONS AND MINIMUM REINFORCEMENT REQUIREMENTS		
EXPOSURE CLASSIFICATION	APRON AND CUT OFF WALL #	
	THICKNESS Z ⊕	REINFORCEMENT
B2	150	N12 AT 150 BOTH WAYS

⊕ WHERE Z IS A CONSTANT THICKNESS FOR APRONS AND CUT OFF WALLS

REFER NOTE 4 OF DRAWING C451

BASE SLAB DETAILS		
UP TO SPAN	MAXIMUM DESIGN PRESSURE (Ed) kPA	BASE SLAB THICKNESS ← d FOR EXPOSURE CLASSIFICATION
		B2
600	190	180
750		
900		
1200		180
1500		190
1800		190
2100		220

← WHERE d IS A CONSTANT THICKNESS FOR BASE SLAB



DETAIL 2 / -

SCALE 0.1 0 0.1 0.2 0.3 0.4 0.5 (metres)

1 : 10 (FULL SIZE)

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
E	REISSUED FOR CONSTRUCTION	28-11-23
D	REISSUED FOR CONSTRUCTION	15-09-23
C	REISSUED FOR CONSTRUCTION	17-07-23
B	ISSUE FOR CONSTRUCTION	07-06-23
A	ORIGINAL ISSUE	08-05-23

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

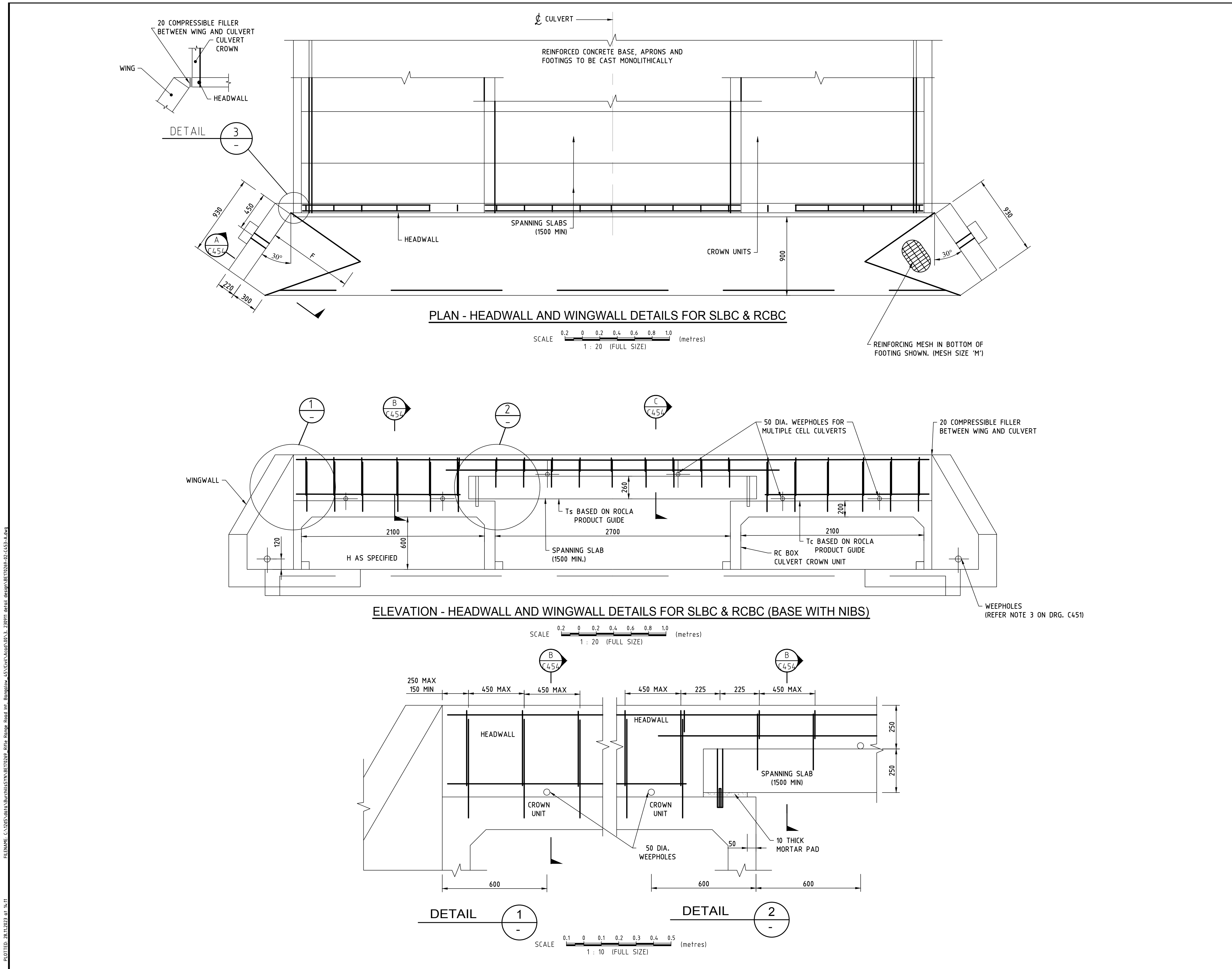
CULVERT STRUCTURAL DETAILS - SHEET 2 OF 4

TINSW REG. No. :	DS2023/000976	DATE :	28-11-23
PROJECT LEADER :	DEREK WALTON		
DESIGNER :	VAN LE		
DRAFTSPERSON :	VAN LE		
CHECKED :	DEREK WALTON		

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE170269-02	DRAWING No. : C452	VERSION: E

PLOTTED: 28.11.2023 at 14:18 FILENAME: C:\12Data\Data\Burchills\SYNX\BE170269_Rifle Range Road int. Bangalow-4.5\Civil\Acad\C451\3. 230911 detail design\BE170269-02-C452-4.dwg



RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
E	REISSUED FOR CONSTRUCTION	28-11-23
D	REISSUED FOR CONSTRUCTION	15-09-23
C	REISSUED FOR CONSTRUCTION	17-07-23
B	ISSUE FOR CONSTRUCTION	07-06-23
A	ORIGINAL ISSUE	08-05-23

BURCHILLS ENGINEERING SOLUTIONS
Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:
RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :
CULVERT STRUCTURAL DETAILS - SHEET 3 OF 4

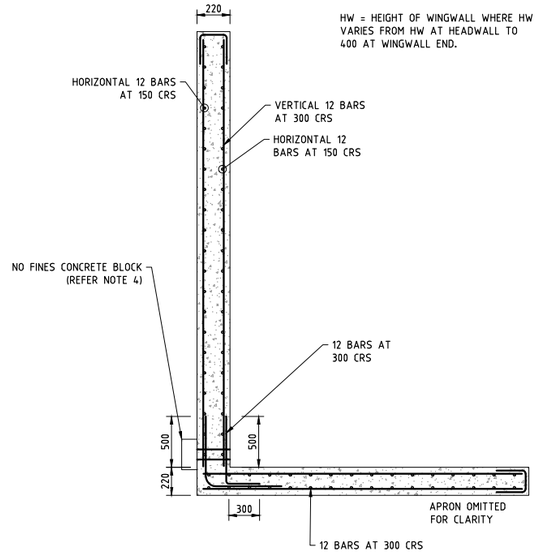
TfNSW REG. No. : DS2023/000976 DATE : 28-11-23
PROJECT LEADER : DEREK WALTON
DESIGNER : VAN LE
DRAFTSPERSON : VAN LE
CHECKED : DEREK WALTON
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1
PROJECT No.: BE170269-02 DRAWING No. : C453 VERSION: E

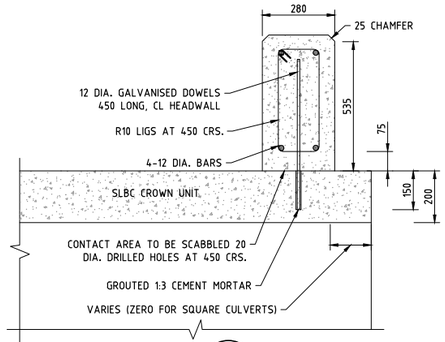
NOTES:

1. CONCRETE:
   REINFORCED CONCRETE CLASS S40/20 (S50/20).
   CONCRETE COVER TO BE 55 (75) UNLESS SHOWN OTHERWISE.
   EXPOSURE CLASSIFICATION B2.
2. STEEL:
   REINFORCING STEEL TO BE IN ACCORDANCE WITH AS/NZS 4671.
   DEFORMED BARS - GRADE D500N.
   ROUND BARS - GRADE R250N.
   DEFORMED WIRE - GRADE D500L.
3. WEEPHOLES OF 90 DIA. ARE TO BE PROVIDED AT MAXIMUM 1200 CRS. IN WINGWALLS. A 300 x 300 x 150 NO FINES CONCRETE BLOCK OR APPROVED EQUIVALENT IS TO BE PROVIDED AT EACH WEEPHOLE. LOCATION OF WEEPHOLES IS TO PROVIDE 55 (75) CLEAR COVER TO WINGWALL STEEL.
4. LAPS SHALL BE MADE SO THAT THE TWO OUTERMOST WIRES OF ONE FABRIC OVERLAP THE TWO OUTERMOST WIRES OF THE SHEET BEING LAPPED.
5. EXCESS BAR LENGTH - EXCESS BAR LENGTH PROTRUDING OUTSIDE THE DIMENSIONS OF THE WALL OR FOOTING SHALL BE CUT TO PROVIDE THE MINIMUM COVER.
6. DIMENSIONS ARE MILLIMETRES UNLESS SHOWN OTHERWISE.

AUSTRALIAN STANDARDS:
AS/NZS 4671 STEEL REINFORCING MATERIALS
AS/NZS 4680 HOT-DIP GALVANIZED (ZINC) COATINGS ON FABRICATED FERROUS ARTICLES

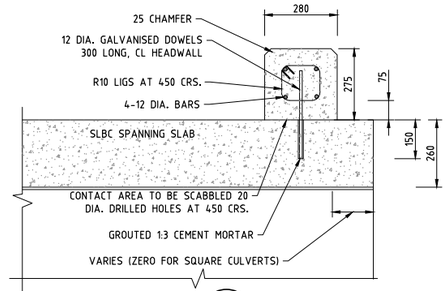


SECTION A C453 NTS



SECTION B C453 HEADWALL

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



SECTION C C453 HEADWALL

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

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

FOR

BYRON SHIRE COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
E	REISSUED FOR CONSTRUCTION	28-11-23
D	REISSUED FOR CONSTRUCTION	15-09-23
C	REISSUED FOR CONSTRUCTION	17-07-23
B	ISSUE FOR CONSTRUCTION	07-06-23
A	ORIGINAL ISSUE	08-05-23

BURCHILLS ENGINEERING SOLUTIONS

Gold Coast I Brisbane I Toowoomba
Ipswich I 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

PROJECT:

RIFLE RANGE ROAD AND BANGALOW ROAD INTERSECTION UPGRADE WORKS

DRAWING TITLE :

CULVERT STRUCTURAL DETAILS - SHEET 4 OF 4

TINSW REG. No. :	DS2023/000976	DATE :	28-11-23
PROJECT LEADER :	DEREK WALTON		
DESIGNER :	VAN LE		
DRAFTSPERSON :	VAN LE		
CHECKED :	DEREK WALTON		

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

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE170269-02	DRAWING No. : C454	VERSION: E

PLOTTED: 28.11.2023 at 14:11
FILENAME: C:\12Ds\Data\Burchills\SYN\BE170269_Rifle Range Road Int. Bangalow - 45%\Civil\ACad\C453.3, 230911 detail design\BE170269-02-C454-A.dwg

MATTERS FOR TRAFFIC ENGINEERING ADVICE

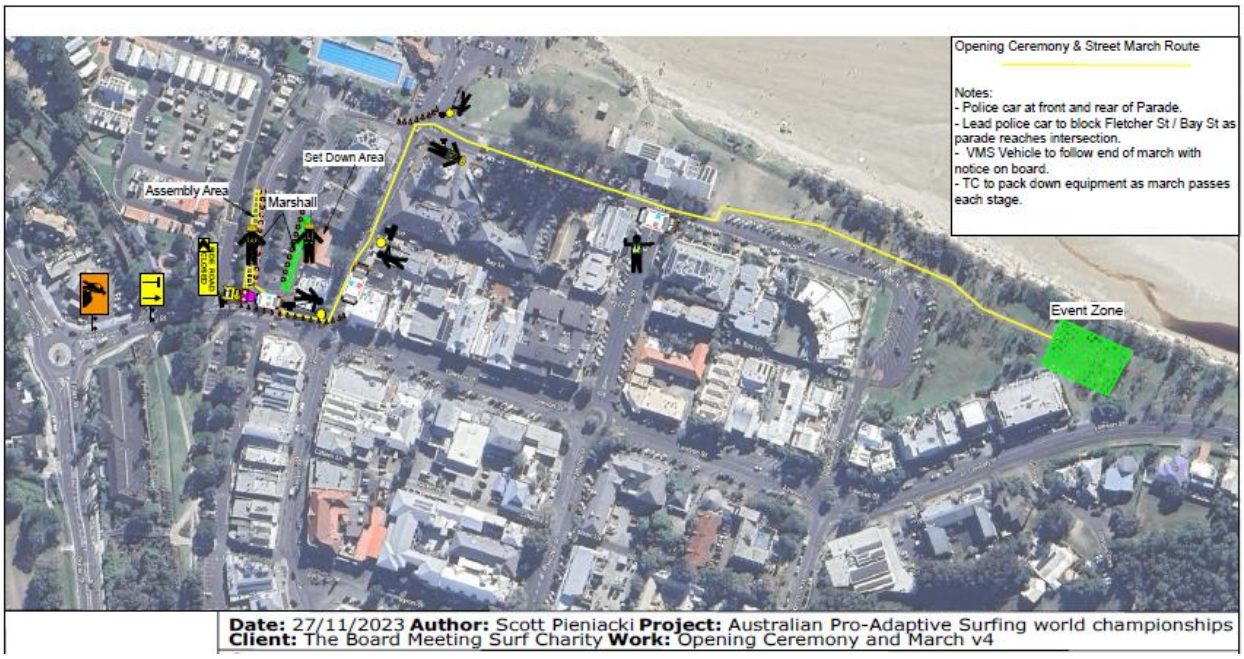
Report No. 7.1 Adaptive Pro Surf Championship - 17 March 2024

File No: I2024/79

Council has received an application for the 2024 Adaptive Pro Surf Championship

This report is to keep members of the LTC informed of road closures and traffic measures to be put in place at the upcoming event.

Opening Ceremony and Event:



5 **RECOMMENDATION:**

1. That the Local Traffic Committee support the Adaptive Pro Surf Competition 17 March 2024 to 22nd March 2024.

2. That Council support in Part 1 is subject to:

a) separate approvals by NSW Police and TfNSW being obtained;

b) the event organiser providing council with an updated Traffic Management Plan and Traffic Guidance Scheme/s for the event;

c) development and implementation of a Traffic Management Plan and Traffic Guidance Scheme/s by those with appropriate TfNSW accreditation and the holding of current and appropriate levels of insurance and liability cover;

d) the impact of the event be advertised, and charged at cost to the organisers, via a notice in the local weekly paper and Variable Message Signage (VMS) a minimum of one week prior to the operational impacts taking effect, noting it must include the event name, specifics of any traffic impacts or road closures and times, alternative route arrangements, event organiser, a personal contact name and a telephone number for all event related enquiries or complaints;

e) the event be notified on Council's web page and social media with the event organiser supplying Council with the relevant information;

f) access to Lawson Street is to be unrestricted at all times.

3. The event organiser to:

Attachments:

1 Event - Adaptive Pro - Draft TMP submitted 5/12/23, E2023/128526 , page 130

Traffic Management Plan (TMP)

PROJECT DETAILS

Client Name:	The Board Meeting Surf Charity		
Division Conducting Works:			
Division Role:	☒ Principal Contractor (PC)	☐ Subcontractor	
If Subcontract, Specify PC:		**ABN (PC):**	

PLAN APPROVAL

Plan Revision:	1	Issue:	1	Date of Issue:	14/11/23	Date of Approval:	

PLAN DEVELOPMENT AND REVIEW:

	NAME	CERTIFICATION NUMBER	DATE	SIGNATURE
Plan Developer:	Scott Pieniacki	Prepare a Work Zone Traffic Management Plan - TCT0066389	14/11/23	
Plan Reviewed by:	John Leeming	Prepare a Work Zone Traffic Management Plan – TCT0035936	14/11/23	

CLIENT APPROVALS

	COMPANY	NAME	DATE	SIGNATURE
Project Manager				
Principal Contractor Representative				

Spinifex Recruiting

Contents

1. DOCUMENTATION AND CONTROL REGISTER 4
1.1. Plan Template Amendments Record 4
1.2. Project-Specific Amendments Record 4
1.3. TMP Purpose & Governance 4
1.4. Project Management Location 4
2. PROJECT DETAILS 5
2.1. Project Overview 5
2.2. Permits, Approvals and Licenses Required for Works 5
2.3. Licences 6
2.4. Project Contacts & Emergency Contacts 6
3. TRAFFIC MANAGEMENT 7
3.1. Compiling This Project 7
3.2. Variations from the Traffic Control at Work Sites Manual (TCWS) 7
3.3. Compliance to this TMP 7
3.4. Safe Work Method Statements (SWMS) 7
3.5. Community Considerations 7
3.5.1. Communication and Publicity 7
3.5.2. Local Business and Residents 7
3.6. Traffic routing 8
3.7. Traffic demand 8
3.8. Control 8
3.8.1. Traffic Controllers provided by: 8
3.8.2. Traffic Controller Information 8
3.8.3. Police Control 9
3.8.4. Portable traffic control signals 9
3.9. Provisions for other road users 9
3.9.1. Pedestrians 9
3.9.2. Bicycles 9
3.9.3. School Children 9
3.9.4. Emergency Services 9
3.9.5. Other – Please specify 9
3.10. Special Vehicle Requirements 9
3.10.1. Buses 9
3.10.2. Over-Dimensional Vehicles 9
3.10.3. Restricted Vehicles 9
3.11. Traffic Management Methodology 9
3.11.1. Set Out 9

3.11.2. Signage ..... **Error! Bookmark not defined.**
3.11.3. Detours 10
3.11.4. Delineation (physical isolation) 10
3.11.5. Safety of Workers 10
3.11.6. Safety and convenience of road users 10
3.11.7. Safety of Pedestrians 10
3.11.8. End of Shift – After Care 10
3.11.9. Night Conditions – After Care 10
4. OPERATION 10
4.1. Record Keeping & Monitoring 10
4.2. Mobilisation and Demobilisation 10
4.3. Site Access 11
4.4. Incident reporting 11
4.4.1. Incidents at worksites or roadwork's 11
4.4.2. Action to be taken 11
4.4.3. Serious Incidents 11
4.4.4. Incident Records 12
4.4.5. Incident requiring further investigation 12
4.5. Communications to client 12
Appendix A – Traffic Control Plans 13

1. DOCUMENTATION AND CONTROL REGISTER

1.1. Plan Template Amendments Record

Date	Revision Number	Amendment Details	Amended by
28.11.19	2	multiple changes to template	Vicky Butler

1.2. Project-Specific Amendments Record

Date	Revision Number	Amendment Details	Amended By	Certificate No.

1.3. TMP Purpose & Governance

The primary function of this Traffic Management Plan (TMP) is to ensure the safety of both the public and the contractor undertaking the scope of works, by isolating the work zone physically and visually.

This TMP will focus on the main aspects of the project that will affect public road users including temporary and permanent lane closure / road closure to undertake various repairs to road infrastructure.

This document has been developed in accordance with the scope of works provided by the client and is compliant to the following governing documents:

Title	Year	Revision
RMS Traffic Control at Worksites Manual NSW (TCWS)	2018	Version 5.0
AS1742 Manual of Uniform Traffic Control Devices, Part 3	2009	1

1.4. Project Management Location

Company Name	Address of Company	Phone Number
The Board Meeting Surf Charity	159 Broken Head Road Suffolk Park	0488447750
Site Office	Address of Site Office	Phone Number

1.5. Scope of Works

The scope of this Traffic Management Plan is the works identified in Section 2.1 This Traffic Management Plan shall remain in force for the duration of the project, ceasing at the completion of works. Completion of works shall also take into consideration the defects and liability period where this is a requirement under the contract for works.

2. PROJECT DETAILS

2.1. Project Overview

GENERAL					
Project Site Name	Australian Pro-adaptive surfing world championships			**Project Number:**	
Client Name	The Board Meeting Surf Charity			**Project Contract #**	
Location of works	Clarks Beach & Main Beach Byron Bay				
Project Contact Name	Debbie Stewart			**Contact Number:**	0488447750
Expected Start Date	TBA			**Estimated Duration:**	
Hours of Operation	0700	to	1700	**Days**	6
OPERATIONAL					
All requirements (including timings, limitations and prohibited activities) received from client.	☒YES ☐NO				
Category:	Short Term ☒YES ☐NO	Long Term ☐YES ☒NO	Night Works ☐YES☒NO		
Work Type	*Special Event*				
Scope of Works	*Surfing competition*				
Sequencing of work	Site establishment				
PROJECT SPECIFIC DETAILS					
Road Type	Bitumen				
Travel Path Width	5m plus				
Traffic Volume	Medium				
Peak Traffic Times	0800-0900 then 1500-1600				
Approval Type					
Control	Traffic Controllers ☒YES ☐NO		Traffic Lights ☐YES ☒NO		
Consultation required	Community ☒YES ☐NO		Deliveries ☐YES ☒NO		
Local Access requirements	Temporary Lane closure				

2.2. Permits, Approvals and Licenses Required for Works

Approvals	**Required**	**Permit Type**	**Permit Number**

Federal Government	☐YES ☒NO		
State Government (RMS)	☐YES ☒NO		
Regional Council	☒YES ☐NO	Event Permit	TBA
Other: (Police)	☒YES ☐NO		

2.3. Licences

Licences (Corporate)		
Licence type	**Required**	**Licence / Registration**
Traffic Management Registration	☒ YES ☐ NO	RMS – Cat G
Other (name)	☐ YES ☐ NO	

2.4. Project Contacts & Emergency Contacts

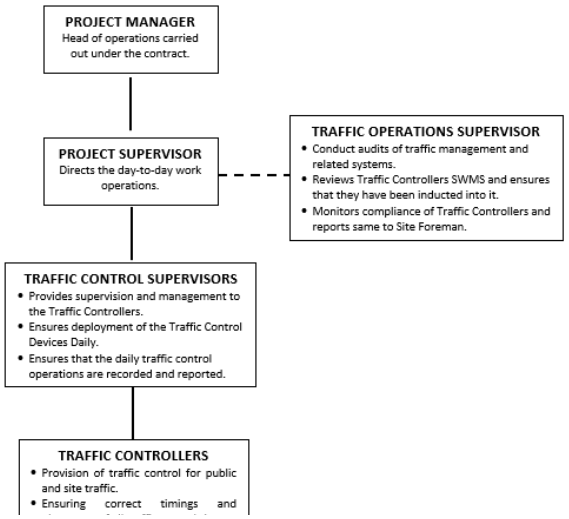
(For emergency contact please start at the top of the list working your way down.)

Position	Name	Contact Number	CM[1]	NTO 2	AHC 3
Project Manager	Debie Stewart	0488 447 750	☐	☐	☐
Project Supervisor			☐	☐	☐
Site Work Health & Safety Representative			☐	☐	☐
Client Contact			☐	☐	☐
OTHER			☐	☐	☐

CM (Traffic Coordination Committee Member): Projects shall have one person from the Project Senior Management shall be nominated for this role, unless otherwise specified.
NTO (Nominated Traffic Officer): there must be at least one person nominated as the contact person for any traffic control issues for projects.
AHC (After Hours Contact): Persons that can be contacted for any issues that may occur out of hours, there must be at least two people nominated for this role for projects. Only one after hours contact need be nominated for standard works.

Spinifex Traffic Controllers contact information is contained in section – 3.8.2. **- Traffic Controller Information**.

ORGANISATIONAL STRUCTURE FOR TRAFFIC MANAGEMENT



3. TRAFFIC MANAGEMENT

3.1. Compiling This Project

Where work undertaken consists of separable portions or identifiable sections each part shall clearly record the applicable part(s) of this section. The sections where the separable or identifiable sections exist shall be individually titled in the applicable box and refer to the correct diagram which is being described.

3.2. Variations from the Traffic Control at Work Sites Manual (TCWS)

Where conditions exist that make enacting conditions within the TCWS manual not reasonably practicable, a Risk Assessment within the Pre-Job Site Inspection Checklist book will be completed to manage the risk of the specific condition. Alternate controls or methodology will be clearly nominated and transferred to the applicable section of this TMP.

Examples of Not Reasonably Practicable to comply with requirements of the TCWS:

- Taper would cut off access to a property
- Travelled path will not be reduced below the existing lane width
- Work is undertaken on a bend with a blind corner

Deviation from the TCWS will not occur for the sake of convenience.

3.3. Compliance to this TMP

The Project Manager and the Project Supervisor shall be responsible for enacting the plan and notifying the plans developer to make amendments to diagrams and the TMP as they are required throughout the project. Any interim changes may be marked on the drawings written in to the TMP, with the changes signed by a person accredited to do so.

Changes to diagrams shall be recorded in APPENDIX A of this TMP.

3.4. Safe Work Method Statements (SWMS)

A Spinifex Safe Work Method Statement (SWMS) for Traffic Control Operations shall be readily available onsite. The responsibility for ensuring an approved Safe Work Method Statement is available for all other works, rests with the client.

3.5. Community Considerations

3.5.1. Communication and Publicity

To be notified

3.5.2. Local Business and Residents

To be notified

3.6. Traffic routing

Traffic Control and Police escort

3.7. Traffic demand

3.8. Control

3.8.1. Traffic Controllers provided by:

Spinifex Recruiting

3.8.2. Traffic Controller Information

Company Name:	Spinifex Recruiting	**Registration No.**	Category G (Provision of Traffic Control)
Traffic Coordinator:	Brock Eastlake	**Phone:**	1300 800 301
Traffic Operations Supervisor:	Scott Pieniacki	**Phone:**	0476 057 715
Site Representative:		**Phone:**	

Refer to APPENDIX A of this TMP, for plans relating to Traffic Control & Traffic Management.

Traffic Controllers shall be appointed in accordance with the RMS guidelines. Traffic Controllers when setting up signage shall provide an RMS certified Implement Traffic Control Plans card.

Traffic Controller SWMS and related Risk Assessments shall be retained on file. SWMS must be signed by all persons undertaking the activity.

The Traffic Controllers shall be responsible for:

- Reviewing the TMP and being familiar with the requirements of the project
- Keeping up to date with any amendments to the TMP or Diagrams
- Review and amend the SWMS to ensure that it is relevant to the project
- Erecting and removal of all traffic control signage at the beginning and end of works, or whenever the Traffic Controller is not controlling or in a position to control traffic
- Ensuring that provisions are made to evacuate their area in the event that control is lost.
- Regulate traffic and maintain traffic flow as per TMP requirements.
- Taking meal and rest breaks as per the approved procedure (i.e. they shall be relieved every 2 hours with a 15-minute break).
- Ensuring there are sufficient relief personnel available to allow for breaks in a shaded area.
- Ensuring that they attend Site Communications, such as Pre-Start and Toolbox Meetings.

3.8.3. Police Control

Rolling Blockade

3.8.4. Portable traffic control signals

N/A

3.9. Provisions for other road users

3.9.1. Pedestrians

On footpath

3.9.2. Bicycles

Under police escort

3.9.3. School Children

N/A

3.9.4. Emergency Services

Given priority and Access

3.9.5. Other – Please specify

Nil

3.10. Special Vehicle Requirements

3.10.1. Buses

Not affected

3.10.2. Over-Dimensional Vehicles

Under Traffic Control

3.10.3. Restricted Vehicles

3.11. Traffic Management Methodology

Prior to set out, establish whether the site is already occupied by another entity. If the site is occupied the other entity must be consulted before setting out signage to avoid conflicting signage.

3.11.1. Set Out

(Within limitations described in the TCWS Section 3.5.8)

As per TCP`s

3.11.2. Signage

(The use of Variable Message Signs (VMS) shall comply with section **3.2.9 of the TCWS**.)
(Signage once installed shall be reviewed by an **NSW Implement Traffic Control Plans** certified person)

Spinifex to nominate qualified person

3.11.3. Detours

Nil

3.11.4. Delineation (physical isolation)

Cones & Bollards

3.11.5. Safety of Workers

N/A

3.11.6. Safety and convenience of road users

Under traffic control when applicable

3.11.7. Safety of Pedestrians

3.11.8. End of Shift – After Care

Road signage to be removed at the end of shift

3.11.9. Night Conditions – After Care

Sites that remain set up overnight shall have night-time configuration checked each evening to ensure that the configuration is correct and is visible.

3.11.10. End of Works

As per TCP

4. OPERATION

4.1. Record Keeping & Monitoring

The Work Zone shall be inspected daily to ensure that all signs are correctly positioned as per the TMP drawings located in APPENDIX A. Sign inspection shall be recorded in the Pre Job Site Inspection Checklist book. Where changes are required to be made to the TMP and related diagrams, due to a change in works, the variations and updated drawings shall be recorded and retained in APPENDIX A.

4.2. Mobilisation and Demobilisation

All mobilisation (and demobilisation) of plant and equipment will comply with legislated road rules. These will include compliance with:

- Speed limits.
- Entry and exit to work site & adjacent properties.
- Always give way to emergency vehicles.

4.3. Site Access

Work vehicles will enter and exit the work site as per the legislated road rules. The Traffic Controller on site may stop traffic temporarily to allow the safe egress of trucks from the site.

Site access shall not impede on property boundaries or property access without consultation and permission of land holders.

Site parking areas and amenities shall be clear of the road alignment.

4.4. Incident reporting

In accordance with Spinifex Recruiting's WHS Incident Reporting and Investigation Procedure

4.4.1. Incidents at worksites or roadwork's

An incident is an occurrence that affects the operational safety and/or effectiveness of a traffic controller or other workers and may include:

- Accidents occurring within the designated worksite or road works
- Verbal (abusive/insulting/threatening language) or physical assault directed towards a traffic controller by road users
- Unsafe or dangerous actions of other road users within a worksite or at road works
- Road users disobeying a direction or signal given by a traffic controller at a designated worksite
- Difficulties experienced with stopping certain vehicle types (for example excess dimension vehicles).
- Any injuries or near-misses to a traffic controller or other workers

4.4.2. Action to be taken

A traffic controller must take the following action if a minor accident/incident occurs within their designated worksite or traffic control operational area:

- Call for assistance if needed
- Notify the Project Supervisor
- Maintain effective traffic control
- Notify Spinifex Recruiting
- Record sufficient notes of the incident, including their observations and photos, in order to complete an incident report.
- Complete an Incident Report and submit to Project Supervisor and Spinifex Recruiting.

4.4.3. Serious Incidents

If the situation is more serious or poses further risk of injury to persons or damage to property, the traffic controller must:

- Call for assistance if needed
- Notify the Project Supervisor immediately
- If the situation requires evacuation of the area, inform vehicle drivers of the situation and direct them to turn around and find an alternative route
- Relocate the traffic control area to a safe position clear of any real or potential danger
- Notify Spinifex Recruiting

- If the incident is deemed as "Notifiable" to Safework NSW. The site must not be undisturbed until a SafeWork Inspector can attend.
- Record sufficient notes of the incident, including their observations and photos, in order to complete an incident report.
- Complete an Incident Report and submit to Project Supervisor and Spinifex Recruiting.

4.4.4. Incident Records

All incidents must be reported immediately to the Project Supervisor and to Spinifex Recruiting.

A WHS Incident Injury Notification Report shall be completed in full for all incidents and near-misses. Precise details of the incident must be recorded, including (but not limited to):

- Vehicle type and colour
- Vehicle registration number including registered state or territory
- Direction of travel
- Description of driver, other road user and occupants
- Full and accurate description of the incident
- Witness details

4.4.5. Incident requiring further investigation

Traffic controllers must ensure that details of incidents requiring further investigation or attention by a Police Officer are reported and forwarded to the Project Supervisor and to Spinifex Recruiting.

Written incident reports must be completed and submitted to their Project Supervisor at the end of their shift or at the resumption of duty on the following day.

Traffic Controllers to be available for any level of further investigation should it be required

4.5. Communications to client

Communications shall be maintained throughout the compiling of this TMP through to site operations. All documented communications shall be retained.

Appendix A – Traffic Control Plans

www.invarion.com

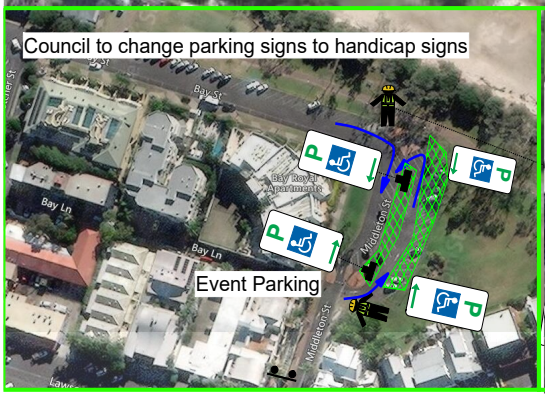
Date: 27/11/2023 **Author:** Scott Pieniacki **Project:** Australian Pro-Adaptive Surfing world championships
Client: The Board Meeting Surf Charity **Work:** Opening Ceremony and March v4

Comments:
SHORT TERM WORK TERM WORK
50 Km per hour Zone
Based on TC@WS Manual Version 6.0 & AS 1742.3
Traffic control to Close Road whilst March is in progress.
Open road as soon as pedestrians are back on footpath

Inspected & Designed by Scott Pieniacki TCT0066389
Prepare A Work Zone Traffic Management Plan

Checked by John Leeming.....TCT0035936
Prepare A Work Zone Traffic Management Plan

www.invarion.com



Date: 27/11/23 **Author:** Scott Pieniacki **Project:** Austrailian Pro-Adaptive Surfing world championships
Client: The Board Meeting Surf Charity **Label:** Event TGS v4

Comments:
SHORT TERM WORK TERM WORK
50 Km per hour Zone
Based on TC@WS Manual Version 6.0 & AS 1742.3
- Council to change existing parking signs to Disabled Parking / No parking.

Spinifex Recruiting

Inspected & Designed by Scott Pieniacki TCT0066389
Prepare A Work Zone Traffic Management Plan

Checked by John Leeming.....TCT0035936
Prepare A Work Zone Traffic Management Plan

Report No. 7.2 Belongil - Kendall Street to Childe Street Local Traffic Mangement

File No: I2024/111

The purpose of this report is to gain Local Traffic Committee endorsement for the implementation of line-marking and no stopping restrictions throughout the Belongil area from Kendall Street through to Childe Street to manage driver behaviour.

Background

Council previously gained endorsement for the installation of LATM devices through the subject area (refer to attachments 1 and 2). However, following the installation there was issues with driver compliance (refer to figure 1). Drivers were commonly observed to proceed in a straight line through the chicane into the path of on-coming drivers avoiding the need to slow down. These devices also removed a significant amount of parking adjacent residential properties.

Due to the safety issues associated with these devices staff removed the devices and associated restrictions.

Figure 1: Safety issue Kendall St and Childe St traffic management device

Proposed Solution

Following the removal of the chicanes staff are proposing a less invasive speed management treatment for the area. This proposal includes line-marking the travel lanes to provide a narrowing effect which can reduce the likelihood of speeding. Currently the road is un-marked, and due to the width (11m) people are willing to drive further to the right of the road due to the lack of channelisation. Line-marking the area should channelise most drivers further to the left while providing a narrower travel path while potentially slowing vehicle speeds (refer to attachment 3).

RECOMMENDATION:

That the Local Traffic Committee endorse the line-marking traffic management treatments proposed in attachment three of this report for installation.

Attachments:

1 Minutes 30/11/2022 Local Traffic Committee Extraordinary, I2022/1779 , page 147
2 Belongil Parking Changes, E2022/117545 , page 154
3 Belongil_LATM_Treatment_Concept_Not_For_Construction_23_01_2024, E2024/7208 , page 156

Minutes of Meeting

Extraordinary Local Traffic Committee Meeting

Venue	**Zoom**
Date	**Wednesday, 30 November 2022**
Time	**1:00pm**

MINUTES OF THE EXTRAORDINARY LOCAL TRAFFIC COMMITTEE MEETING HELD ON WEDNESDAY, 30 NOVEMBER 2022

File No: I2022/1779

MEETING COMMENCED:1.02pm

PRESENT:

Councillor: Michael Lyon

Transport for NSW: Alexie Miller

NSW Police: Detective Chief Inspector Matt Kehoe

Siobhan Foley on behalf of Tamara Smith MP

Staff: Judd Cornwall (Traffic Engineer), James Flockton (Coordinator Infrastructure Planning), Shelley Flower (Minute Taker).

APOLOGIES:

None.

DECLARATIONS OF INTEREST

There were no declarations of interest raised.

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

Committee Recommendation:

That the minutes of the Local Traffic Committee Meeting held on 15 November 2022 be confirmed.

(Kehoe/Miller)

The recommendation was put to the vote and declared carried.

MATTERS ARISING

None.

OUTSTANDING ISSUES/RESOLUTIONS

None.

REGULATORY MATTERS

Report No. 6.1 **Tincogan Street/Dalley Street Reprioritisation (including zebra pedestrian crossing facility)**
File No: I2022/1735

The purpose of this report is to gain endorsement for the provision of a pedestrian crossing at the Tincogan / Dalley Street intersection, Mullumbimby.

This intersection was endorsed by LTC on 15 November 2022, however it did not include a zebra crossing at the refuge shown in the previous LTC report (Attachment 1, I2022/1632).

Existing situation

Tincogan Street does not function as an arterial road as defined by Austroads glossary:

- Arterial road (rural) - A general term for the main road carrying mostly long-distance traffic, as distinct from a local road.
- Arterial road (urban) – A general term for a main traffic route, but specifically referring to certain streets so designated in a local authority's district scheme.

Byron Shire Council's road hierarchy identifies Tincogan Street as a collector road (carrying a residential function but also higher volumes of traffic from lower order streets). Based on the road function and the 85th percentile speeds on Tincogan Street, the proposed crossing will meet the requirements set out in AS1742.1 and in Austroads Guide to Road Design, part 4.

T**able 1: Tincogan Street, Traffic Survey Data Summary (speed)**

Hour Start	Total Vehicles	Avgerage Speed	85th percentile	Modal Speed	Minimum Speed	Maximum Speed	Standard Deviation
00:00	4	32.9	35.2	33	22.1	54.7	3.2
01:00	5	32.3	34.0	31	20.3	48.8	2.3
02:00	4	35.1	38.0	35	25.6	47.3	3.6
03:00	3	32.7	34.5	31	18.5	43.3	2.0
04:00	9	32.4	35.4	32	19.7	59.6	3.8
05:00	35	30.9	36.0	30	14.0	69.3	5.5
06:00	113	29.2	34.4	29	9.3	62.3	5.6
07:00	230	27.4	32.7	28	6.0	66.8	6.4
08:00	386	26.7	32.3	28	3.4	71.8	6.9
09:00	409	26.4	32.1	27	4.1	71.7	6.8
10:00	397	25.6	31.4	26	3.3	73.9	6.9
11:00	395	25.5	31.3	26	4.4	75.6	6.9
12:00	397	25.7	31.5	27	5.2	69.0	6.7
13:00	376	26.8	32.6	28	4.9	67.6	6.7
14:00	391	26.8	32.6	28	3.7	65.3	6.6
15:00	462	27.1	32.8	28	3.2	82.0	6.6
16:00	434	27.7	33.3	28	4.5	67.7	6.4
17:00	389	28.8	34.6	29	6.3	62.7	6.4
18:00	227	30.4	36.1	30	8.2	60.7	6.1
19:00	127	31.3	37.0	31	12.8	55.5	5.8
20:00	82	32.1	37.4	31	16.4	59.2	5.8
21:00	62	32.9	37.9	32	18.1	56.2	5.6
22:00	29	33.5	38.8	33	18.7	48.9	6.0
23:00	10	32.3	37.7	31	8.4	62.5	6.0
Summary	4976	29.7	34.6	30	3.2	82.0	5.6

Table 2: Tincogan Street, traffic survey data (pedestrian and vehicle volumes)

				Year 8		
Hor Ending	Ped. Volume	Veh. Volume	Product	Ped	Veh	Product
9:00:00 AM	68	606	41208	86	768	66127
4:30:00 PM	73	524	38252	92	664	61383
5:30:00 PM	52	500	26000	66	633	41722

Pedestrians that are crossing Tincogan Street at the proposed crossing location are doing so with extreme difficulty. It is also recognised that a significant number of these users are aged or accessibility impaired and have brought the need for a zebra crossing to Council and gained support for the installation.

The Shire's Place and Planning strategy for the Mullumbimby town centre is to promote Burringbar Street as a high pedestrian activity centre. The proposed crossing will provide more equitable opportunity for vulnerable members of the community to access the town centre.

Figure 1: Tincogan St road user with seeing eye dog

Committee Comments
TfNSW: TfNSW met with Byron Shire Council staff on 29 November to discuss this design in detail and are happy with the layout.
Management Comments
None.

Committee Recommendation:

That the Local Traffic Committee support the installation of the zebra (pedestrian) crossing shown in Attachment 2 (E2022/117476).

(Lyon/Kehoe)

The recommendation was put to the vote and declared carried.

Report No. 6.2 **Belongil Parking Scheme Review - New parking limits**
File No: I2022/1537

Council completed a parking scheme review for Belongil Beach on Childe, Border and Kendall Streets, and Council supported the recommendations when they were reported to Council on 25 Nov 2021 under resolution number 21-562.

Subsequently, Council's Infrastructure Advisory Committee endorsed the proposed works in report no 4.4 on 7 Oct 2022. This was also adopted by Council on 27 October 2022 under resolution number 22-594.

The drawing attached shows the proposed regulatory signage, line marking and pedestrian crossing for Childe, Border and Kendall Streets that are a result of the above resolutions. Upon Local Traffic Committee support and Council endorsement these changes will be put in place.

Committee Comments
TfNSW: TfNSW met with Byron Shire Council staff on 29 November to discuss this design in detail and are happy with the layout.
Management Comments
None.

Committee Recommendation:

That the Local Traffic Committee supports proposed regulatory items for Belongil Beach on Childe, Border and Kendall Streets as shown in Attachment 1 (E2022/117545).

(Kehoe/Miller)

The recommendation was put to the vote and declared carried.

There being no further business the meeting concluded at 1.34pm.

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	PRELIMINARY ISSUE	08.11.22	JM	JM	MP	MP
B	SIGNAGE AMENDED	15.11.22	JM	JM		
C	SIGNAGE AMENDED	22.11.22	JM	JM		

SCALES: 0 5 10 20 30
Full Size 1:500 ; Half Size 1:1000
Scale (m)
DO NOT SCALE FROM DRAWING

DRAWN BY: J.MCDONAGH
DESIGN BY: J.MCDONAGH
APPROVED BY:
DATE:
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
SUITE 9A, 80-84 BALLINA STREET
PO BOX 161
LENNOX HEAD NSW 2478
TELEPHONE: 02 6687 4666
ABN: 20 099 261 711
EMAIL: administration@planitconsulting.com.au

CLIENT: BYRON BAY COUNCIL
LOCAL GOVERNMENT AUTHORITY: BYRON BAY COUNCIL

PROJECT: CHILDE STREET BELONGIL
DRAWING TITLE: PEDESTRIAN CROSSING & TRAFFIC CALMING MEASURES PARKING SIGNAGE PLAN

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J7618	0100	C

CAD FILE: C:\12DS\DATA\PLANITSYNJ7618 - BELONGIL PED CROSSING_60917 - ENGINEERING\7.4 DRAFTING\J7618 - PARKNG SIGNAGE PLAN.DWG PLOTTED BY: PE.JAMES PLOT DATE: 22/11/2022 9:07:14 AM

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	SHEET ADDED TO SET	15.11.22	JM	JM		
B	SIGNAGE UPDATED	22.11.22	JM	JM		

SCALES: 0 5 10 20 30
Full Size 1:500 ; Half Size 1:1000
Scale (m)
DO NOT SCALE FROM DRAWING

DRAWN BY: J.MCDONAGH
DESIGN BY: J.MCDONAGH
APPROVED BY:
DATE:
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
SUITE 9A, 80-84 BALLINA STREET
PO BOX 161
LENNOX HEAD NSW 2478
TELEPHONE: 02 6687 4666
ABN: 20 099 261 711
EMAIL: administration@planitconsulting.com.au

CLIENT: BYRON BAY COUNCIL
LOCAL GOVERNMENT AUTHORITY: BYRON BAY COUNCIL

PROJECT: CHILDE STREET BELONGIL
DRAWING TITLE: PEDESTRIAN CROSSING & TRAFFIC CALMING MEASURES PARKING SIGNAGE PLAN

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J7618	0110	B

CAD FILE: C:\12DS\DATA\PLANITSYNJ7618 - BELONGIL PED CROSSING_609\7 - ENGINEERING\7.4 DRAFTING\J7618 - PARKNG SIGNAGE PLAN.DWG PLOTTED BY: PE.JAMES PLOT DATE: 22/11/2022 9:07:24 AM


1
KENDALL STREET
2.2
3.3
3.3
2.2
START EDGELINE AND UNBROKEN CENTER LINE MARKINGS FROM KEDALL STREET ROUNDABOUT. EDGE LINES TO PROVIDE A 2.2M PARKING LANE. ENSURE EDGE TAPERS TO ROUNDABOUT IN ACCORDANCE WITH THE MOST APPROPRIATE LATERAL SHIFT REQUIREMENTS.
Sat Sep 16 2023
Imagery © 2024 Nearmap, HERE
5 m
nearmap


2
13
CONTINUE EDGELINE AND UNBROKEN CENTER LINE MARKINGS
2.2
3.3
3.3
2.2
KENDALL STREET
1
Sat Sep 16 2023
Imagery © 2024 Nearmap, HERE
6 m
nearmap


3
23
CONTINUE EDGELINE AND UNBROKEN CENTER LINE MARKINGS
2.2
3.3
3.3
2.2
Sat Sep 16 2023
Imagery © 2024 Nearmap, HERE
5 m
nearmap


4
3.3
3.3
2.2
BORDER STREET
LANE WIDTHS TO WIDEN AS REQUIRED THROUGH CORNER (DESIGN VEHICLE AND SPEED)
MARK A YELLOW LINE AROUND CORNER FROM DWAY OF #23 THROUGH TO THE SECONDARY ACCESS (#23)
CONTINUE UNBROKEN CENTER LINE AND EDGELINES USING THE LEFT HAND SIDE KERB, NORTHBOUND AS CONTROL MARK CONTINUITY LINE ACROSS BORDER STREET INTERSECTION
KENDALL STREET
Sat Sep 16 2023
Imagery © 2024 Nearmap, HERE
5 m
nearmap


5
NEW NO STOPPING LINE-MARKING BETWEEN DRIVEWAY ACCESS' OF PROPERTY #47 AND #45
BORDER STREET
3.3
3.3
NEW NO STOPPING LINEMARKING TO START AT CHAIN 220 (BORDER STREET) TO CONTINUE TO EXISTING YELLOW LINE MARKING AT
Sat Sep 16 2023
Imagery © 2024 Nearmap, HERE
5 m
nearmap


7
Sat Sep 16 2023
Imagery © 2024 Nearmap, HERE
5 m
nearmap


6
CONTINUE CETER LINE UP TO CHAIN 100 CHILDE STREETOR BOUDARY OF PROPERTY #37 AND #33-35
EXISTING YELLOW LINES
CHILDE STREET
DON STREET
MARK CONTINUITY LINE ACROSS THE INTERSECTION OF DON STREET AND CHILDE STREET
Sat Sep 16 2023
Imagery © 2024 Nearmap, HERE
5m
nearmap

EVENTS

Report No. 8.1 Event - Westpac Helicopter Byron Coastal Charity Walk – 4th May 2024

File No: I2024/89

The 2024 Byron Coast Charity Walk will be held on Saturday 4th May from 6.00am – 5.00pm. The organisers anticipate 750 participants.

The majority of the Charity Walk will be along beaches and footpaths. There are two locations within Council's delegated authority where walkers will be required to walk along the road with associated traffic control: Lighthouse Road and Seven Mile Beach Road.

The walking route will start in Dening Park, Byron Bay and typically follows the coastline south to Ballina SLSC, a total distance of 36km.

The images below show the key sections of the walk and areas where traffic control is proposed are circled in blue. In figure 1 traffic control is proposed on Lighthouse Road as the walk heads towards Tallows Beach. In figure 2 traffic control is proposed at the entrance to Seven Mile Beach Road.

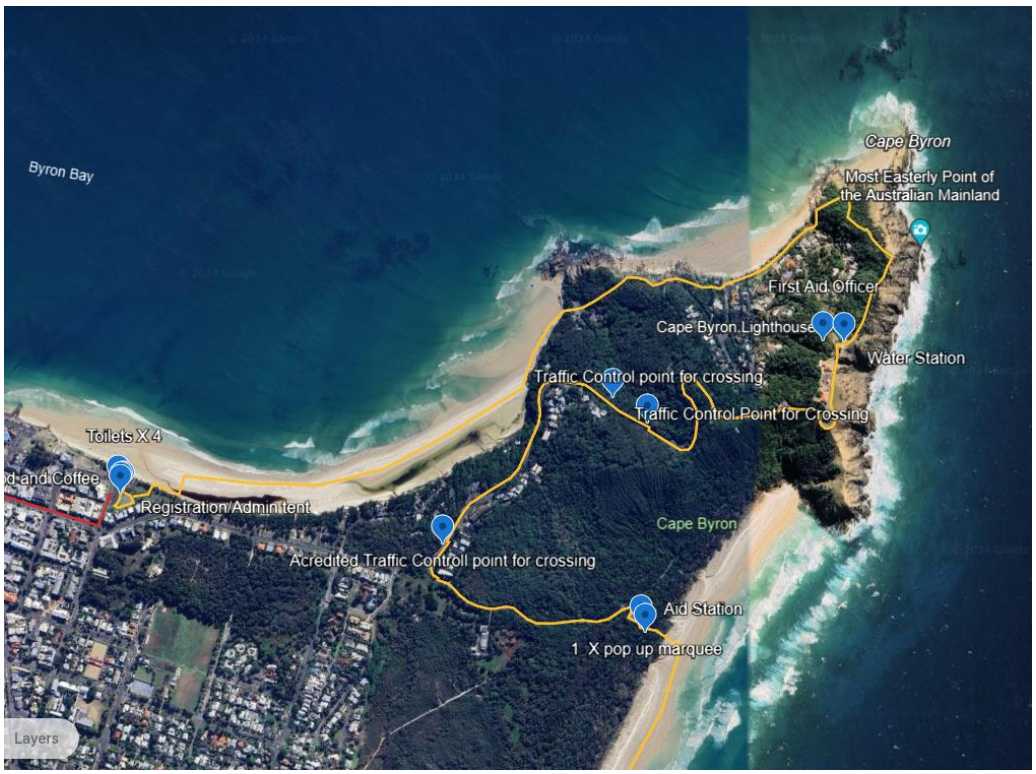


Figure 1 – Lighthouse Road

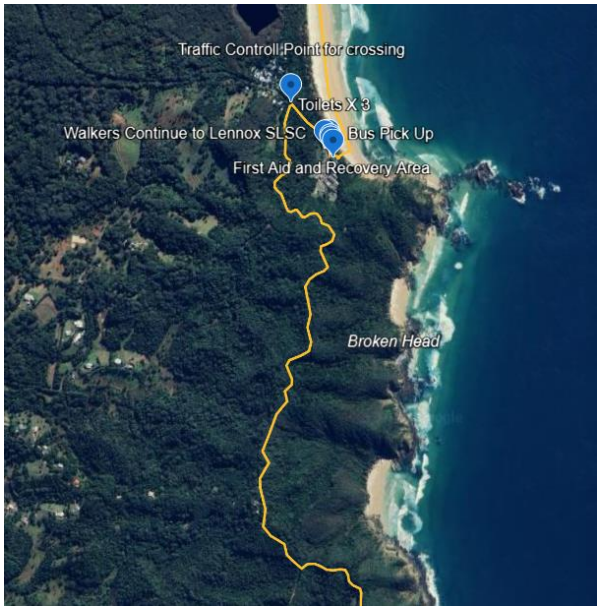
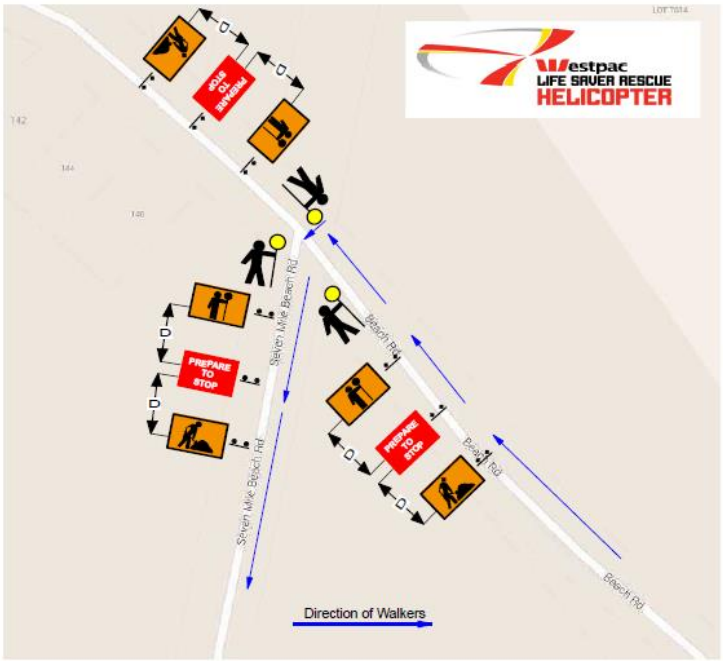


Figure 2 – Seven Mile Beach Road



5 Figure 3 – Proposed TGS for the Seven Mile Beach Road entrance (refer Figure 2). The Traffic Control is to be in place from 7am to 1pm.

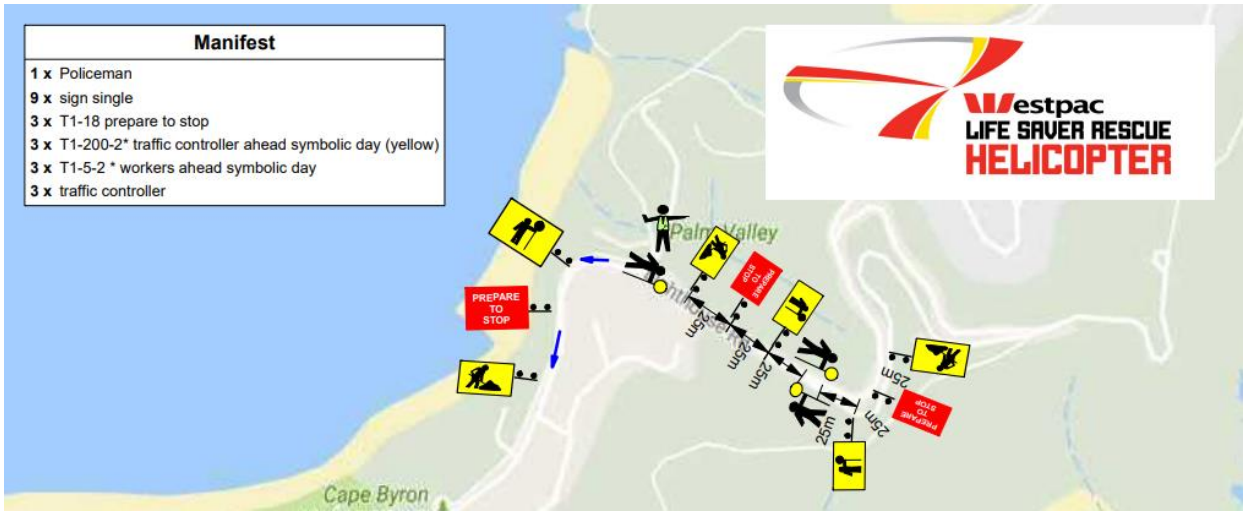


Figure 4 – Traffic control proposed for eastern section Lighthouse Road. Coming down from Lighthouse Road (refer to Figure 1). Traffic control to be in place from 6am to 10.30pm.

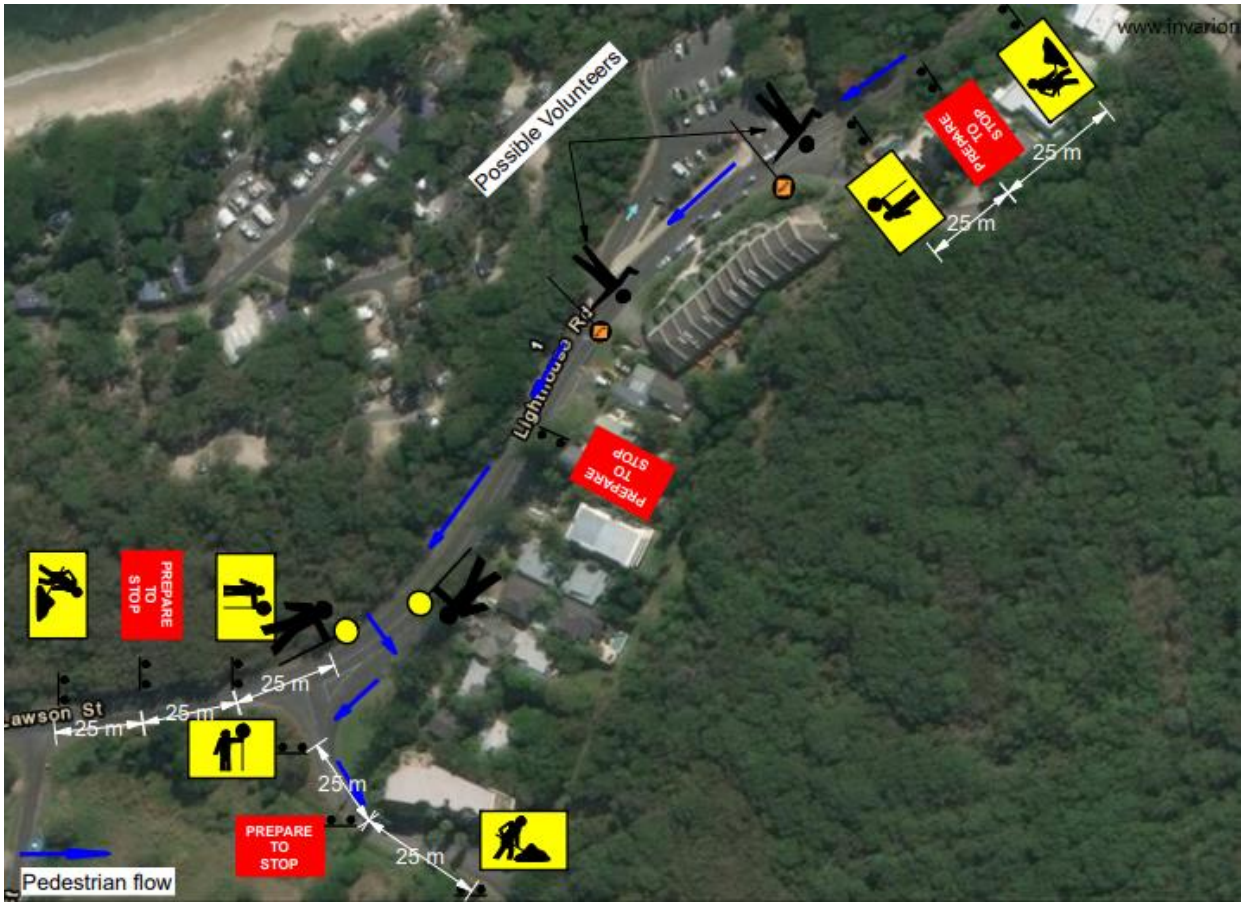


Figure 5 – Traffic control proposed for the western section of Lighthouse Road entering Tallow Beach Road (refer to Figure 1.) Traffic control to be in place between 6am and 10.30pm

RECOMMENDATION:

1. That the Local Traffic Committee supports the Westpac Life Saver Rescue Helicopter fundraiser, Byron Coast Charity Walk, to be held Saturday 4th May 2024 from 6.00am – 5.00pm

2. That Council support in Part 1 is subject to:

a) The development of a Traffic Guidance Scheme (TGS) and Traffic Management Plan(s) for the 2024 event by those with relevant and current TfNSW accreditation. The TGS(s) and Traffic Management Plan is to include, but is not limited to, the following:
b) Signage, which specifies the date, hours and nature of the event, be positioned at the entrance and exit of Seven Mile Beach Road one week prior to the event;
c) On the day of the event, at 500m intervals on Seven Mile Beach Road, and facing both directions of travel, signs advising of "Special Event – Charity Walk Ahead" (or similar) are installed prior, and removed after, the event occurs;
d) A safety induction for participants advising of hazards be provided.
e) Implementation of the Traffic Management Plan and Traffic Guidance Scheme/s as designed by those with appropriate accreditation and implemented by people with appropriate accreditation, including traffic controllers.

3. The event organiser to:

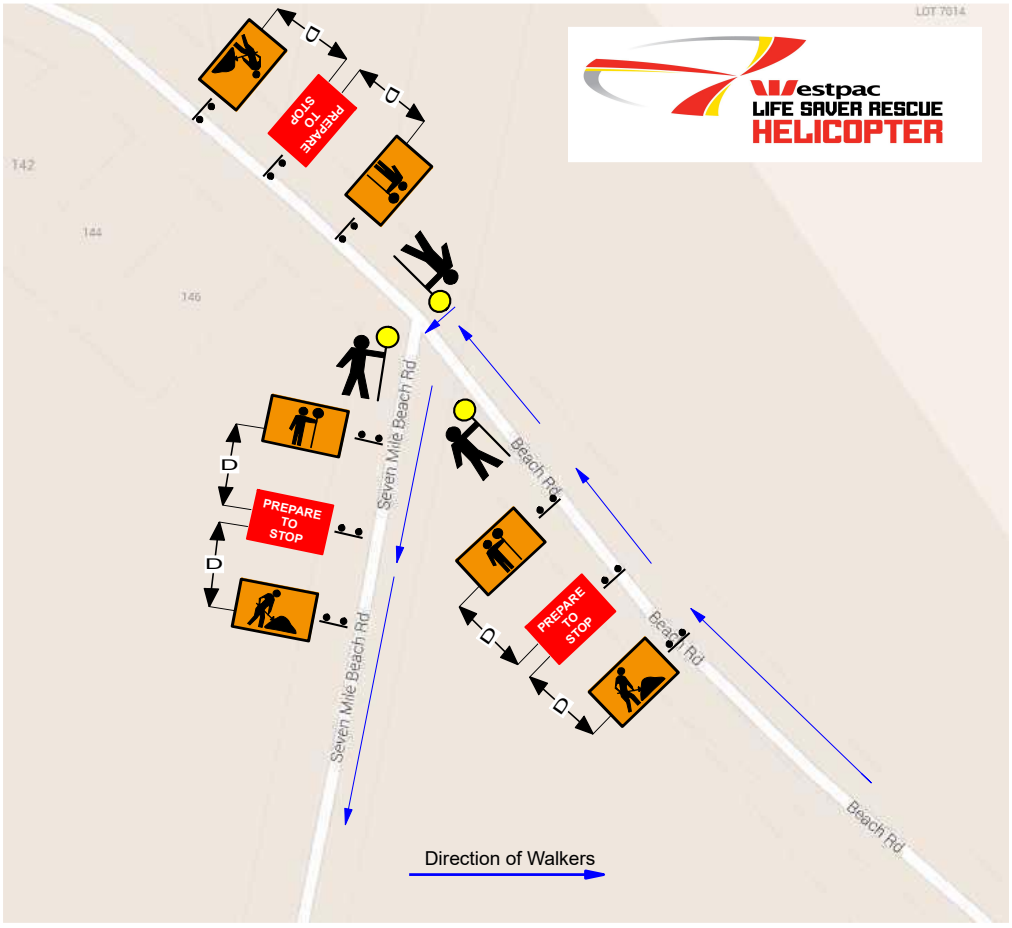
a) Arrange for the event to be notified on Council's webpage a minimum one week prior to the TGS being implemented;
b) Undertake consultation with affected community and businesses including adequate response/action to any raised concerns.
c) Undertake consultation with emergency services and any identified issues addressed.
d) Holding $20m public liability insurance cover which is valid for the event.
e) Paying Council's Road Event Application Fee prior to the event.

Attachments:

1 Event - TGS - Byron Coastal Walk 2024 - Broken Head Reserve Rd Seven Mile Beach Rd, E2024/8663 , page 168⇩
2 Eent - TGS - Byron Coastal Walk 2024 - Lighthouse Rd Brooke Dr, E2024/8664 , page 169⇩
3 Event - TGS - Byron Coastal Walk 2024 - Lighthouse Rd Tallow Beach Rd, E2024/8665 , page 170⇩
4 Event - W'Pac Byron Coast Charity Walk 2024 - Denning Park START, E2024/8668 , page 171⇩
5 Event - W'Pac Byron Coast Charity Walk 2024 - Tallows Beach Access, E2024/8669 , page 172⇩

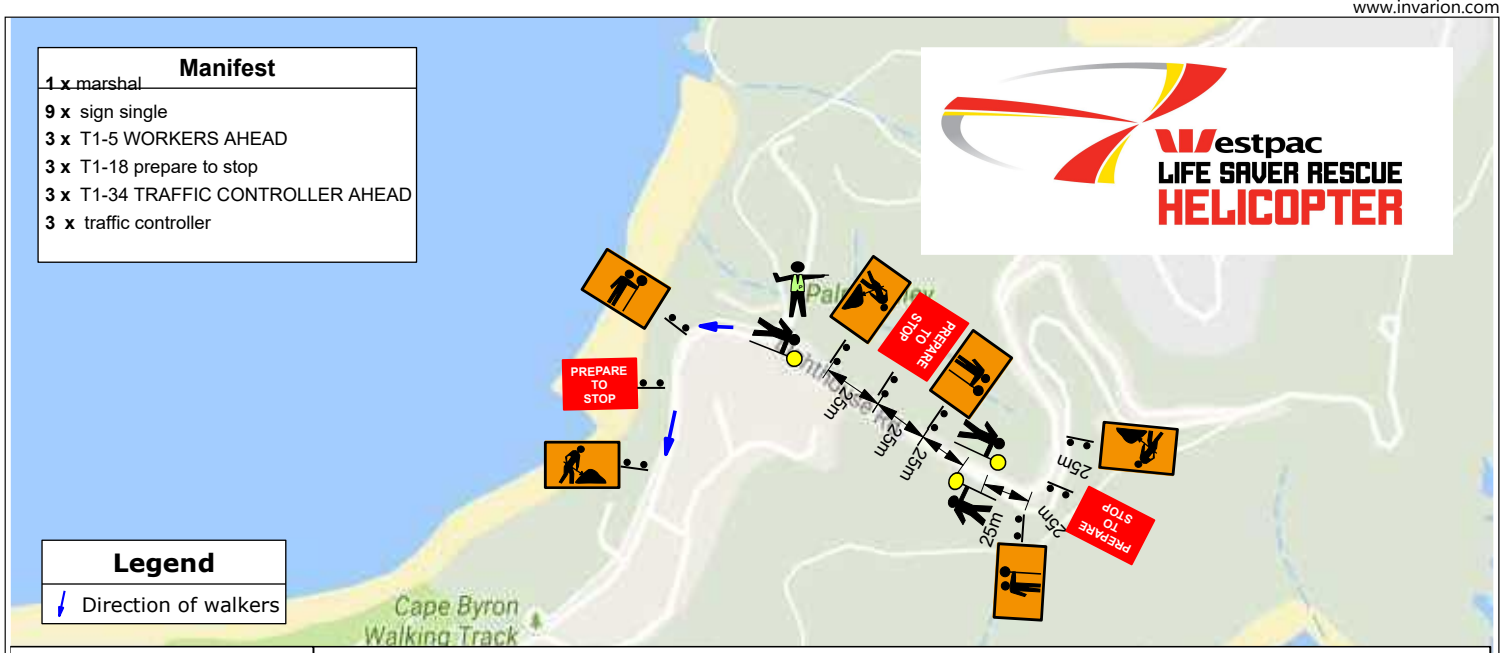
6 Event - W'Pac Byron Coast Charity Walk 2024 - Broken Head 12km FINISH, E2024/8671 , page 173⇩

www.invarion.com



Spinifex Recruiting	**Date:** 8/9/23 **Author:** John Leeming **Project:** Byron Coast Charity Walk - 2024 **Location:** Broken Head Rd/Seven Mile Beach Rd, Broken Head
	Comments: EVENT DATE: Saturday 4/5/2024 Based on Australian Standards 1742.3 All signage and traffic control devices to be set up in accordance with AS 1742.3 Blue arrows show the direction and path of the walkers This TCP was designed to allow walkers to cross Broken Head Reserve Rd safely under traffic control Traffic control will be in place from 7am to 1pm Inspected & Designed by John Leeming .....TCT0035936 Prepare A Work Zone Traffic Management Plan Checked by Scott Pieniacki.....TCT0066389 Prepare A Work Zone Traffic Management Plan

www.invarion.com



Date: 8/9/23 **Author:** John Leeming **Project:** Byron Coast Charity Walk - 2024
Location: Lighthouse Rd & Brooke Dr, Byron Bay

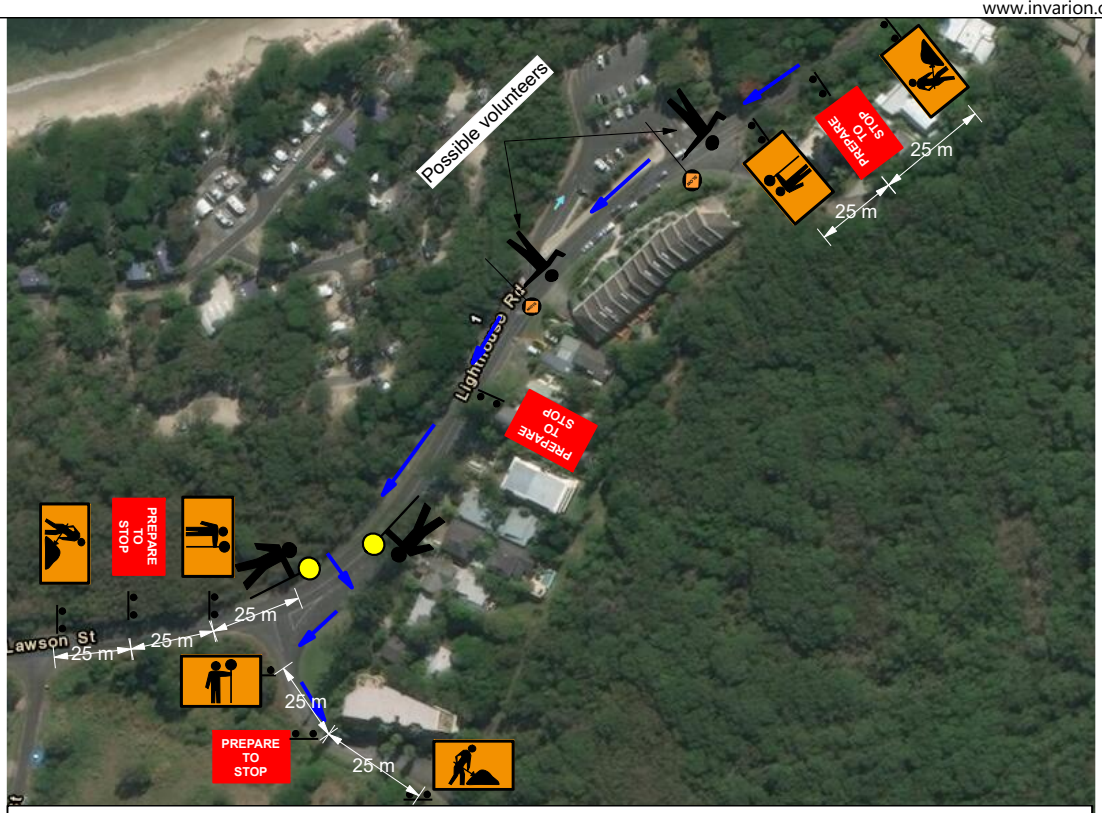
Comments:
EVENT DATE: Saturday 4/5/2024
Based on Australian Standards 1742.3
All signage and traffic control devices to be set up in accordance with AS 1742.3
Blue arrows show the direction and path of the walkers
This TCP was designed to allow walkers to cross the road safely under traffic control
Volunteer may assist pedestrians crossing at Brooke Dr
Traffic control will be in place from 6:00AM to 10:30AM

Spinifex Recruiting

Inspected & Designed by John Leeming TCT0035936
Prepare A Work Zone Traffic Management Plan

Checked by Scott Pieniacki..... .....TCT0066389
Prepare A Work Zone Traffic Management Plan

www.invarion.com



Date: 8/9/23 **Author:** John Leeming **Project:** Byron Coast Charity Walk - 2024
Location: Lighthouse Rd & Tallow Beach Rd, Byron Bay

Comments:
EVENT DATE: 4/5/2024
Based on Australian Standards 1742.3
All signage and traffic control devices to be set up in accordance with AS 1742.3
Blue arrows show the direction and path of the walkers
This TCP was designed to allow walkers to cross the road safely under traffic control
Volunteer may assist pedestrians crossing at Captain Cook car park
Traffic control will be in place from 6:00AM to 1030AM

Inspected & Designed by John Leeming TCT0035936
Prepare A Work Zone Traffic Management Plan

Checked by Scott Pieniacki..... .....TCT00 66389
Prepare A Work Zone Traffic Management Plan

Spinifex Recruiting

Westpac LIFE SAVER RESCUE HELICOPTER

Denning Park—Middleton St, Byron Bay—2024 Registration Area

Event Date—Sat May 4 2024 (Bump in Friday 3rd May from 12 noon, bump out Sat 4 May from

TALLOWS BEACH RESESRVE—WATER & FRUIT STATION

Saturday 4 May, 2024
EQUIPMENT SET UP—5.45am-6.30am
Site Opens at 6:30am
Pack up from - 11pm- Site Close by 12pm

Volunteers:	**2 at Water Station + 1 On Beach**
Equipment:	**Water Station (3x3 Westpac Bank tent) , trestle table, chair on beach**
Bins:	**2 x 1100ltr bins (Cleanaway to provide), dropped Fri 3rd, key from National Parks**
Water:	**8x 15litre water pots**

12km Finish & Checkpoint: Broken Head

SITE SET UP FROM 6.30am SATURDAY 4 May, 2024
Site Opens at 7am
(36km participant non-continuance at 11.30pm)
First Runner: 7-7.30am - Walkers from 8-8.30am

St Johns Ambulance. Provide own tent & equipment.

ONGOING
Fruit, water, snacks station
3x3 tent
2 x TT & 2 Chairs
(GC Hire)

RIGHTFOOT PODIATRY
6x3 tent, 2 TT, 4 Chairs
(GC Hire)

MANA Real Estate
Providing own 3x3 tent, tables & chairs

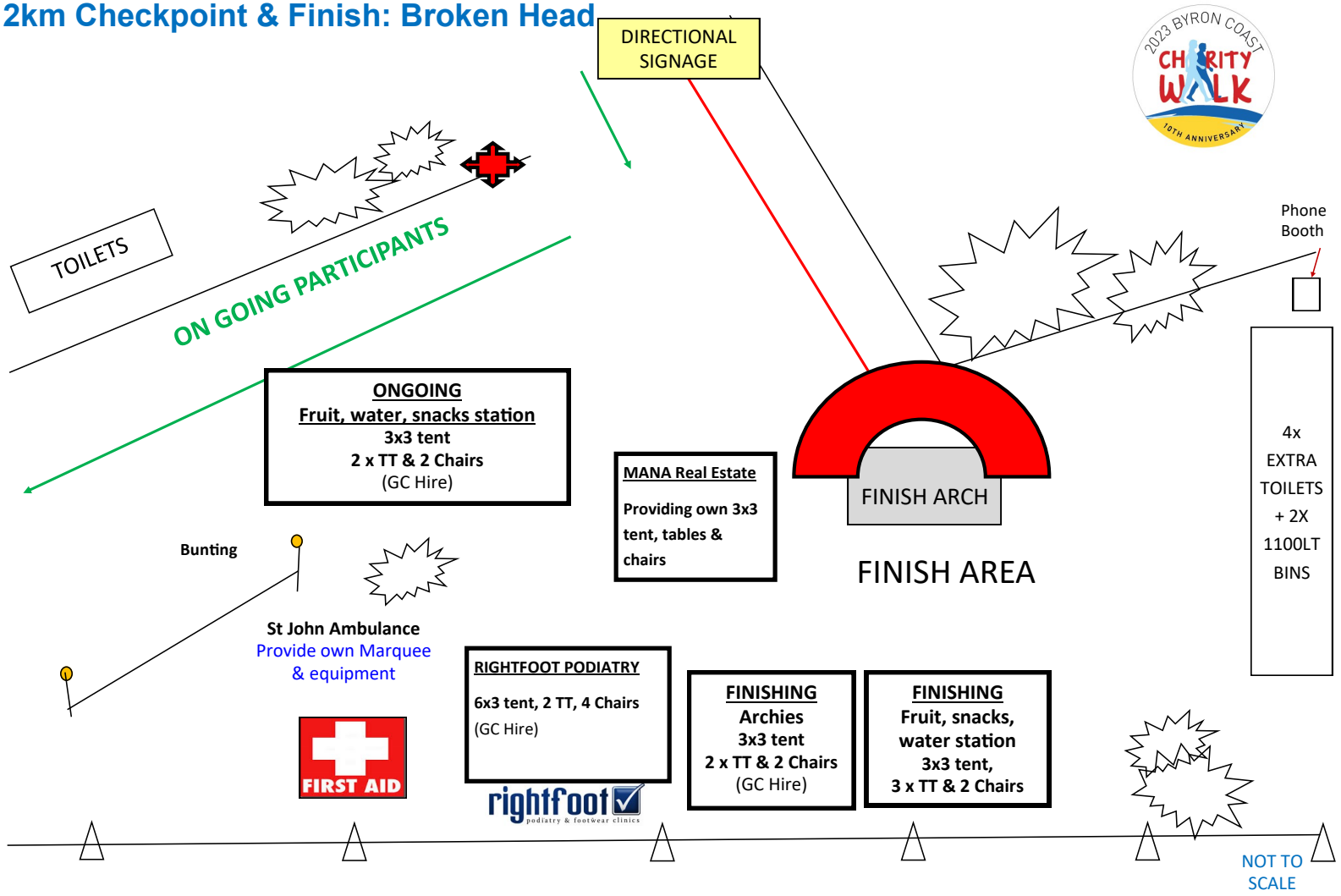
FINISHING
Fruit, Water station
3x3 tent,
3 x TT & 2 Chairs
(GC Hire)

FINISHING
Archies
3x3 tent
2 x TT & 2 Chairs
(GC Hire)

Equipment:

- **2 x 1100lt Bins**
- **3 Portaloos + paper**
- **8x 15litre water pots**
- **Archies**
- **Fruit, Snacks, lollies**

12km Checkpoint & Finish: Broken Head



Report No. 8.2 Event - Bangalow Billycart Derby May 2024

File No: I2024/97

Council is anticipating on receiving an application for the Bangalow Billycart Derby to be held on Sunday 19 May 2024.

The Billy Cart Derby has been previously approved by the Local Traffic Committee (LTC) and by Council resolution ***22-343***.

RECOMMENDATION:

1. **That the Local Traffic Committee support the Bangalow Billycart Derby to be held on 19 May 2024.**

2. **That the Local Traffic Committee support in Part 1 is subject to:**

   a) **separate approvals by NSW Police and TfNSW being obtained;**

   b) **the event organiser providing council with an updated Traffic Management Plan and Traffic Guidance Scheme/s for the event;**

   c) **development and implementation of a Traffic Management Plan and Traffic Guidance Scheme/s by those with appropriate TfNSW accreditation and the holding of current and appropriate levels of insurance and liability cover;**

   d) **the impact of the event be advertised, and charged at cost to the organisers, via a notice in the local weekly paper and appropriate Variable Message Signage a minimum of one week prior to the operational impacts taking effect, noting it must include the event name, specifics of any traffic impacts or road closures and times, alternative route arrangements, event organiser, a personal contact name and a telephone number for all event related enquiries or complaints;**

   e) **the event be notified on Council's web page with the event organiser supplying Council with the relevant information.**

3. **The event organiser to:**

   a) **inform the community and businesses that are directly impacted (e.g. within road closure zones) via written information which is delivered to the property in a timely manner so as to document, consider and respond to any concerns raised;**

   b) **arranging for private property access and egress affected by the event;**

c) liaising with bus, taxi and waste operators and ensuring arrangements are made for provision of services during conduct of the event;

d) consulting with emergency services and any identified issues be addressed;

e) holding $20m public liability insurance cover which is valid for the event;

f) paying Council's Road Event Application Fee prior to the event;

g) not place any signage on the road related area of the Pacific Highway.

Attachments:

1 Bangalow Billycart - Traffic Control Plan 2023, E2023/15909 , page 179

Background

The Bangalow Billycart Derby is an annual event held by the Bangalow Lions Club. It's been taking place since the first event in 1994.

The event took a 2 year hiatus due to COVID-19 and flood events, but ran another successful event in September 2022.

The format of the event is the same as in previous years, with traffic detoured through Deacon Street.

Event Overview

As a family friendly community event, the focus of the day is not the speed of the entries but family fun for participants and spectators. The Grand Parade is a highlight, the event also features local bands, vintage cars, schools, local clubs, scouts and celebrities.

The event involves the temporary closure of a section of Byron Street, between the Granuaille Road roundabout and Ashton Street intersection, with a traffic detoured through Deacon Street, the temporary closure will be in place between 6am and 5pm.

Key Issues

1. The proposed TGS places signage on Lismore to Bangalow Road (B62) and TfNSW controlled Granuaille Road.

2. The western end of Deacon Street is a laneway not suitable to Heavy Vehicles as a detour to the Pacific Highway. However, the volume of HV on Sunday's is very limited and not been a concern for previous years.

Council Implications

Financial Considerations

Nil.

Asset Management

Not applicable.

Policy or Regulation

All TGS's are to be developed and implement by people with the appropriate level and type of accreditation.

Consultation

A condition of the endorsement of this event is that the event organisers conduct appropriate community consultation, including:

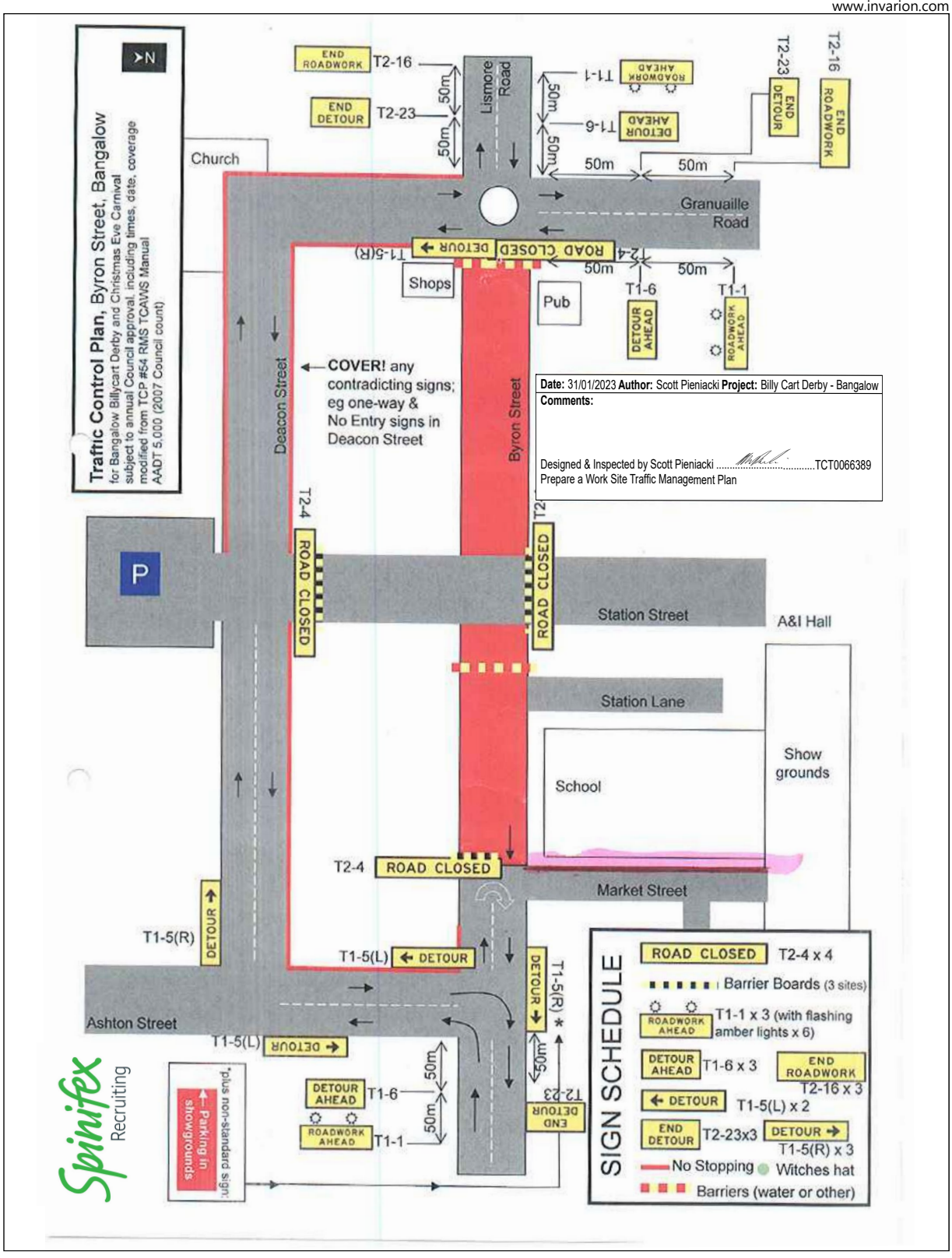
1. Advertising the impact of the event in the local newspaper and on the Council website.

2. Informing community and business that are directly impacted.
3. Liaising with bus and taxi operators.
4. Consulting with emergency services.

5 Legal and Risk Management

This road closure directly affects TfNSW controlled asset – Lismore to Bangalow Road (B62) and TfNSW controlled Granuaille Road. TfNSW Traffic Engineering Department requires separate approval of the TMP and TGS.

www.invarion.com



Report No. 8.3 Chincogan Charge - September 2024

File No: I2024/98

Council is in anticipation to receive an application for the Chincogan Charge to be held on Saturday 15 September 2024.

This was previously approved by the Local Traffic Committee (LTC) and by Council resolution **22-084**.

RECOMMENDATION:

1. That the Local Traffic Committee support the Chincogan Charge to be held on Saturday 15 September 2024.

2. That the Local Traffic Committee support in Part 1 is subject to:

a) separate approvals by NSW Police and TfNSW being obtained;

b) the event organiser providing council with an updated Traffic Management Plan and Traffic Guidance Scheme/s for the event if required;

c) development and implementation of a Traffic Management Plan and Traffic Guidance Scheme/s by those with appropriate TfNSW accreditation and the holding of current and appropriate levels of insurance and liability cover;

d) the impact of the event be advertised, and charged at cost to the organisers, via a notice in the local weekly paper and Variable Message Signage (VMS) a minimum of one week prior to the operational impacts taking effect, noting it must include the event name, specifics of any traffic impacts or road closures and times, alternative route arrangements, event organiser, a personal contact name and a telephone number for all event related enquiries or complaints;

e) the event be notified on Council's web page and social media with the event organiser supplying Council with the relevant information;

3. The event organiser to:

a) inform the community and businesses that are directly impacted (e.g. within road closure zones) via written information which is delivered to the property in a timely manner so as to document, consider and respond to any concerns raised;

b) arranging for private property access and egress affected by the event;

c) liaising with bus, taxi and waste operators and ensuring arrangements are made for provision of services during conduct of the event;

d) consulting with emergency services and any identified issues be addressed;

e) holding $20m public liability insurance cover which is valid for the event;

f) not place any signage on the road related area of the Pacific Highway.

Attachments:

1 Event - Chincogan Charge 2024 - 2026 V2 (003) TMP, E2024/6279 , page 184⇩

Background

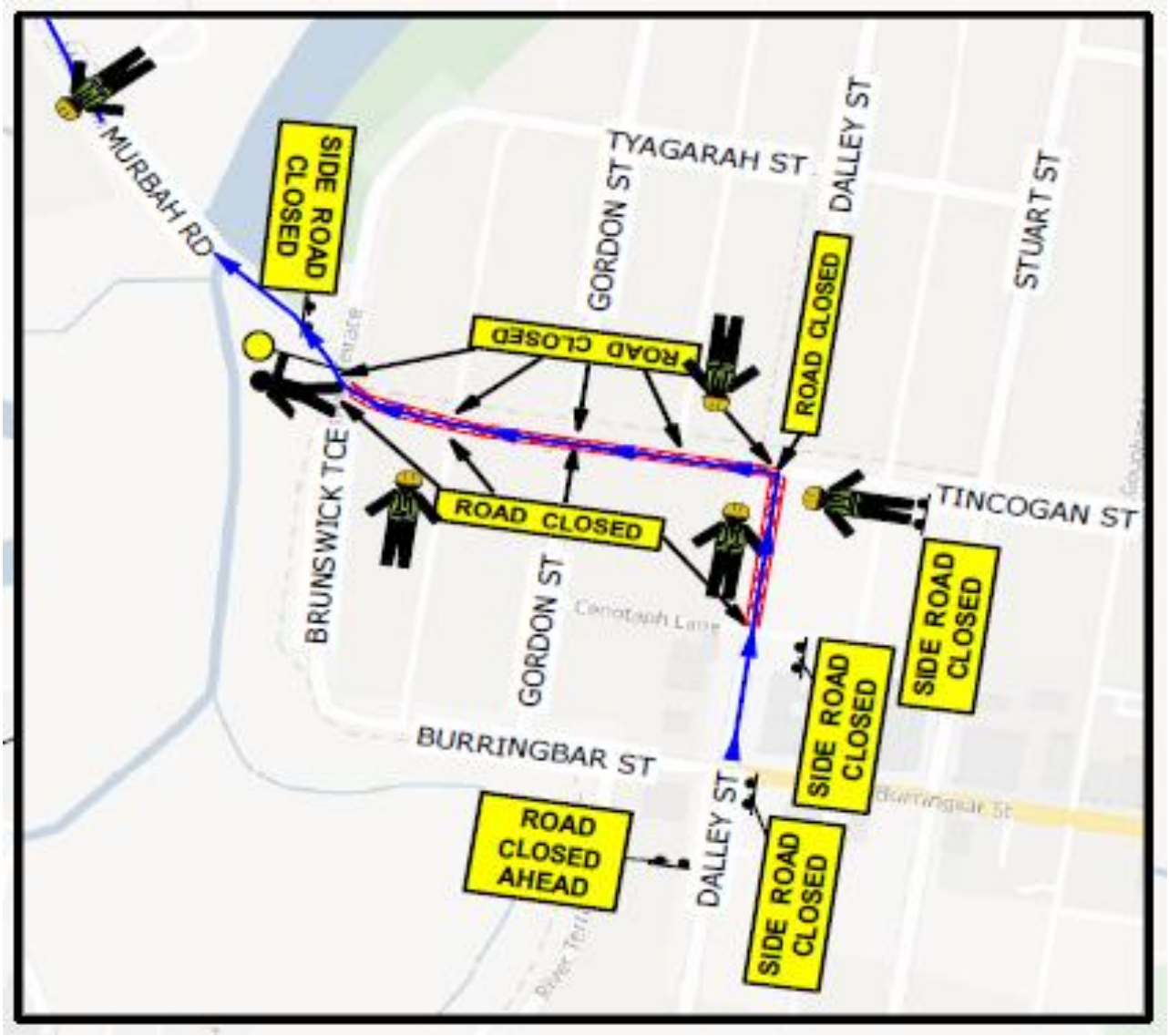
For the 2022 event the organisers followed the same course as 2020 (the 2021 event was cancelled due to COVID) with runners starting and finishing near Mullumbimby Police Station.

The road course will require actions to control traffic and the implementation of prescribed traffic control devices such as No Parking signs to control vehicles. 500 participants are expected.

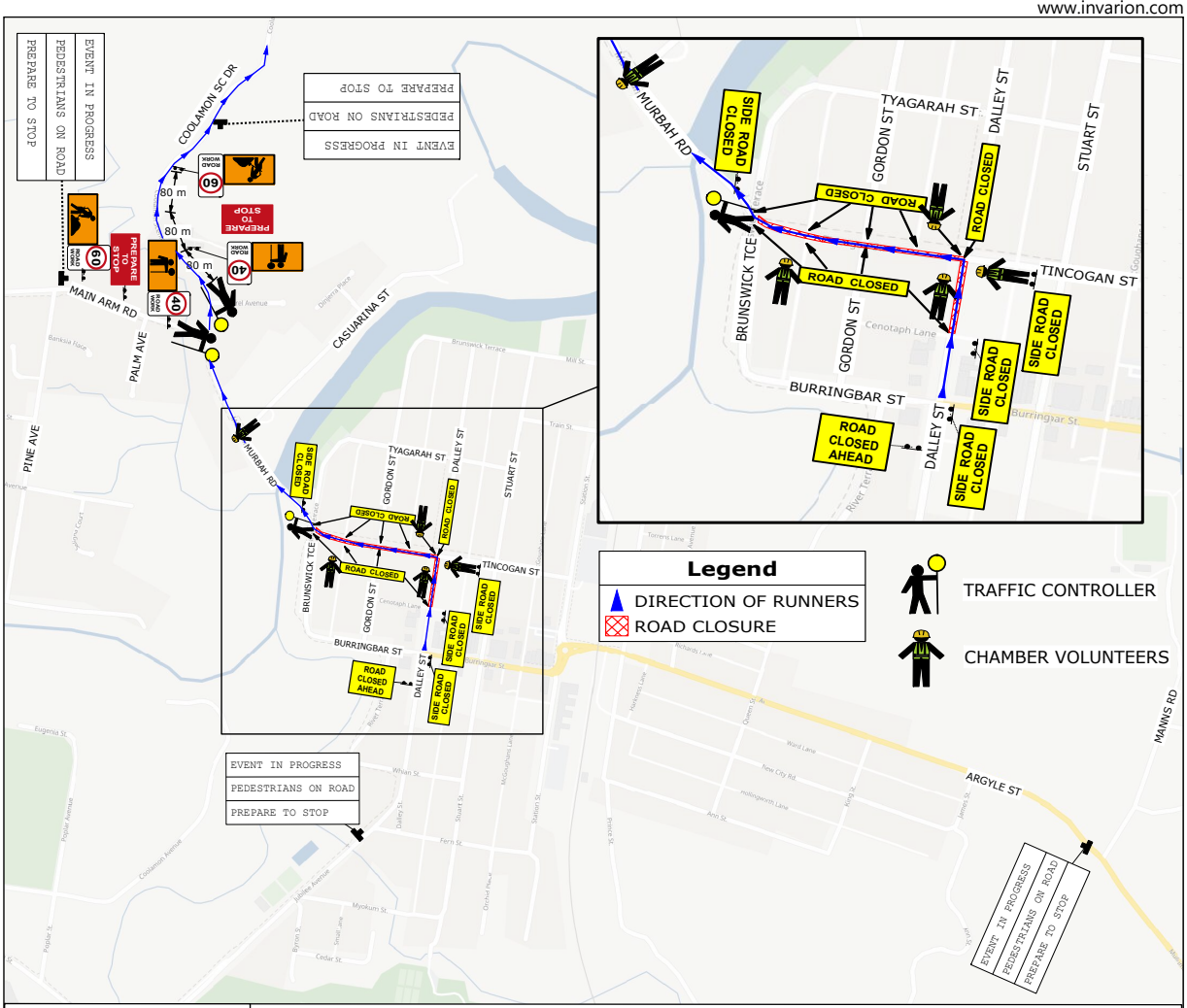
Event Overview

The organisers have submitted a 2023 TGS the image below shows the expected impact on roads. The blue line indicates the approximate running path within the road reserve and the following major impacts are planned:

- Dalley Street, between the Post Office and the Civic Hall is expected to be closed between 12.30-5.30pm
- Murwillumbah Road, at Federation Bridge to Main Arm Rd to be controlled by traffic controllers. The South bound lane will be used for contraflow traffic controlled by Traffic Controllers. Traffic will be allowed to access Main Arm Road in-between competitors. Traffic will be controlled at this point between 12.35-5.30pm
- Coolamon Scenic Drive from Main Arm Rd to 1913 Coolamon Scenic Drive. The South bound lane will be used for contraflow traffic controlled by Traffic Controllers. Traffic will be allowed to access Main Arm Road in-between competitors. Traffic will be controlled at this point between 12.40-5.30pm
- Once competitors cross the finish line they will move onto the footpath and head to the Mullumbimby Civic Memorial Hall for the presentation.
- The race itself is expected to finish at 4pm with presentations from 4-5.30pm.


MURBAH RD
SIDE ROAD CLOSED
TYAGARAH ST
GORDON ST
DALLEY ST
STUART ST
ROAD CLOSED
ROAD CLOSED
ROAD CLOSED
BRUNSWICK TCE
TINCOGAN ST
SIDE ROAD CLOSED
GORDON ST
BURRINGBAR ST
SIDE ROAD CLOSED
SIDE ROAD CLOSED
ROAD CLOSED AHEAD
DALLEY ST

www.invarion.com



Date: 11/07/23 **Author:** John Leeming **Project:** Chincogan Charge, Mullumbimby
Client: Mullumbimby Chamber of Commerce

Comments:
SHORT TERM WORK - NEXT TGS REVIEW JANUARY 2027
Based on Australian Standards 1742.3 & TC@WS V6 1 2022
VMS boards to be installed one week prior to event
VMS boards to show event date and times
VMS boards to be changed at event time to
(EVENT IN PROGRESS, PEDESTRIANS ON ROAD, PREPARE TO STOP)
SPFX-9 to be setup before each traffic control point
RFS to block all minor roads & open when all runners have passed
then close again on return of runners
Main Arm Rd traffic controller to assist with one lane traffic north on
Coolamon Scenic Drive

Inspected & Designed by John Leeming TCT0035936
Prepare A Work Zone Traffic Management Plan

Checked by Scott Pieniacki.....TCT0066389
Prepare A Work Zone Traffic Management Plan