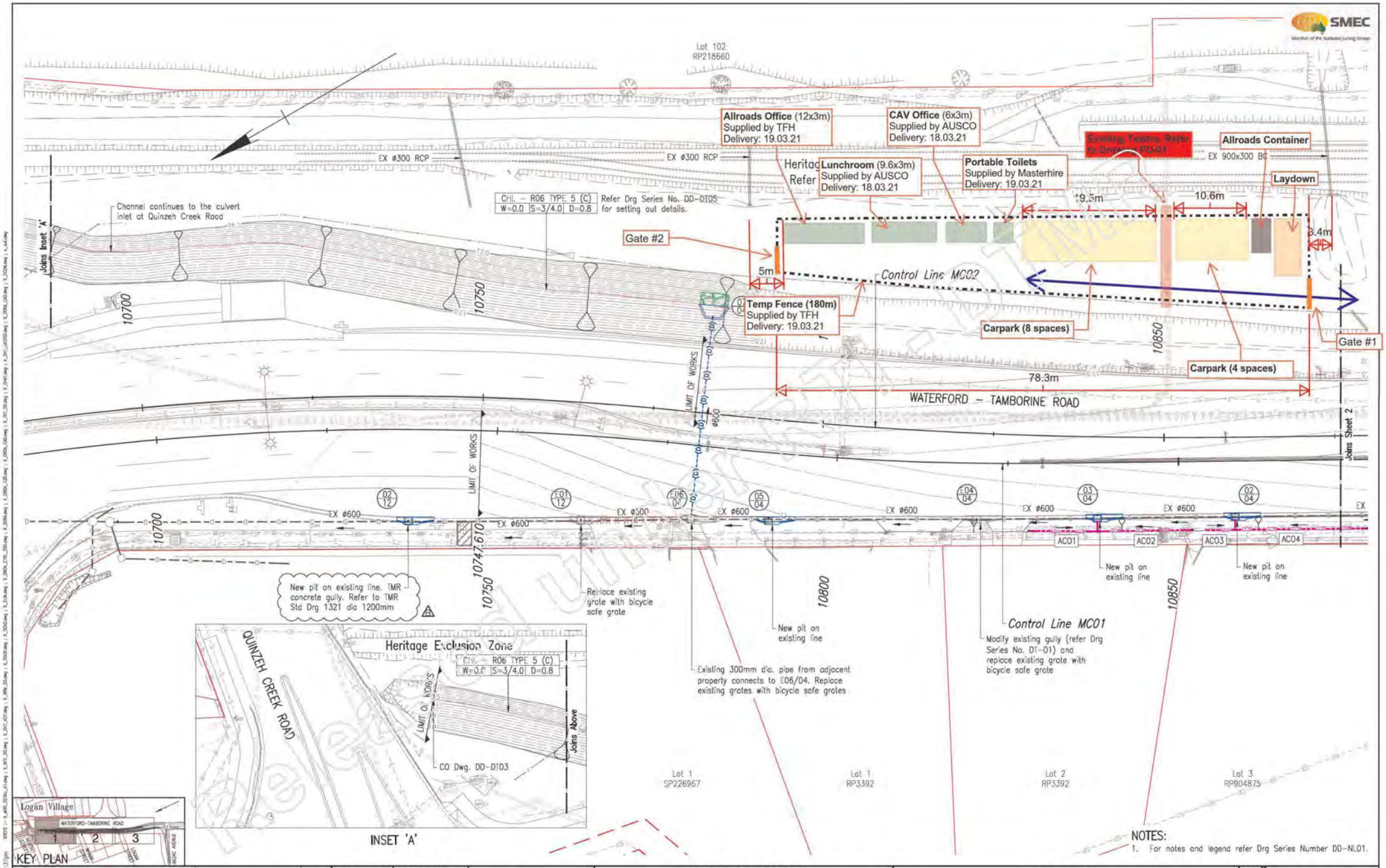


B	Gully pit specified	14093 J. Doyle	23.10.20
A	Issued For Construction		
	Revisions/Descriptions	Name or RPEQ No. Signature	Date

CAD FILES V:_Vault\Projects\30031795\CADD_WAR\CAD\DWG\12_DD\30031795-V12-DD-1001.dwg

Last Modified – Oct 23, 2020 – 1:37pm

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DT-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in millimeters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start joins	From start to RP	From end to Following RP	Following RP
4	1.388	0.558	3.554	5A

Through Chainage from Start of Gczettal 10.748km – 11.308km

Drawn P.W
Designed M.M

DRAINAGE
LAYOUT PLAN
SHEET 1 OF 3

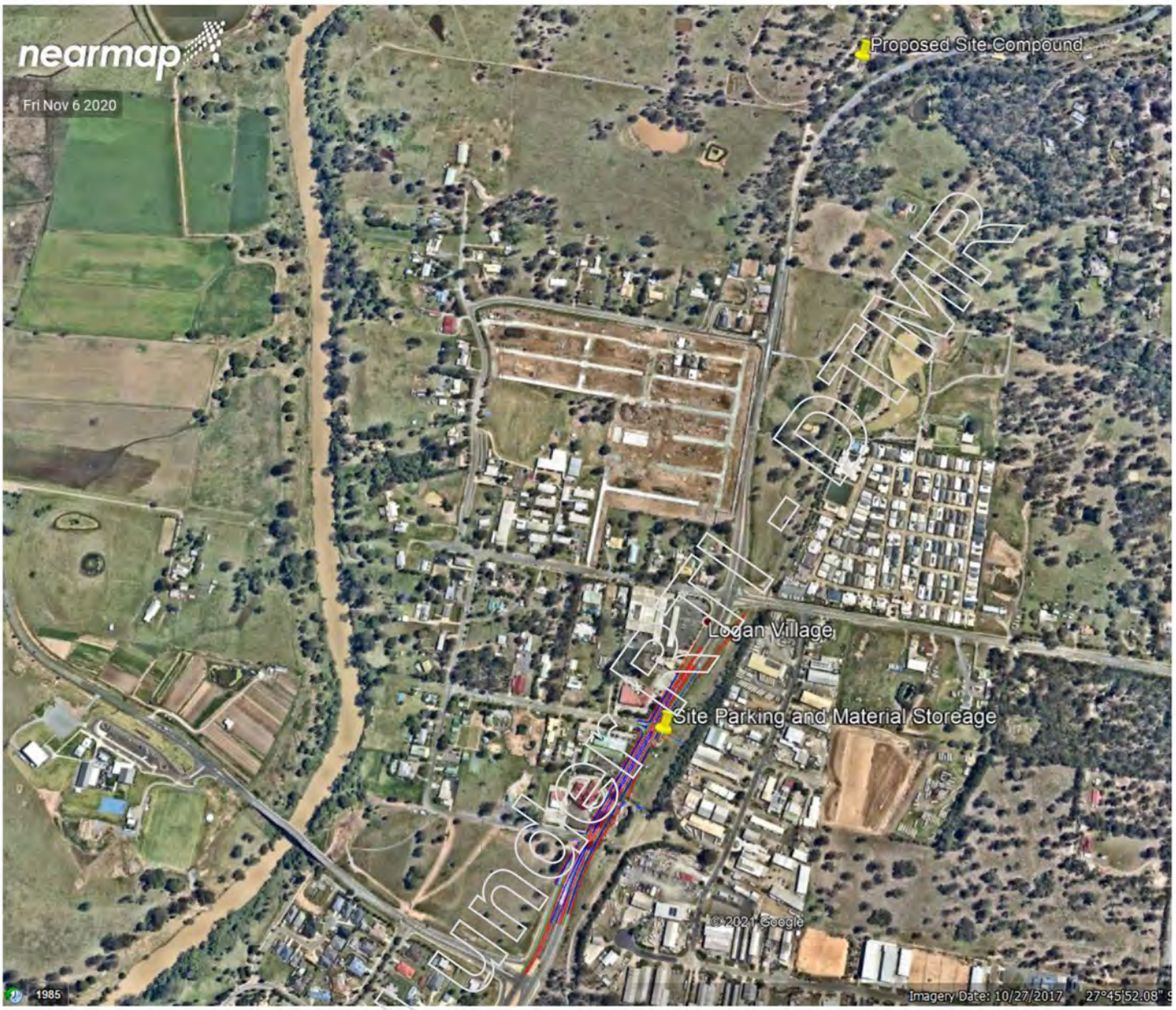
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	SIGNATURE	No.	DATE
CIVIL PI	ORIGINAL SIGNED	14093	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857918 B
Series Number	DD-01 of 3

Site Compound proximity to Project

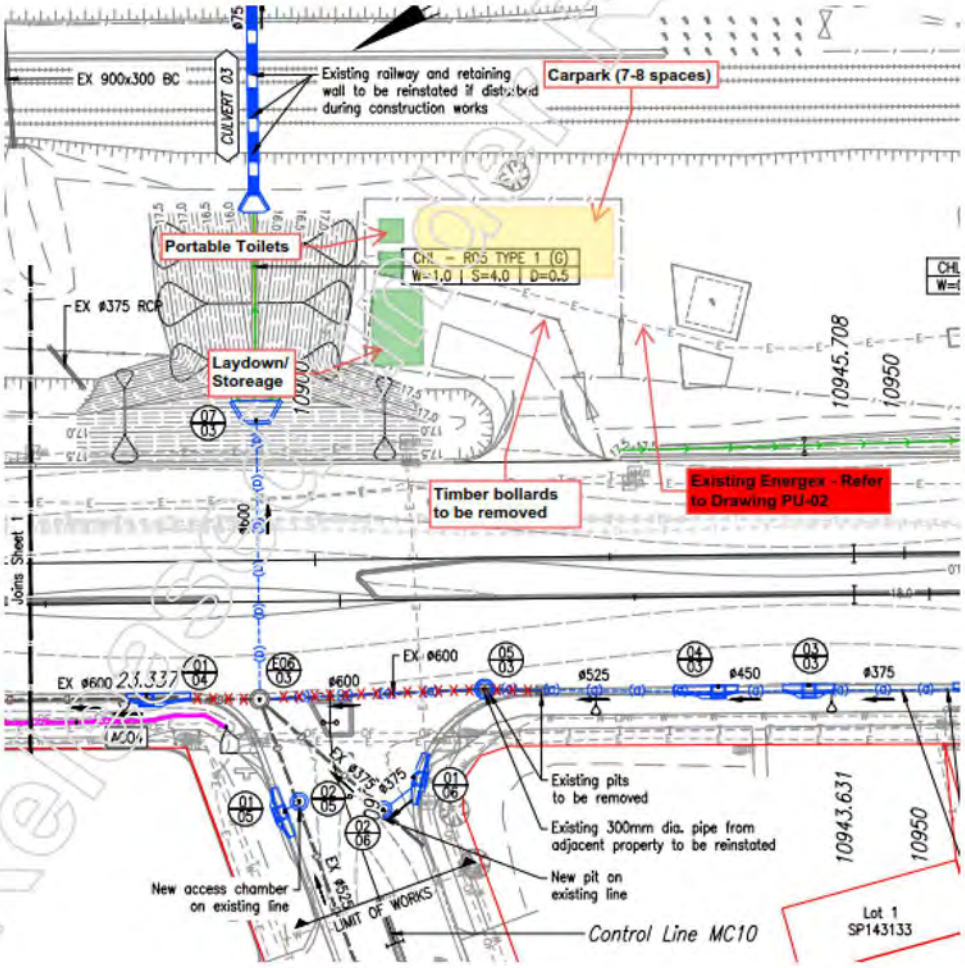


Compound Coordinates:
27°45'26.57"S 153° 6'41.79"E

Compound Location:

Compound Layout:

Site Parking and Material Storage Layout:



Queensland Government

Road Corridor Permit

(for ancillary works and encroachments under section 50 of the *Transport Infrastructure Act 1994*)

Permit holder details

Permit holder	
Allroads Pty Ltd	
Permit holder's postal address	
PO Box 318	
Browns Plains, QLD	Postcode 4118
Contact person PI	Phone number NR
Email address PI @allroads.net.au	

Permit approval details

Permit number	Commencement date	Expiry date
RCP2021-04253-A1	17/03/2021	27/08/2021

Structure or activity

Temporary Site Compound for CN14898 - As detailed in attached documentation for works on Waterford-Tamborine Road (207), LOGAN VILLAGE

Approved location

Waterford Tamborine Road - as per attached location plan (including new site compound location)

Important information:

This permit is only valid for the purpose stated. It cannot be transferred to another person or organisation. If the ownership or responsibility for the structure or activity changes, the permit holder must advise the Department of Transport and Main Roads (TMR) in writing of the date on which the permit holder's interest in the structure or activity will cease. You must also inform the new owner of their responsibility to obtain a new Road Corridor Permit.

During any activity on site (include maintenance), a copy of this permit (either in hard copy or electronic) and attached conditions must be produced upon request by a departmental officer. The attached conditions must be complied with throughout the duration of the permit. Failure to do so may result in the permit being cancelled and/or maximum fine of 200 penalty units. The relevant TMR Regional Director or their representation may vary the conditions for operational or safety purposes.

The conditions attached to this approval are set out below.

Authorising officer
Delegate's name
Ken Jensen
Position
Principal Engineer (Civil)
Date Works Agreement Authorised
23/03/2021
TMR office
Gold Coast Office, 36 - 38 Cotton Street, Nerang, Qld 4211
TMR office phone number
(07) 5563 6600

Conditions applying to this permit	
Works proposal documents – attached	
Conditions applying to all works (including standard conditions)	
A1	It is the permit holder's responsibility to ensure compliance with all relevant local, state and federal legislation and requirements. This permit allows the permit holder to use the road corridor provided certain conditions are met, and does not imply permission or approval for the structure being undertaken. It is up to the permit holder to obtain the relevant approvals from other agencies.
A2	The permit holder must notify the Department of Transport and Main Roads (TMR) within 10 business days if their address and/or contact details change.
A3	The permit holder is to ensure details of the emergency site contact is current.
A4	The permit holder must not under any circumstances enter into any arrangements to sublet or transfer the Road Corridor Permit.
A5	The permit holder must meet all costs associated with the planning, coordination, traffic management, operation, maintenance and clean-up of the activity. Note, TMR will bear no costs relating to the structure.
A6	TMR shall not be held liable for any delay, associated or consequential cost due, but not limited, to any approval, notification, opinion or decision in relation to a change or clarification in respect of the structure.
A7	Any damage to the existing road infrastructure caused by the structure is to be reported to TMR within twenty-four (24) hours and rectified/repaired at no cost to TMR. If the permit holder fails to respond to a written request from TMR to rectify or repair any damage caused, TMR may have the site rectified/repaired to an acceptable level and recover the cost of so doing from the permit holder.
A8	TMR does not accept any liability for damage to: • the structure by TMR or any third party • any utility services as part of undertaking the structure, and/or • third parties (personal or property) as part of undertaking the structure.
A9	The permit holder must, at all times during the currency of the permit, allow TMR free and unrestricted access to, from and across the permit area. This includes, but is not limited to, TMR personnel and public utilities.

A10	If TMR considers any structure associated with this permit impacts on or threatens to impact on the safety or efficiency of a state-controlled road, TMR may take immediate action to remove the structure.
A11	TMR may require the permit holder to relocate, make safe the structure for: • safety • efficiency of the road network, and/or • operational reasons such as works carried out along the relevant section of road. The required action must be undertaken within the specified period notified by TMR in writing.
A12	The permit holder must maintain the road corridor in a clean and tidy condition, and restore disturbed areas on request from TMR. All waste material is to be removed unless agreed to in writing. If the permit holder fails to respond to a written request from TMR to remove materials or restore the area, TMR may recover the cost from the permit holder. Anything not removed from the permit area will become the property of the state and may be disposed of or otherwise dealt with as TMR determines. The permit holder has no right to compensation or any claim against the state in respect of the loss.
A13	The permit holder is responsible for traffic safety and management during any circumstance or event associated with the structure (for example, installation, access, removal, and so on). Traffic safety and management includes identifying and taking steps to limit: • disruption to the flow of traffic, and • the risk of injury to road users (including pedestrians). Prior to any road closure or disruption of traffic (including pedestrian) a Traffic Control Permit must be obtained.
A14	The permit holder must notify TMR: • a minimum of 10 business days before undertaking any activity on site, and • within 5 business days of ceasing the activity.
A15	The permit holder must use approved intersections or property accesses to gain access to the site where the structure is sited.
A16	Upon expiry of the Road Corridor Permit, the permit holder must remove all evidence of the structure. Anything not removed from the permit area will become the property of the state and may be disposed of or otherwise dealt with as TMR determines. TMR may recover any costs for rectification and disposal from the permit holder. The permit holder has no right to compensation or any claim against the state in respect of the loss.
A17	Permit holder to keep copy of permit and other approvals on site at all times.
A18	The site compound and material storage / car park areas shall be established in accordance with the submitted plan 'Proposed Site Compound' and the following: • Access to the compound and material storage areas shall be through a gate which shall be kept locked when not in operation. • Necessary signage shall be erected on the sites with the contact details of the applicant. • Warning signs shall be erected indicating no unauthorised entry.
A19	The applicant is to comply with all environmental and cultural heritage requirements, in accordance with the EMP(C), as deemed suitable by the TMR project team.

A20	The permit holder will be required to maintain evidence of insurance to TMR in the form of a Certificate of Currency (CoC) from a reputable insurer. A compliant certificate will include the following: • Limit of liability of $20 million; • The Department of Transport & Main Roads (TMR) to be a Named Party or Interest Noted (not for private individual applicants); and • Period of insurance; to cover dates when the permit holder will be constructing / maintaining the structure. TMR requires provision of the CoC and will keep a record of same to rely upon if required. Insurance is required to be maintained by the applicant for the full contract/approved period. If the permit contract/approved period extends beyond the expiry date of the submitted CoC, the permit holder will be required to submit a new CoC every 12 months via the department's online system "Permits for Access to Road and Corridor" or email to the relevant local Transport Office quoting the permit number. *Note, the CoC provided is due to expire 31 March 2021 - to maintain currency and extend this permit beyond this date, the updated CoC would need to be provided to TMR prior to this date.*

Schedule applying to this permit	
Start date	End date
Other Activity or Structure Type - As detailed in attached documentation for works on Waterford-Tamborine Road (207), LOGAN VILLAGE	
17/03/2021	27/08/2021

Enquiries:

Position title:	Cinar Kunduz
District name:	South Coast Region
Contact email:	southcoast@tmr.qld.gov.au
Telephone number:	(07) 5563 6600

Queensland Government

Traffic Control Permit

(Transport Infrastructure Act 1994, section 33(1))

Permit holder details

Permit holder	Number
Customised Traffic Management	0054
Permit holder's postal address	
PO Box 256	
Brisbane Market LPO, QLD	Postcode 4106
Contact person: PI	Phone number: 07 3881 1191
Email address	
permits@customisedtraffic.com.au	
Applicant	
Dormway	
Applicant contact name: PI	Phone number: NR

Permit approval details

Permit number	Commencement date	Expiry date
TCP2021-04604	1/04/2021	30/06/2021

Structure or activity

Traffic Control -Shoulder Closure as per submitted TGSCTM2375-1 & CTM2375-2. Works to be undertaken generally in accordance with Conditions of approval TMR20-031687.

Approved location

Waterford Tamborine Road between Wharf Street and Manuka Road, Logan village.

Important information:

The decision of the Department of Transport and Main Roads (DTMR) to issue a permit is NOT an endorsement or approval of the safety or effectiveness of the traffic guidance scheme (TGS) and does NOT imply that the TGS complies with any or all applicable laws, regulations, by-laws, codes, standards, guidelines or manuals. DTMR disclaims any responsibility or liability that may arise from or in connection with the TGS submitted by the applicant. DTMR will conduct site audits of the TGS periodically, at the discretion of the department.

Authorising officer
Delegate's name
Praveen Bollavaram
Position
Senior Engineer (Civil)
Date Works Agreement Authorised
31/03/2021
TMR office
Gold Coast Office, 36 - 38 Cotton Street, Nerang, Qld 4211
TMR office phone number
(07) 5563 6600

Conditions applying to this permit	
Works proposal documents – attached	
Conditions applying to all works (including standard conditions)	
A1	The permit holder must be registered with the TMRs' Traffic Management Registration Scheme, with appropriate scope of registration.
A2	Traffic control, including the implementation of traffic control devices, shall only be performed by suitably accredited employees of the permit holder. Proof of accreditation must be carried at all times while on work site / event area for the duration of works / event.
A3	This permit is only valid for the times, dates and locations specified and is not transferrable. The permit holder must contact TMR to discuss any changes and obtain written approval of changes to the permit prior to conducting any works and/or event.
A4	This permit only grants permission for the installation of temporary traffic control for the nominated work and/or event site and does not negate the need for the permit holder to have all other necessary approvals required by another authority, occupier or owner. Examples include (but are not limited to) a Special Event Permit from Queensland Police Service; a Road Corridor or Public Utility Permit from TMR; appropriate instruments from Local Government, private property owner or lease holder. Failure to obtain such approvals and/or meet the conditions of such approvals will result in the immediate cancellation of this Traffic Control Permit (TCP).
A5	On receipt of this TCP, the permit holder must advise all impacted Public Transport Service authorities of any lane or road closures or the need to relocate services such as a designated bus stop.
A6	On receipt of this TCP, the permit holder must contact and advise all Emergency Service Authorities of any lane or road closures.
A7	A copy of this TCP is on site and available for inspection.
A8	In the event of excessive traffic disruptions or other unforeseen events (including but not limited to extreme weather), TMR reserves the right to direct the Permit holder to cease work and return the road to normal operation.
A9	TMR may direct the permit holder to take immediate action to safely return the lane or road to normal operation and then cancel the permit if the permit holder fails to comply with the TCP or causes a safety hazard.

A10	Signage must be erected in locations that do not impede pedestrians & cyclists, and do not block sight lines.
A11	All works to be carried out in accordance with the Traffic Management Plan and Traffic Guidance Scheme(s) associated with this Permit.
A12	The permit holder must keep current the "Emergency Site Contact" details associated with this TCP.
A13	There are other permits in place within the work area. Please contact following persons to avoid conflict. • [redacted] - TCI Pty Ltd - [redacted]
A14	The permit holder shall notify TMR South Coast Region Traffic Management Centre by calling 1800 131940 a minimum one (1) hour prior to going on site and immediately after leaving site each day. A contact name and phone number of the responsible person on site must be supplied.
A15	**Disruption to Bus Operations** • Access for buses and to bus stops must be maintained • If this is not possible, applicant must gain approval from TransLink for impacts to the passenger transport network as a result of the proposed works. • Applicants must apply 21 days prior to changes commencing and comply with any stipulated approval conditions. • Apply at https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Temporary-Closures-process In addition, if works are within the BCC LGA, applicant must advise Transport for Brisbane on 3178 7119, three (3) days prior to any upcoming full closure of roads
A16	Logan City Council should be notified of any proposed footpath & parking lane closure adjacent to the work area and necessary approvals must be obtained from Council before the commencement of any works.

Schedule applying to this Works Agreement

Start date	End date	Start time	End time	Days of the week
Traffic Control - Shoulder Closure as per submitted TGSCTM2375-1 & CTM2375-2. Works to be undertaken generally in accordance with Conditions of approval TMR20-031687.				
1/04/2021	30/06/2021	01:00 AM	12:00 AM	Mon,Tue,Wed,Thur,Fri,Sat,Sun

Enquiries:

Position title: Senior Engineer(Civil)
District name: South Coast Region
Contact email: southcoast@tmr.qld.gov.au
Telephone number: (07) 5563 6600

dormway
Infrastructure & Pipeline Construction

CUSTOMISED TRAFFIC MANAGEMENT
Address: 15 Station St, Rocklea 4106
ALL HOURS Telephone: 07 3881 1191
Fax: 07 3881 1197
Email: permits@customisedtraffic.com.au
Website: www.customisedtraffic.com.au
TMR Registration: 0054 - Exp 2023

TRAFFIC MANAGEMENT PLANNING
- Notes in support of TGS plans -

TGS TITLE: Notes Page
TGS ID 375
Designed By: PI (Customised Traffic Management) Signed: NR
TMD #: OP 974
Approved By: PI Signed:
TMD #: OP 974

Revision: A Date: 05-02-2021

FOR BETTER INTERPRETATION OF THIS DOCUMENT, IT IS RECOMMENDED IT IS PRINTED IN PRINT IN A3 AND IN COLOUR
PLAN NOT TO SCALE

1. Client: Dormway

2. Site Location: Waterford Tambourine Rd

Suburb: Logan Village

Intersection of - Algester & Illaweena St

3. Client reference number: N/A

4. Site Contact : Marc Evans

5. Phone Number: 0411 428 993

6. Type of works: Upgrading council assets

7. Works description:
Truck access for delivery's & stock removal
Works on private property
Works on road reserve

8. Proposed start of works: ASAP

9. Duration: As Required

10. Work Hours: 7PM-5AM Daily

11. Other Information:

CTM2375	Notes & Instructions: This Document
CTM2375-1	Truck Access - Using existing features
CTM2375-2	Truck Access - Construction crossover Works on shoulder

General TGS notes
1. These drawings have been prepared from information collected on site and from information provided by the client.
- Some existing road features and/or conditions may have changed prior to or during the establishment of this TGS.
- If this occurs the Contractor is to notify the Traffic Management company or Traffic Management Design person responsible to authorise any alterations required.
2. This TGS is only to be installed by competent personnel, adequately trained and experienced to install Traffic Management Devices (Traffic Management Implementation).
3. The extent of any work areas shown on this plan are diagrammatic only.
4. Residential and business property access shall be maintained.
5. Lane width. (Posted speed limit during roadwork's) 40 - 60 km/h = 3.0m Permanent lane widths shall be maintained if they differ to these specifications.
6. Edge Clearance (Posted speed limit during roadwork's) 40 - 60 km/h = 0.5m Ensure all relevant Permits and these plans are onsite and can be produced upon request by an authorized person.
7. The Worker (symbolic) sign shall only be displayed when workers are actually working, or are visible to traffic, or both, and shall be removed or covered when workers have left the area or are no longer visible.
8. Temporary speed zones shall apply only while the relevant conditions exist, and shall be removed as soon as practical after the need for its imposition passes.

Emergency Services:
- Access shall be maintained for all emergency vehicles at all times.
- Where required, all services should be advised of proposed works and times in advance of works commencing, or for emergency works, as soon as practical.

Notes on Traffic Controllers
A. An accredited traffic controller must not contravene the Traffic Controller Accreditation Scheme Approved Procedure (TCASAP) & must direct traffic in a way stated in both the Approved Procedure & the MUTCD (Current version)
B. Breaks shall be taken as specified in TCASAP. (See Section 2.4) Additional Controllers may be required for this purpose. (Additional Information under fatigue Management insert on this page)
C. Where Traffic Controllers are required, ensure they have a clear escape path to a non-traffic (closed) section of the roadway, shoulder, footpath or median during works operation at all times.

Communications.
Due to the nature of the works, daily works / methods will be initially communicated to workers & Traffic Controllers by an onsite tool box meeting at beginning of shift.
During works, Workers & Traffic Controllers may operate under a "line of sight" method or utilize 2 way radios (as required by type of control).

Record Keeping
- Supervisory personnel shall keep daily records of the sign arrangements / TGS scheme.
This will include the following details:
- Date.
- Location.
- Job Identification.
- Time of inspection.
- Details of Inspector.
- Details of changes, and who it was authorised by.
- Record of TMP, TGS, permit and other relevant documents / numbers in use. This information should be kept in a dairy or work sheet.

Conditions:
TGS's must be implemented in line with these TGS notes & notes on individual pages (or otherwise in accordance with Queensland Manual of Uniform Traffic Control Devices - Part 3: Traffic Control for Works on Roads).

General Disclaimer:
This Traffic Guidance Scheme designed by Customised Traffic Management
This TGS has been prepared in accordance with the information supplied by the "client".
Technical due-care has been applied in the collation of the relevant information on which this TGS is based.
The 'TM Design professional/consultant' is not responsible for any omissions or errors in the base information supplied by the client.
While all care has been taken in the preparation of this TGS, traffic and site conditions at the time of the works may vary from those established in the development of the TGS.
The 'Client' is responsible for undertaking an evaluation of the site and traffic conditions against any 'application constraints' outlined within this TGS as appropriate. Where conditions vary from those documented / detailed, additional input from a TM Design professional should be sought.

Restrictions:
This TGS can only be applied at location shown for the specific works detailed on each plan as part of the specified project (if supplied)
All Requirements stated in any Permit, MTRS02, MTRS02.1, TMP, or any other statutory requirement will be observed / implemented.

WHERE REQUIRED / SPECIFIED -
CALL TMC BEFORE AND AFTER SHIFT
Sunshine Coast Traffic Management Centre: 07 5475 2837
Brisbane Metro Traffic Management Centre: 07 3292 6095
Gold Coast Traffic Management Centre: 07 5667 3639

** IN CASE OF AN **
** EMERGENCY **
STOP & DIAL
000 or 112
FROM MOBILE

FATIGUE MANAGEMENT
ACTIVE TRAFFIC CONTROLLERS
2 - 4 : REQUIRE 1 ADDITIONAL
5 - 8 : REQUIRE 2 ADDITIONAL
9 - 12: REQUIRE 3 ADDITIONAL

ROAD WORKER SAFETY HOTLINE
1800 501 509
TGS EFFECTIVENESS AND/OR SUGGESTED IMPROVEMENTS:
PLEASE EMAIL BACK PERMITS@CUSTOMISEDTRAFFIC.COM.AU
FOR EVALUATION PURPOSES.

TRAFFIC MANAGEMENT COMPANY:
Customised Traffic Management Pty Ltd
ABN: 36 601 113 428
Address: 15 Station St, Rocklea 4106
ALL HOURS Telephone: 07 3881 1191; Fax: 07 3881 1197
Email: permits@customisedtraffic.com.au;
Website: www.customisedtraffic.com.au
TMR Registration: 0054: Expiry: 21/02/2023

Implementation Notes
1. Ensure a traffic management site specific risk assessment is undertaken prior to ALL traffic control setups or when required due to changes in conditions on site to ensure provided TGS adequately addresses all risks that are present onsite.
2. Ensure you maintain a safe working distance from traffic.
3. Remain aware of traffic conditions and maintain line of sight.
4. Inspections to be completed after setup, during closure & upon completion of pack up, or as specified / requested. Records are to include times and any actions that were required during each check.
5. All signs to be clean, undamaged & legible.
6. All Signage and Equipment used shall be in accordance with Queensland MUTCD Part 3. (Current edition)
7. Sign installation sequence shall be as follows:
a. Advance warning & regulatory signs
b. All intermediate advance warning signs
c. All delineation devices to form taper including illuminated flashing arrow at end of taper where required
d. Delineation of work area or side track
e. Signs & devices that are erected before they are required should be fully covered until immediately prior to commencement of work.
f. Detour signs to be installed prior to any road / part road closure
8. When installed for short term works, signage will be installed a minimum height of 200mm - measurement from the shoulder surface to the bottom edge of the sign
9. Existing signs & traffic control devices which are inappropriate to, or conflict with, the temporary work site situation shall be fully covered..
10. Signs covered or removed should be recorded on TMR Form 994 or signage checklist sheet including time covered and time uncovered.
11. Hours of operation: As Specified on TGS and or permit
12. Ensure all permit requirements/instructions have been installed/followed.
13. Work is not to commence until the TGS plan is fully implemented.
13. Long Term Signage
- Roadwork Signage displayed continuously for works which will be in progress for periods longer than 2 weeks should be erected in a permanent manner.
- Speed signs displayed continuously for works which will be in progress for periods longer than 2 weeks shall be erected in a permanent manner. e.g. on posts sunk into the ground, and duplicated on the right hand side of the road.
- Signage heights will be - curbed / built up area 2.2m, open road environment 1.5m or as per MUTCD clause 2.2 (h)

Signage & Devices
1. Prior to installation, signs and devices should be examined before installation to ensure that they are in good condition prior to use to ensure their performance is not impaired.
2.The tolerance table shown on this this page, or on the Traffic Guidance Scheme (TGS) indicates tolerances permitted for a TMI officer on the positioning of signs detailed in the plans.
3. Cone spacing table shown on this Traffic Guidance Scheme (TGS) indicated the maximum cone / bollard spacing recommended when implementing these TGS plans.
4. Cone Sizes - Cone sizes will be as per MUTCD clause 3.9.1. Generally a 700mm cone or greater will be used in all speed environments.
5. Unless noted otherwise in the drawings, all signage is to be positioned clear of travel path behind the curb and visible to oncoming traffic and not obstructing pedestrians, otherwise or, the pavement as near as practicable to the curb without the sign becoming obscured and without obstructing moving traffic.
-Signs and devices should be positioned and erected so that-
(a) they are properly displayed and securely mounted (Clause 3.3);
(b) they are within the line of sight of the intended road user;
(c) they cannot be obscured from view (e.g., by vegetation or parked cars);
(d) they do not obscure other devices from the line of sight of the intended road user;
(e) they do not become a possible hazard to workers, pedestrians or vehicles;
(f) they do not deflect traffic into an undesirable path.
(g) they do not restrict sight distance for drivers entering from side roads or streets, or private driveways;
(h) they are not installed using supports that could be a hazard if struck by vehicle.
6. Signs should face towards approaching traffic approximately at right angles to the line of sight from the driver to the sign.
7.Where windy conditions are expected either due to weather or heavy vehicles; signs should have additional sign support and be located with adequate lateral clearance from the travelled way.
It is recommended in these conditions that signs either be mounted on permanent posts or, where this is not practicable, a cleat or similar should be affixed to the outside of the edge of the sign approximately a quarter up from its base. Sufficiently weighted sand bags should then be attached to this with rope / string with some tension applied to the cleat.

Avoiding end-of-queue collisions
At an active traffic control position, under conditions of heavy traffic or lengthy delays, or a combination of the two, long queues may form. Depending on speed of traffic and sight distance to the end of a queue, additional advance warning may be required to avoid end-of-queue collisions. Refer to Figure 4.7

End-of-queue protection shall be provided whenever a stationary queue is likely to extend to a point less than D (see Table 4.2) meters beyond the PREPARE TO STOP sign associated with the active control and either or both of the following apply:
a) Posted speed during roadworks is greater than 70 km/h.
b) Sight distance to the end of the queue for approaching traffic is likely to be less than 2D (open road areas) or D (built-up areas).

The following requirements and recommendations apply to the provision of end-of-queue protection where significant queues will form:
i. Where the maximum queue length can be predicted in advance, the primary PREPARE TO STOP sign shall be located so that the distance from this sign to the end of the queue is never likely to be less than D (see Figure 4.7). The distance may need to be adjusted if the queue length proves to have been underestimated. If the primary PREPARE TO STOP sign needs to be placed more than 4D (approximately 15 seconds of travel time) from the control point, repeater PREPARE TO STOP signs at intervals of not more than 4D should be provided between that point and the control point to provide for conditions after the queue has dispersed. In any relocation of the primary PREPARE TO STOP sign, the distance D to the ROADWORK AHEAD sign shall be maintained. A queued traffic ahead (T1-Q15) multi-message sign assembly may be used as the primary advance sign.
ii. A second Traffic Controller can be employed to shift the PREPARE TO STOP sign and the ROADWORK AHEAD sign as necessary to maintain its minimum required distance in advance of the end of queue. The Traffic Controller may also display the SLOW bat at each location in which case a 60 km/h temporary speed zone shall be extended to cover that position.
iii. Distant advance warning using variable message signs should also be used where practicable.
iv. All other advance and position signs required for the work site shall be located at the distances otherwise specified from the start of the work area.

Recommended Maximum Spacing of cones and bollards		
Purpose	Speed Limit	Recommended Maximum spacing
All Purposes	< 50	4m
Centre-line on approach to a traffic controller position	All Cases	4m
Outer edge of traffic lanes (Shoulder/Parking Lane closure)	60 to 70	18m
	>70	24m
Separating opposing traffic on a 2 way 2 lane rd (partial or complete lane closure)	60 to 70	12m
	>70	18m
Separating opposing traffic on a multilane undivided road (as part of a lane closure)	60 to 70	12m
	>70	18m
Separating opposing traffic on a contra-flow section of a multilane divided rd	60 to 70	6m
	>70	9m
Adjacent to a closed lane on a multilane undivided road (Lane Closure)	60 to 70	18m
	>70	24m
Closed lane on a two way road under shuttle flow (stop slow)	60 to 70	18m
	>70	24m
Merge taper	60 to 70	9m
	>70	12m
Lateral shift taper	60 to 70	12m
	>70	18m
Taper at traffic control station	All Cases	4m
Close delineation	All Cases	4m
At Crossovers	All Cases	2m

Tolerances ins distance (all values in meters)		
Measurment	-10%	+25%
15	13	19
20	18	25
30	27	38
45	35	56
60	54	75
80	72	100
90	81	113
100	90	125
120	108	150
160	144	200
200	180	250
300	260	375
500	450	625

CUSTOMISED TRAFFIC MANAGEMENT
Address: 15 Station St, Rocklea 4106
ALL HOURS Telephone: 07 3881 1191
Fax: 07 3881 1197
Email: permits@customisedtraffic.com.au
Website: www.customisedtraffic.com.au
TMR Registration: 0054 - Exp 2023

dormway
Infrastructure & Pipeline Construction

TRAFFIC MANAGEMENT PLANNING
- TRAFFIC GUIDANCE SCHEME -

TGS TITLE: Site Access
TGS ID 02375-1

Revision: A **Date:** 05-02-2021
TGS Review Date 12 months from this date

Designed By: PI TMD #: OP Signed: NR
Approved By: PI TMD #: OP 674 Signed:

PLAN NOT TO SCALE

FOR BETTER INTERPRETATION OF THIS DOCUMENT, IT IS RECOMMENDED IT IS PRINTED IN PRINT IN A3 AND IN COLOUR

Minimum Requirements	
Traffic Controller	0
Signage /Arrow Board Vehicle	0
Additional TC for breaks & Rotation *	0
VMS	0
Traffic Signals	0
QPS & Vehicle	0
Specialty Signage or equipment	YES
Long term signage	YES

* Traffic Controllers must be given a break every two hours when doing stop slow. If this is not possible, an additional traffic controller may be required to perform this task

Legend

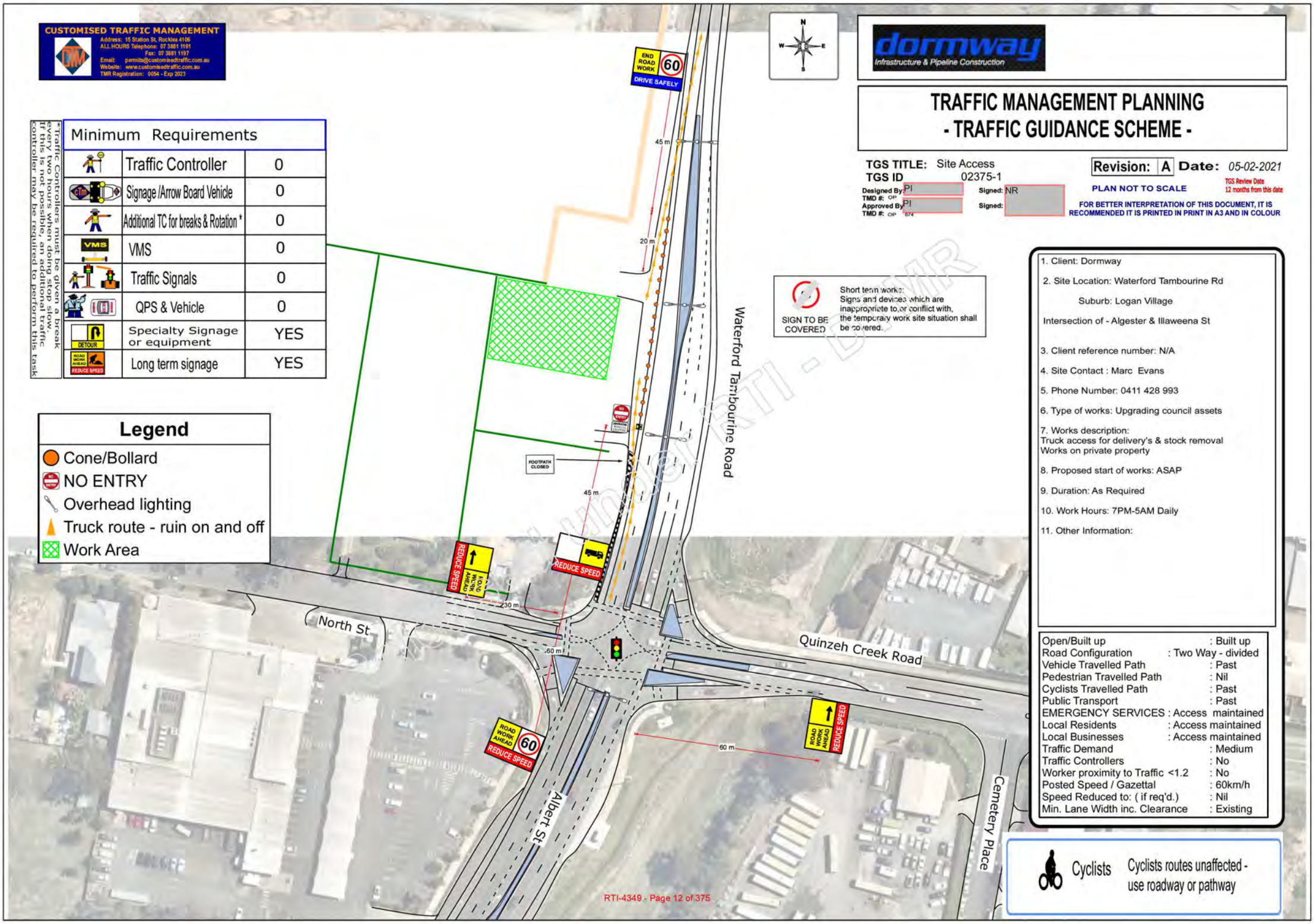
- Cone/Bollard
- NO ENTRY
- Overhead lighting
- Truck route - ruin on and off
- Work Area

SIGN TO BE COVERED — Short term works: Signs and devices which are inappropriate to, or conflict with, the temporary work site situation shall be covered.

1. Client: Dormway
2. Site Location: Waterford Tambourine Rd
   Suburb: Logan Village
   Intersection of - Algester & Illaweena St
3. Client reference number: N/A
4. Site Contact : Marc Evans
5. Phone Number: 0411 428 993
6. Type of works: Upgrading council assets
7. Works description:
   Truck access for delivery's & stock removal
   Works on private property
8. Proposed start of works: ASAP
9. Duration: As Required
10. Work Hours: 7PM-5AM Daily
11. Other Information:

Open/Built up	: Built up
Road Configuration	: Two Way - divided
Vehicle Travelled Path	: Past
Pedestrian Travelled Path	: Nil
Cyclists Travelled Path	: Past
Public Transport	: Past
EMERGENCY SERVICES	: Access maintained
Local Residents	: Access maintained
Local Businesses	: Access maintained
Traffic Demand	: Medium
Traffic Controllers	: No
Worker proximity to Traffic <1.2	: No
Posted Speed / Gazettal	: 60km/h
Speed Reduced to: (if req'd.)	: Nil
Min. Lane Width inc. Clearance	: Existing

Cyclists — Cyclists routes unaffected - use roadway or pathway



CUSTOMISED TRAFFIC MANAGEMENT
Address: 15 Station St, Rocklea 4106
ALL HOURS Telephone: 07 3881 1191
Fax: 07 3881 1197
Email: permits@customisedtraffic.com.au
Website: www.customisedtraffic.com.au
TMR Registration: 0054 - Exp 2023

dormway
Infrastructure & Pipeline Construction

TRAFFIC MANAGEMENT PLANNING
- TRAFFIC GUIDANCE SCHEME -

TGS TITLE: Site Access - Works on shoulder
TGS ID CTM02375-2
Revision: A **Date:** 05-02-2021
TGS Review Date 12 months from this date

Designed By PI TMD #: OP 674 Signed: NR
Approved By PI TMD #: OP 674 Signed:

PLAN NOT TO SCALE

FOR BETTER INTERPRETATION OF THIS DOCUMENT, IT IS RECOMMENDED IT IS PRINTED IN PRINT IN A3 AND IN COLOUR

Minimum Requirements		
	Traffic Controller	0
	Signage /Arrow Board Vehicle	0
	Additional TC for breaks & Rotation *	0
VMS	VMS	0
	Traffic Signals	0
	QPS & Vehicle	0
DETOUR	Specialty Signage or equipment	YES
ROAD WORK AHEAD REDUCE SPEED	Long term signage	YES

*Traffic Controllers must be given a break every two hours when doing stop slow If this is not possible, an additional traffic controller may be required to perform this task

Legend

- Cone/Bollard
- NO ENTRY
- Overhead lighting
- Truck route - ruin on and off
- Work Area

SIGN TO BE COVERED — Short term works: Signs and devices which are inappropriate to, or conflict with, the temporary work site situation shall be covered.

REDUCE SPEED 40 — Only to be displayed when workers are within 1.2m from traffic lane

1. Client: Dormway
2. Site Location: Waterford Tambourine Rd
   Suburb: Logan Village
   Intersection of - Algester & Illaweena St
3. Client reference number: N/A
4. Site Contact : Marc Evans
5. Phone Number: 0411 428 993
6. Type of works: Upgrading council assets
7. Works description:
   Truck access for delivery's & stock removal
   Works road verge
8. Proposed start of works: ASAP
9. Duration: As Required
10. Work Hours: 7PM-5AM Daily
11. Other Information:

Open/Built up	: Built up
Road Configuration	: Two Way - divided
Vehicle Travelled Path	: Past
Pedestrian Travelled Path	: Nil
Cyclists Travelled Path	: Past
Public Transport	: Past
EMERGENCY SERVICES	: Access maintained
Local Residents	: Access maintained
Local Businesses	: Access maintained
Traffic Demand	: Medium
Traffic Controllers	: No
Worker proximity to Traffic	<1.2 : Yes
Posted Speed / Gazettal	: 60km/h
Speed Reduced to: (if req'd.)	: 40 kmh
Min. Lane Width inc. Clearance	: Existing

Cyclists — Cyclists routes unaffected - use roadway or pathway

END ROAD WORK 60 DRIVE SAFELY
45 m
Waterford Tambourine Road
FOOTPATH CLOSED
45 m
REDUCE SPEED
30 m
North St
60 m
Quinzeh Creek Road
ROAD WORK AHEAD 60 REDUCE SPEED
60 m
ROAD WORK AHEAD REDUCE SPEED
Albert St
Ce... Place

Queensland Government

Traffic Control Permit

(Transport Infrastructure Act 1994, section 33(1))

Permit holder details

Permit holder	Number
Verifact Traffic Pty Ltd	0079

Permit holder's postal address

PO Box 826

Springwood, QLD Postcode 4127

Contact person

PI

Phone number

07 3290 4948

Email address

plans@verifacttraffic.com.au

Applicant

Energex

Applicant contact name

PI

Phone number

PI

Permit approval details

Permit number	Commencement date	Expiry date
TCP2021-05901	15/06/2021	15/07/2021

Structure or activity

Energex maintenance works - 3 phase over head attachment relocation on Waterford Tamborine Rd at the intersection with Quinzeh Creek Rd, Logan Village
(Application ID: 2021-06680)

Approved location

Waterford Tamborine Rd, Logan Village
(Between Manuka Rd & Wharf St)

Important information:

The decision of the Department of Transport and Main Roads (DTMR) to issue a permit is NOT an endorsement or approval of the safety or effectiveness of the traffic guidance scheme (TGS) and does NOT imply that the TGS complies with any or all applicable laws, regulations, by-laws, codes, standards, guidelines or manuals. DTMR disclaims any responsibility or liability that may arise from or in connection with the TGS submitted by the applicant. DTMR will conduct site audits of the TGS periodically, at the discretion of the department.

Authorising officer
Delegate's name
Sumin Shrestha
Position
Senior Engineer (Civil)
Date Works Agreement Authorised
28/05/2021
TMR office
Gold Coast Office, 36 - 38 Cotton Street, Nerang, Qld 4211
TMR office phone number
(07) 5563 6600

Conditions applying to this permit	
Works proposal documents – attached	
Conditions applying to all works (including standard conditions)	
A1	The permit holder must be registered with the TMRs' Traffic Management Registration Scheme, with appropriate scope of registration.
A2	Traffic control, including the implementation of traffic control devices, shall only be performed by suitably accredited employees of the permit holder. Proof of accreditation must be carried at all times while on work site / event area for the duration of works / event.
A3	This permit is only valid for the times, dates and locations specified and is not transferrable. The permit holder must contact TMR to discuss any changes and obtain written approval of changes to the permit prior to conducting any works and/or event.
A4	This permit only grants permission for the installation of temporary traffic control for the nominated work and/or event site and does not negate the need for the permit holder to have all other necessary approvals required by another authority, occupier or owner. Examples include (but are not limited to) a Special Event Permit from Queensland Police Service; a Road Corridor or Public Utility Permit from TMR; appropriate instruments from Local Government, private property owner or lease holder. Failure to obtain such approvals and/or meet the conditions of such approvals will result in the immediate cancellation of this Traffic Control Permit (TCP).
A5	On receipt of this TCP, the permit holder must advise all impacted Public Transport Service authorities of any lane or road closures or the need to relocate services such as a designated bus stop.
A6	On receipt of this TCP, the permit holder must contact and advise all Emergency Service Authorities of any lane or road closures.
A7	A copy of this TCP is on site and available for inspection.
A8	In the event of excessive traffic disruptions or other unforeseen events (including but not limited to extreme weather), TMR reserves the right to direct the Permit holder to cease work and return the road to normal operation.
A9	TMR may direct the permit holder to take immediate action to safely return the lane or road to normal operation and then cancel the permit if the permit holder fails to comply with the TCP or causes a safety hazard.

A10	Signage must be erected in locations that do not impede pedestrians & cyclists, and do not block sight lines.
A11	All works to be carried out in accordance with the Traffic Management Plan and Traffic Guidance Scheme(s) associated with this Permit.
A12	The permit holder must keep current the "Emergency Site Contact" details associated with this TCP.
A13	The permit holder shall notify TMR South Coast Region Traffic Management Centre by calling 1800 131940 a minimum one (1) hour prior to going on site and immediately after leaving site each day. A contact name and phone number of the responsible person on site must be supplied.
A14	**Approval from Logan City Council must be obtained for signage & traffic management on North St & Quinzeh Creek Rd, prior to the implementation.**
A15	**Disruption to Bus Operations** • Access for buses and to bus stops must be maintained • If this is not possible, applicant must gain approval from TransLink for impacts to the passenger transport network as a result of the proposed works. • Applicants must apply 21 days prior to changes commencing and comply with any stipulated approval conditions. • Apply at https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Temporary-Closures-process In addition, if works are within the BCC LGA, applicant must advise Transport for Brisbane on 3178 7119, three (3) days prior to any upcoming full closure of roads
A16	There are other permits in place within the work area. Please contact following persons to avoid conflict. • PI (Customised Traffic Management - PI • PI Traffic Control Innovations NR)
A17	**During intermittent stoppage (Stop/Slow), traffic queue must be monitored regularly and must not extend beyond intersections adjacent to the extent of traffic management, to ensure the delay to traffic is within the acceptable limit in accordance with the current version of MUTCD Part 3 requirements.**

Schedule applying to this Works Agreement				
Start date	End date	Start time	End time	Days of the week
Traffic Control - Left Turn Lane & Left Lane Closure Northbound, Full Road Closure Southbound, Shuttle Flow, Stop/Slow, Reduction of Speed, QPS Control Intersection both directions on Waterford Tamborine Rd at the intersection with Quinzeh Creek Rd, Logan Village (Between Manuka Rd & Wharf St)				
15/06/2021	21/06/2021	12:00 PM	02:00 PM	Mon,Tue,Wed,Thur,Fri

Enquiries:

Position title:	Sumin Shrestha (Senior Engineer)
District name:	South Coast Region
Contact email:	southcoast@tmr.qld.gov.au
Telephone number:	(07) 5563 6600

TRAFFIC GUIDANCE SCHEMES

verifact

Page	TGS NUMBER	DESCRIPTION
1	EQ-170521-1IL-21050073	Cover Page
2		Notes
3-4		Energex - Waterford Tamborine Rd, Logan Village - Lane Closure (QPS) - TGS 1 - 21050073
		TGS Risk Assessment to be supplied upon request

NOTES

CLIENT : Energex

CLIENT CONTACT PI

LOCATION : Waterford Tamborine Rd, Logan Village

PERIOD OF WORKS : Lane Closure (QPS)
15/06/2021 - 15/06/2021
13:00 - 15:00

Value of Dimension D (Table 4.2)	
Speed limit # km/h	Dimension D m
40 or less	5 to 10
50	10 to 15
60	15 to 45
70 , 80	60 to 80
90 , 100	80 to 100
110	100 to 120

TABLE 3.7 RECOMMENDED MAXIMUM SPACING OF CONES AND BOLLARDS

Purpose and usage	Speed Limit , km/h	Recommended maximum spacing, m
All purposes	All	D
Centre line on approach to a traffic controller position (Clause 4.10.2)	All (see Clause 4.10.4)	4
Outer edge of traffic lanes - e.g. works on shoulder or parking lane	60 to 70 <70	18 24
Separating opposing traffic on a 2-lane, 2-way road - e.g. partial or complete lane closure	60 to 70 <70	12 18
Separating opposing traffic on a multilane undivided road - e.g. as part of a lane closure	60 to 70 >70	12 18
Adjacent to a closed lane on a multilane undivided road	60 to 70 >70	18 24
Merge, tapers (see Clause 4.8.2)	60 to 70 <70	9 12
Lateral shift tapers (see Clause 4.8.2)	60 to 70 <70	15 18
Protecting blunt(ed) ends	60 to 70 <70	24 18.3
At crossovers (see Clause 4.14.6 (c))	All	2

NOTES:
1 The spacing may be extended to 60 m where the length of the line of cones or bollards exceeds 1 vehicle not adjacent to roadside where there are workers on foot.
2 The spacing may need to be reduced on curves or crests or if the road does not clearly define its alignment.
3 The permanent Posted Speed Limit on the section of road subject to roadwork before commencement of the works.

Recommended Taper Length (Table 4.6)			
Permanent posted speed, km/h	Recommended taper length, m		
	Traffic control at beginning of taper	Lateral shift taper	Merge taper
40 or less	15	5	15
50	15	15	30
60	30	30	60
70	30	60 - 80	120 - 150
80	30	60 - 80	120 - 150
90	30	60 - 80	120 - 150
100	30	60 - 80	120 - 150
Greater than 100	30	60 - 80	120 - 150

SCOPE OF WORKS

This traffic guidance scheme (TGS) has been developed to allow Energex to close the Northbound Slow Lane and Southbound Lane to conduct works.

NOTES:
- Where practicable, signs shall be duplicated on the right-hand side of the road.
- Speed reduced to 40kph as workers / Plant items will be within 1.2m of moving traffic.
- The Workers (symbolic) sign shall be removed when workers have left the area or are no longer visible to traffic.
- Four cones, spaced 4 m apart, should be installed on the centerline starting 10m in advance of the Traffic Controller position during
- A Traffic Controller Ahead / PREPARE TO STOP sign may be required on the right-hand side of high volume roads.
  single-lane reversible flow operation.
- The minimum lane width including trafficable shoulder shall be 3.0 m
- The safety buffer shall be a minimum of 20 to 30m. The safety buffer may be increased to a maximum of 100 m providing it does not adversely affect the placement and distances of signage / devices outlined in the Traffic Guidance Scheme.
- Vehicular access to the work area can be permitted through the safety buffer. The safety buffer shall be kept clear of work vehicles, plant, stockpiled material or other activity including specialist vehicles.
- Traffic controller to assist pedestrians as required
- All private / commercial property access to be maintained during works as practical
- Site Vehicles should be parked:

a). So it does not unduly obstruct motorists' vision of the travelled path;
b). To leave a clear escape path for workers; and
c). Where necessary, in advance of the work area to protect workers.

- Additional Traffic controllers shall be considered and allocated to assist pedestrians when required. The use of Additional controllers is subject to an on site risk assessment conducted by either the Lead Controller and/or site supervisor prior to the commencement of work.

IMPLEMENTING TRAFFIC GUIDANCE SCHEME

Before work commences, signs and devices should be set out in accordance with the TGS in the following sequence
1. advanced warning and regulatory signs (including temporary speed signs)
2. all intermediate and advanced warning and regulatory signs and devices required in advance of the taper or start of work area
3. all delineating devices required to form the taper including illuminated flashing arrow sign at end of taper (where required)
4. delineation of the work area or side track
5. all other required warning and regulatory signs including termination and end of temporary speed zone signs

Recovery of devices at the conclusion of work shall be done in reverse
Signs and Devices that have been erected before they are required should be fully covered by a suitable material.
The cover should be removed immediately prior to the commencement of work.
When the erection of signs and devices is complete supervisory personnel should carry out a functional inspection before and after opening to traffic.
If the arrangement is considered confusing or unsatisfactory, it should be adjusted and reinspected.
Signs and devices should be erected so that-

(a) They are properly displayed and securely mounted
(b) They are within the line of sight of the intended road user;
(c) They cannot be obscured from view (by vegetation or parked cars);
(d) They do not obscure other devices from the line of sight of the intended road user;
(e) They do not become a possible hazard to worker, pedestrians or vehicles; and
(f) They do not deflect traffic into an undesirable path.
(g) They do not restrict sight distance for drivers entering from side roads or streets or private driveways; and
(h) They are not installed using supports that could be a hazard if struck by a vehicle

REQUIREMENTS FOR TGS	
Multi Message Sign	17
Traffic Cones / Bollards	39
Traffic Controller	2
ESTOP Traffic Lights	0
Police Officer	2
Traffic Control Ute	1
Cone Truck	0
VMS Truck / Ute	0
Truck Mounted Attenuator	0
TMA Roll Forward Area	0
Safety Buffer	1
Work Area	1

Tolerances on Positioning

DISTANCE	10% LESS	25% MORE
15m	13.5m	18.75m
30m	27m	37.5m
45m	40.5m	56.25m
90m	81m	112.5m
160m	144m	200m
200m	180m	250m

Signs mounted on portable supports used for short-term works should generally be located and erected as follows:

(i) In open road areas on the road shoulder a minimum of 1m clear of the travelled path;
(j) In built-up areas behind the kerb if visible to oncoming traffic and not obstructing pedestrians, otherwise on the pavement as near as practicable to the kerb without the sign becoming obscured and without obstructing moving traffic.

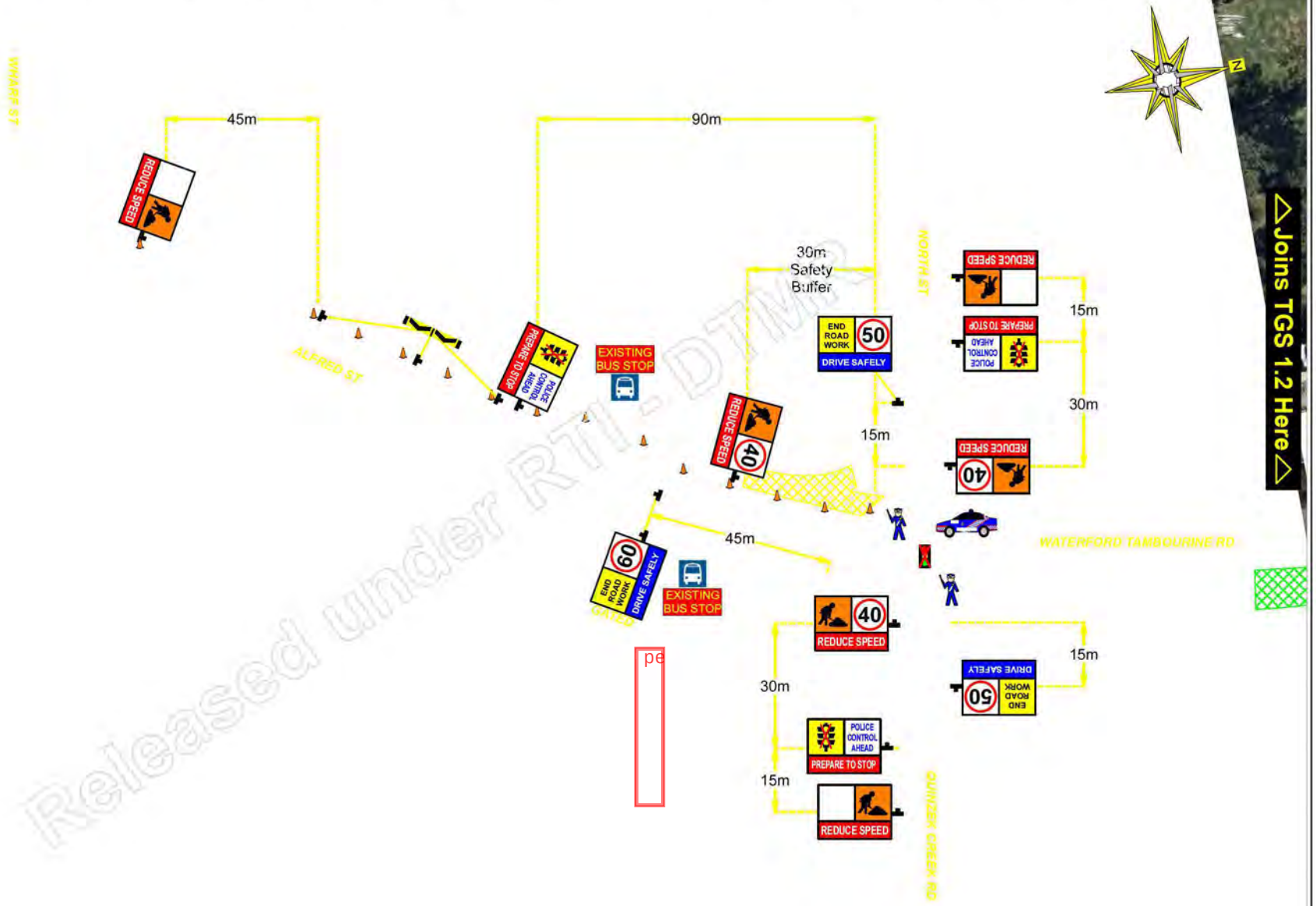
Signs should face towards approaching traffic approximately to the line of sight from the driver to the sign. At curved alignments, the sign should be placed approximately at right angles to the line of site of a motorist 50m in advance of the sign.
Delineating devices (e.g. traffic cones, bollards, post mounted delineators) should generally be placed 1m clear of the travelled path where practicable. However traffic cones and bollards may also be used to define the edge of the travelled path or to separate opposing traffic

THROUGH PAST AROUND ANALYSIS

MOTORISTS

OPTIONS		FEATURES	COMMENTS	RESULT
TRAFFIC THROUGH THE WORKSITE		- Acceptable LOS to be maintained - Minimal traffic disruption - Minimal delays to the public - Existing travel path to be maintained	Works are short term and will require Workers to be on foot and plant Works will be in the Northbound Slow Lane and Southbound Lane Traffic will be held at time Will also be occupying the shoulder	✗
TRAFFIC PAST THE WORKSITE	SHOULDER CLOSURE	- Acceptable LOS to be maintained - Minimal traffic disruption - Minimal delays to the public - Existing travel path to be maintained	Works are short term and will require Workers to be on foot and plant Works will be in the Northbound Slow Lane and Southbound Lane Traffic will be held at time Will also be occupying the shoulder	✓
	LANE CLOSURE	- Acceptable LOS to be maintained - Work areas accessible to personnel, plant items and site vehicles - Site personnel / plant items separated from vehicular traffic	Works are short term and will require Workers to be on foot and plant Works will be in the Northbound Slow Lane and Southbound Lane Traffic will be held at time Will also be occupying the shoulder	✓
	LATERAL SHIFT	- Acceptable LOS to be maintained - Minimal traffic disruption - Minimal delays to the public	Works are short term and will require Workers to be on foot and plant Works will be in the Northbound Slow Lane and Southbound Lane Traffic will be held at time Will also be occupying the shoulder	✗
TRAFFIC AROUND THE WORKSITE	DETOUR	- Work areas are accessible to work personnel, plant items and site vehicles - Traffic will be separated from work personnel / plant items and site vehicles. - Will make for more efficient and timely works by allowing site vehicles, plant items and delivery vehicles to park and unload on roadway. - Lowers the chance of collision between site personnel/ plant items/ site vehicles and the general public	Works are short term and will require Workers to be on foot and plant Works will be in the Northbound Slow Lane and Southbound Lane Traffic will be held at time Will also be occupying the shoulder	✗
	SIDE-TRACK	- Work areas are accessible to work personnel, plant items and site vehicles - Traffic will be separated from work personnel / plant items and site vehicles. - Will make for more efficient and timely works by allowing site vehicles, plant items and delivery vehicles to park and unload on roadway. - Lowers the chance of collision between site personnel/ plant items/ site vehicles and the general public	Works are short term and will require Workers to be on foot and plant Works will be in the Northbound Slow Lane and Southbound Lane Traffic will be held at time Will also be occupying the shoulder	✗
	CROSSOVER (CONTRA-FLOW)	- Work areas are accessible to work personnel, plant items and site vehicles - Traffic will be separated from work personnel / plant items and site vehicles. - Will make for more efficient and timely works by allowing site vehicles, plant items and delivery vehicles to park and unload on roadway. - Lowers the chance of collision between site personnel/ plant items/ site vehicles and the general public	Works are short term and will require Workers to be on foot and plant Works will be in the Northbound Slow Lane and Southbound Lane Traffic will be held at time Will also be occupying the shoulder	✗
SHORT TERM, LOW IMPACT WORKS		- Acceptable LOS to be maintained - No traffic disruption - No delays to the public	Works are short term and will require Workers to be on foot and plant Works will be in the Northbound Slow Lane and Southbound Lane Traffic will be held at time Will also be occupying the shoulder	✗

Energex - Waterford Tamborine Rd, Logan Village - Lane Closure (QPS) - TGS 1.1 - 21050073



verifact TRAFFIC

DESIGNER

Name: PI NR

Qualification: OP254

Date : 17/0

Author : personal infor

Plan # : EQ-170521-1IL-21050073

Project : Waterford Tamborine Rd, Logan Village

Client : Energex

Client Contact : PI

Phone Number : PI

Commencement Date : 15/06/2021

Completion Date : 15/06/2021

Hours of Works : 13:00 - 15:00

Term : Short Term

Operation : Lane Closure (QPS)

Posted Speed Limit : 60 kph

Work Zone Speed Limit : 40 kph

Lane Width : 3.0m

Road Type : Two Way

Travelled Path : Past

Taper Type : TC at beginning of Taper

Taper Length : 30m

Taper Spacing : 4m

Safety Buffer : 20 to 30m

PI NR

Plan Scale

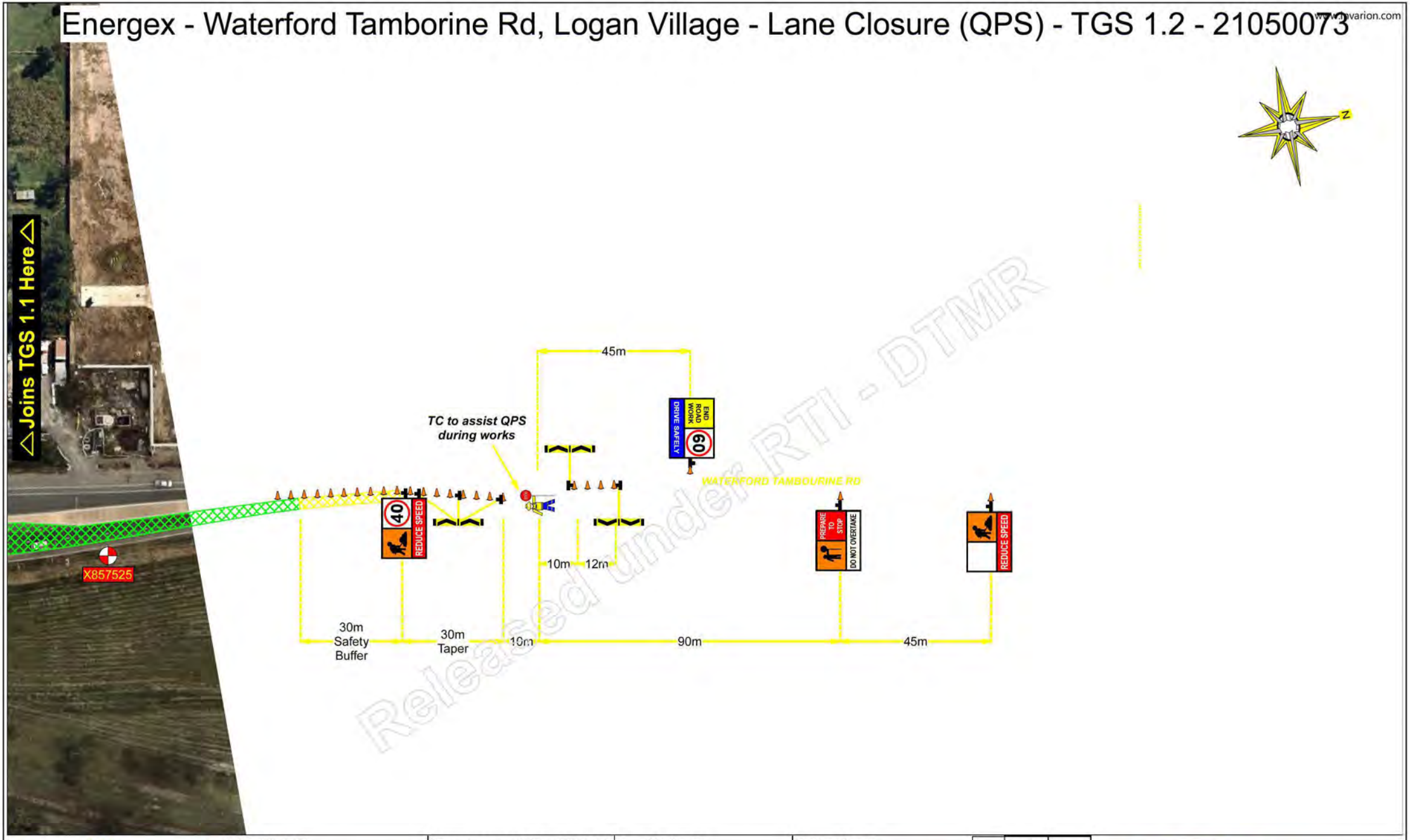
1 : 1021 (1cm = 10m)

Revision

Date	Number

energex

Energex - Waterford Tamborine Rd, Logan Village - Lane Closure (QPS) - TGS 1.2 - 21050073



verifact

DESIGNER

verifact TRAFFIC

Name: PI Michael Campbell

Qualification: OP254

NR

Date : 17/05/2021

Author : PI

Plan # : EQ-170521-1IL-21050073

Project : Waterford Tamborine Rd, Logan Village

Client : Energex

Client Contact : PI Latrell Soli

Phone Number : PI

Commencement Date : 15/06/2021

Completion Date : 15/06/2021

Hours of Works : 13:00 - 15:00

Term : Short Term

Operation : Lane Closure (QPS)

Posted Speed Limit : 60 kph

Work Zone Speed Limit : 40 kph

Lane Width : 3.0m

Road Type : Two Way

Travelled Path : Past

Taper Type : TC at beginning of Taper

Taper Length : 30m

Taper Spacing : 4m

Safety Buffer : 20 to 30m

Verifact Conta

PI NR

Plan Scale

1 : 1021 (1cm = 10m)

Revision	Date	Number

energex

Queensland Government

Traffic Control Permit

(Transport Infrastructure Act 1994, section 33(1))

Permit holder details

Permit holder	Number
WARP Traffic Management	0295

Permit holder's postal address

23 Darnick St

UNDERWOOD, QLD Postcode 4119

Contact person	Phone number
PI	NR

Email address

planning.qld@warpgroup.com.au

Applicant

Logan City Council

Applicant contact name	Phone number
PI	NR

Permit approval details

Permit number	Commencement date	Expiry date
TCP2021-06271	16/06/2021	31/07/2021

Structure or activity

Maintenance of service road beside Waterford Tamborine Road, Logan Village by Logan City Council (Application ID: 2021-07013)

Approved location

Waterford Tamborine Rd, Logan Village
(Between Weaber Rd & Manuka Rd)

Important information:

The decision of the Department of Transport and Main Roads (DTMR) to issue a permit is NOT an endorsement or approval of the safety or effectiveness of the traffic guidance scheme (TGS) and does NOT imply that the TGS complies with any or all applicable laws, regulations, by-laws, codes, standards, guidelines or manuals. DTMR disclaims any responsibility or liability that may arise from or in connection with the TGS submitted by the applicant. DTMR will conduct site audits of the TGS periodically, at the discretion of the department.

Authorising officer
Delegate's name
Sumin Shrestha
Position
Senior Engineer (Civil)
Date Works Agreement Authorised
15/06/2021
TMR office
Gold Coast Office, 36 - 38 Cotton Street, Nerang, Qld 4211
TMR office phone number
(07) 5563 6600

Conditions applying to this permit	
Works proposal documents – attached	
Conditions applying to all works (including standard conditions)	
A1	The permit holder must be registered with the TMRs' Traffic Management Registration Scheme, with appropriate scope of registration.
A2	Traffic control, including the implementation of traffic control devices, shall only be performed by suitably accredited employees of the permit holder. Proof of accreditation must be carried at all times while on work site / event area for the duration of works / event.
A3	This permit is only valid for the times, dates and locations specified and is not transferrable. The permit holder must contact TMR to discuss any changes and obtain written approval of changes to the permit prior to conducting any works and/or event.
A4	This permit only grants permission for the installation of temporary traffic control for the nominated work and/or event site and does not negate the need for the permit holder to have all other necessary approvals required by another authority, occupier or owner. Examples include (but are not limited to) a Special Event Permit from Queensland Police Service; a Road Corridor or Public Utility Permit from TMR; appropriate instruments from Local Government, private property owner or lease holder. Failure to obtain such approvals and/or meet the conditions of such approvals will result in the immediate cancellation of this Traffic Control Permit (TCP).
A5	On receipt of this TCP, the permit holder must advise all impacted Public Transport Service authorities of any lane or road closures or the need to relocate services such as a designated bus stop.
A6	On receipt of this TCP, the permit holder must contact and advise all Emergency Service Authorities of any lane or road closures.
A7	A copy of this TCP is on site and available for inspection.
A8	In the event of excessive traffic disruptions or other unforeseen events (including but not limited to extreme weather), TMR reserves the right to direct the Permit holder to cease work and return the road to normal operation.
A9	TMR may direct the permit holder to take immediate action to safely return the lane or road to normal operation and then cancel the permit if the permit holder fails to comply with the TCP or causes a safety hazard.

A10	Signage must be erected in locations that do not impede pedestrians & cyclists, and do not block sight lines.
A11	All works to be carried out in accordance with the Traffic Management Plan and Traffic Guidance Scheme(s) associated with this Permit.
A12	The permit holder must keep current the "Emergency Site Contact" details associated with this TCP.
A13	The permit holder shall notify TMR South Coast Region Traffic Management Centre by calling 1800 131940 a minimum one (1) hour prior to going on site and immediately after leaving site each day. A contact name and phone number of the responsible person on site must be supplied.
A14	**During intermittent stoppage (Stop/Slow), traffic queue must be monitored regularly and must not extend beyond the intersections adjacent to the extent of traffic management to ensure the delay to traffic is within the acceptable limit in accordance with the current version of MUTCD Part 3 requirements.**
A15	There are other permits in place within the work area. Please contact following persons to avoid conflict. • PI (Verifact Traffic PI • PI (Traffic Control Innovations - PI

Schedule applying to this Works Agreement

Start date	End date	Start time	End time	Days of the week
Traffic Control - Intermittent Stoppage (Stop/Slow) & Reduction of speed both directions on Waterford Tamborine Rd, Logan Village (Between Weaber Rd & Manuka Rd)				
16/06/2021	31/07/2021	06:00 AM	06:00 PM	Mon,Tue,Wed,Thur,Fri,Sat,Sun

Enquiries:

Position title: Sumin Shrestha (Senior Engineer)

District name: South Coast Region

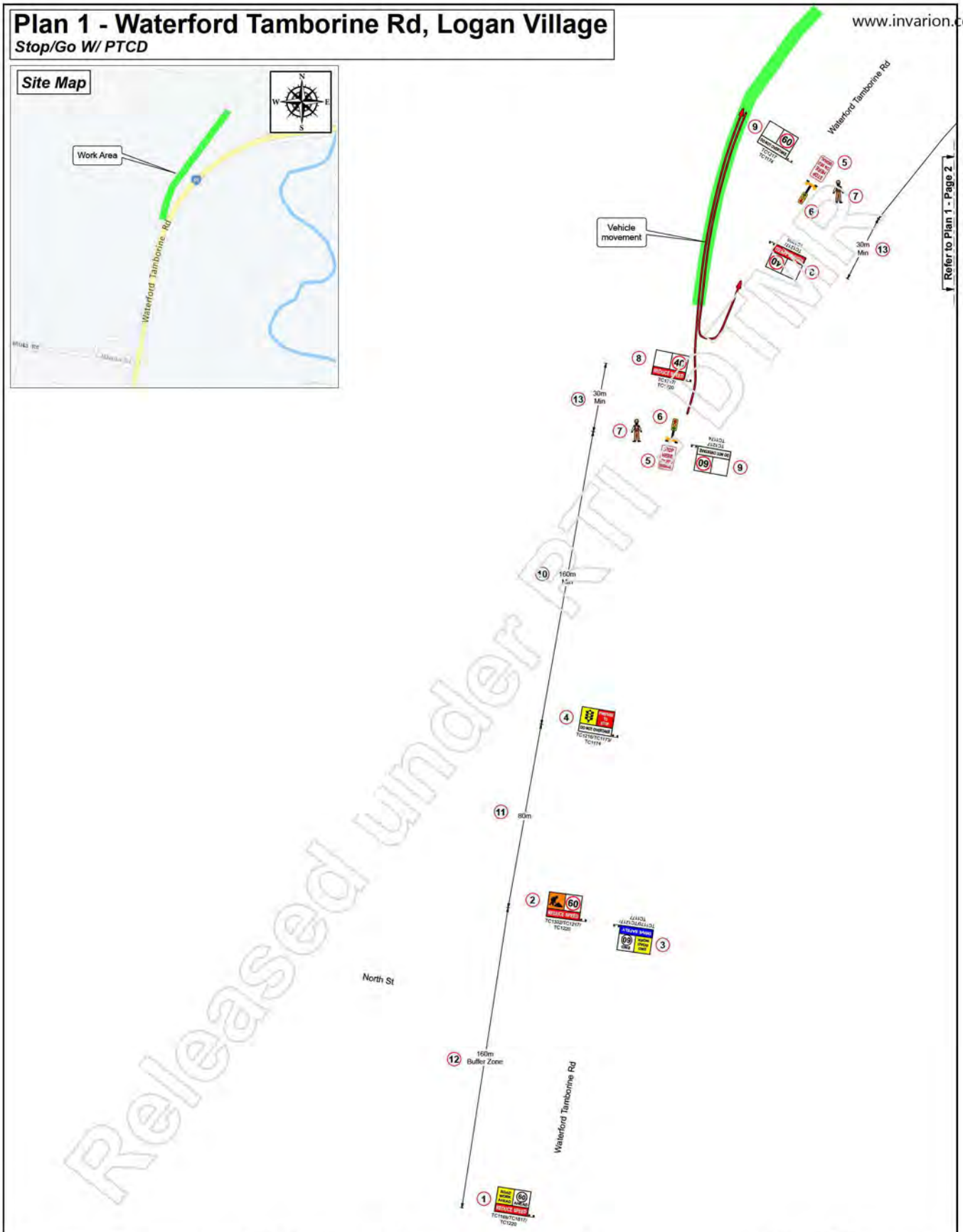
Contact email: southcoast@tmr.qld.gov.au

Telephone number: (07) 5563 6600

Plan 1 - Waterford Tamborine Rd, Logan Village

Stop/Go W/ PTCD

www.invarion.com



General Notes:

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2. Any deviation, without authorization from the TMD is not permitted and liability will not be accepted.
3. This Traffic Guidance Scheme [TGS] is in compliance with the Uniform Manual of Traffic Control Devices – Part 3 (MUTCD).
4. It is the responsibility of the TMI qualified person implementing this scheme to ensure compliance to this TGS. Deviations from the treatment above shall be approved by the TMD prior to the changes being made.
5. No works to start until TGS is fully implemented and advise received from traffic management personnel.
6. Incident reports to be completed for all non-compliance and near miss instances.
7. Fatigue management. - Additional Traffic controller required to relieve Traffic controllers from their duty to take breaks.

Traffic Controller Notes:

1. TCs should occupy a position which is clear of the travel path.
2. TC must have an escape path.
3. TC must have sight distance of approaching traffic of at least 2D
4. Enables effective communication to both site workers and other TC (if applicable)
5. TC present to check/inspect temporary signage with regular intervals.
6. TC should be standing at a safe distance away from work area.
7. TC to assist local driveway access at all times.
8. Traffic Control activities being performed on gazette roads shall be undertaken by experienced Traffic Control staff holding a QLD Government Industry Authority and/or TMI qualification (role specific qualifications).

WARP TRAFFIC MANAGEMENT
Unit 1/23 Darnick Street
Underwood, QLD, 4119
(07) 3841 7773
www.warpgroup.com.au

CLIENT: LOGAN CITY COUNCIL

REV	DESCRIPTION	DATE

WORK DESCRIPTION & LOCATION
Stop/Go w/ PTCD on Waterford Tamborine Rd, Logan Village between Stagemann Rd & North St for the purpose of Civil works

TC REQUIREMENTS: 2 TC & 1 UTE

START DATE:	FINISHED DATE:	WORK TIME:
–	–	–

CLOSURE: STOP/GO W/ PTCD

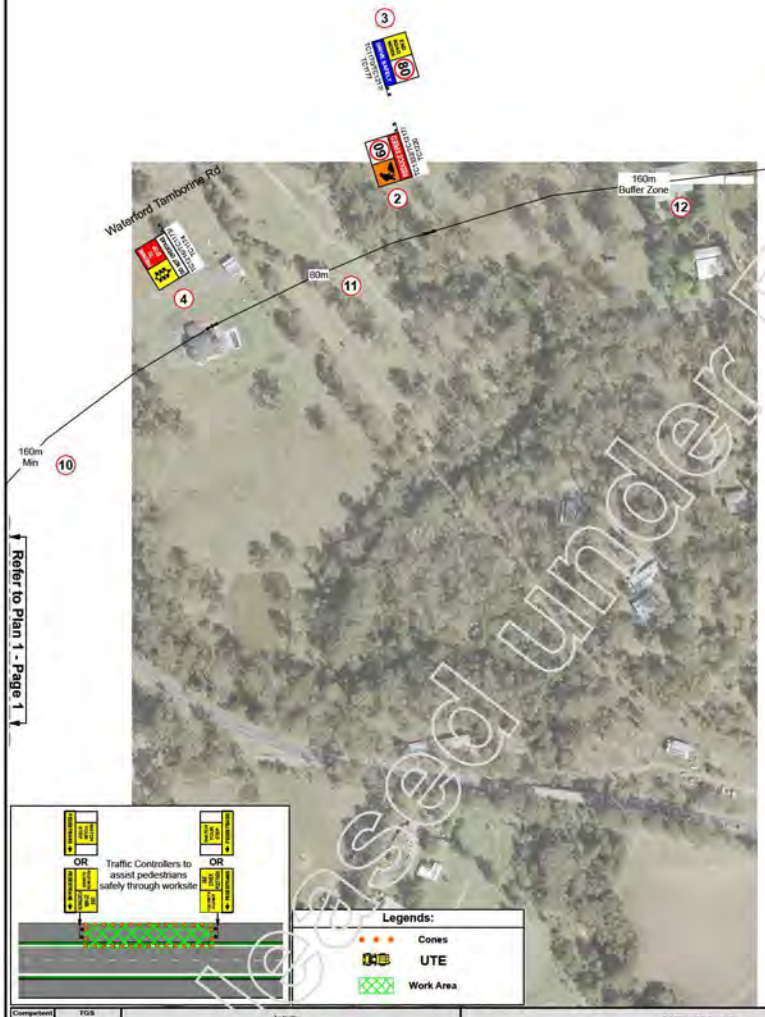
DATE DRAWN: 03/06/2021 | PI | nr

TMD NO:	TGS NUMBER:	REV:	SCALE:	PAGE
758	LCC-LGNVLG-01	01	NOT TO SCALE	1 OF 2

Plan 1 - Waterford Tamborine Rd, Logan Village

Stop/Go W/ PTCD

www.invarion.com



Competent Person	TGS Task	Activity	Additional Information
Traffic Management Implementer (TMI)	Selection and Implementation	Select and implement a work method provided in accordance with the short term low impact works in Clauses 4.3 and 4.4 on one lane two road, in Clause 4.5	With the appropriate risk assessments. Includes all sub clauses.
		Select and implement an appropriate Generic TGS	Selection and implementation must be performed in accordance with the established protocol or procedure as documented by the Traffic Management Design (TMD) Competent Person when developing the Generic TGS.
	Implementation	In-Lane Pedestrian Traffic Control Devices, including: Portable Traffic Signal Systems (PTSS)*^; Boom Barrier s*; Rumble Strips; Speed Humps; and Speed Awareness Devices.	* Includes the configuration of PTSS Type 2 devices only when operated in timed or vehicle activated modes (as instructed by a TMD). ^ The manual operation of PTSS or boom barriers shall only be performed by a Traffic Controller (TC). ^^ Only if competent (through training / experience) to do so and in accordance with manufacturer's specifications.
		Provide direct supervision and instruction to a person without TMI competency to implement a TGS	The person under instruction must have the Working in Proximity to Traffic – Part 1 competency. Direct supervision requires the supervising TMI to be present (in close proximity) and able to intervene if required.
		Display text messages or electronic signs on VMS screens (truck mounted and trailer mounted)	In accordance with requirements and instructions on the TGS.
		Display of direction arrow(s) on vehicle mounted arrow boards	In accordance with requirements and instructions on the TGS.
	Monitor	Monitor the performance (effectiveness) of the implemented TGS (this may include driver behaviour, vehicle speeds, queue lengths and so on)	Ensure all required traffic control devices remain in place. Monitoring of any specific item as identified in the TGS by the TMD. If the TGS is not effective, contact the TMD for modification instructions.
	Modification	Move signs within tolerances	In accordance with the MUTCD Part 3 – Clause 4.1.6. If required to move signs beyond the tolerances given in this clause, contact the TMD for modification instructions.
		In response to a long queue of traffic	Modifications to be as per the requirements of the TGS, prepared by a TMD for use with long traffic queues. If the TGS does not have provision for long queues and is not effective, contact the TMD for modification instructions.
		Modify the TGS on site in response to an emergency or unplanned event	In accordance with Appendix H, Clause H2, 'Initial Response'. Implementation of an 'Interim Response' or 'Follow-up Protection' may be performed in accordance with designs or instructions from a TMD or authorized person.

TGS Design Notes

1. Multi message sign assembly TC1169/TC1817/TC1220. TC1169 sign shall be used to give advance warning of all long-term work sites other than bridgeworks. TC1817 sign shall be used to provide advance warning of the start of a temporary speed zone. TC1220 sign indicates to reduce speed while approaching the site.
2. Multi message sign assembly TC1332/TC1217/TC1220. TC1332 sign is used to give warning of personnel engaged in works on or adjacent to the travelled path. TC1217 sign shall be used to create a temporary speed zone in accordance with the requirements and recommendations. It indicates the speed limit which applies between the sign and the next speed control sign ahead.TC1220 sign indicates to reduce speed while approaching the site.
3. Multi message sign assembly TC1170/TC1217/TC1177. TC1170 sign shall be used at the departure end of a work site where a temporary speed zone has been implemented. TC1217 sign shall be used to return traffic to posted speed. TC1177 sign to be to indicate to drive safely.
4. Multi message sign assembly TC1216/TC1173/TC1174. TC1216 sign shall used to hold and release traffic by the use of portable traffic control devices and with conjunction to TC1173. TC1173 sign shall be used in conjunction with the SIGNALS AHEAD sign. TC1174 sign imposed that its hazardous to overtake while the traffic is on stop.
5. Box edge sign assembly The STOP HERE ON RED SIGNAL sign shall be used to indicate where traffic must stop when there is no stop line on the pavement. It is also recommended to supplement the stop line where one is provided.
6. PTCD - portable traffic signal usually consists of two signal heads each comprising a three-aspect signal face, red, yellow and green; two vehicle detectors, a signal control unit and a portable power source. The signal control unit is usually designed to permit vehicle-actuated, fixed-time or manual operation.
7. Traffic Controller to be deploy to assist traffic and pedestrians along work area and Control PTCD.
8. Multi message sign assembly TC1217/TC1220. TC1217 sign shall be used to create a temporary speed zone in accordance with the requirements and recommendations. It indicates the speed limit which applies between the sign and the next speed control sign ahead. TC1220 sign indicates to reduce speed while approaching the site.
9. Multi message sign assembly TC1217/TC1174. TC1217 sign shall be used to return traffic to posted speed. TC1174 sign imposed that its hazardous to overtake while the traffic is on stop.
10. This dimension "2D" are preferred and safe distance between the work and the advance warning devices. 2D distance also varies by road permanent posted speed.
11. This dimension "D" are preferred distances that vary on the road permanent posted speed.
12. Buffer zone distance to be 300-500m or 2D. This serves as the distance on where to position advance warning devices.
13. Distance where the Traffic controller will be position after the work area.

MUTCD NOTES

A. MUTCD Clause 4.10.5 - Period of Duty
Traffic controllers shall be relieved from their duty after not more than 2 hours for a period of rest or "other duties" of at least 15 minutes. ["Other duties" does not include operation of a STOP/SLOW bat to control traffic or any duties involving standing in one position, or controlling traffic with a traffic control device].

B. MUTCD clause 4.1.6 - Tolerances on positioning
Tolerances shall not apply where a distance, length or spacing is already given in the text or a figure as a maximum or a minimum. They may need to be exceeded where road features such as intersections or median openings intervene.
Where this Standard gives a specific distance for the longitudinal positioning of signs or devices with respect to other items or features, for the spacing of delineating devices or for the length of tapers or markings, the following tolerances may be applied:
(a) Positioning of signs, length of tapers or markings:
(i) Minimum, 10% less than the distances or lengths given.
(ii) Maximum, 25% more than the distances or lengths given
(b) Spacing of delineating devices:
(i) Maximum, 10% more than the spacing shown.
(ii) No minimum.

C. MUTCD Clause 3.9 Table 3.7 Recommended Maximum spacing of cones & bollards
Recommended spacings of cones and bollards are given in Table 3.7. Spacing of cones and bollards may need to be reduced to as little as 1 m if needed to prevent traffic taking a wrong turn or wrong opening through a line of bollards. The tabulated traffic speed shall be the speed of the traffic at the location where the line of cones or bollards is placed.

D. MUTCD Clause 4.10.2 - Equipment
Four cones, spaced 4 m apart, should be installed on the centreline starting 10 m in advance of the Traffic Controller position during single-lane reversible flow operation and may be used in other circumstances. Traffic cones are be used to highlight the Traffic Controller / traffic control device position, the location vehicles are to stop and for delineation / traffic management purposes. The temporary hazard marker (T5-Q02) or KEEP LEFT DELINEATOR (R2-3-Q01) sign may be installed at the start of the row of the four cones in each direction to direct traffic to the correct travel path.

E. MUTCD Clause 2.4.4 - Adjustment to existing devices
Existing signs and traffic control devices which are inappropriate to, or conflict with, the temporary work site situation shall be fully covered or removed.

D. MUTCD Clause 2.5.3 - Setting out and recovery of devices
Before work commences, signs and devices at the approaches to and within the work area should be set out in accordance with the Traffic Guidance Scheme in the following sequence:
a) Advance warning and regulatory signs (including temporary speed zone signs).
b) All intermediate advance warning and regulatory signs and devices required in advance of the taper or start of the work area.
c) All delineating devices required to form the taper including the illuminated flashing arrow sign at the end of the taper where required.
d) Delineation of the work area or side track.
e) All other required warning and regulatory signs including termination and end of temporary speed zone signs.
This operation shall be carried out, where practicable, as work off the travelled path in accordance with Clause 4.3.7, or as short-term work in traffic in accordance with Clause 4.3.3, for locations in open road areas. This operation shall be carried out in accordance with Clause 4.4.2 or 4.4.3 for locations in built-up areas. A mobile works method (see Clause 4.6) shall be used if the previous method is not practicable due to the volume or speed, or both, of approaching and passing traffic.
Recovery of devices at the conclusion of the work shall be done in the reverse order using the same work method as for setting out.
Signs and devices that are erected before they are required should be fully covered by a suitable material. The cover should be removed immediately prior to the commencement of work.

General Notes:

1. The TMD, only certifies this treatment, when implemented as per this TGS and associated TGS notes.
2. Any deviation, without authorization from the TMD is not permitted and liability will not be accepted.
3. This Traffic Guidance Scheme [TGS] is in compliance with the Uniform Manual of Traffic Control Devices – Part 3 [MUTCD].
4. It is the responsibility of the TMI qualified person implementing this scheme to ensure compliance to this TGS. Deviations from the treatment above shall be approved by the TMD prior to the changes being made.
5. No works to start until TGS is fully implemented and advise received from traffic management personnel.
6. Incident reports to be completed for all non-compliance and near miss instances.
7. Fatigue management - Additional Traffic controller required to relieve Traffic controllers from their duty to take breaks.

Traffic Controller Notes:

1. TCs should occupy a position which is clear of the travel path.
2. TC must have an escape path.
3. TC must have sight distance of approaching traffic of at least 2D
4. Enables effective communication to both site workers and other TC (if applicable).
5. TC present to check/inspect temporary signage with regular intervals.
6. TC should be standing at a safe distance away from work area.
7. TC to assist local driveway access at all times.
8. Traffic Control activities being performed on gazette roads shall be undertaken by experienced Traffic Control staff holding a QLD Government Industry Authority and/or TMI qualification (role specific qualifications).

WARP TRAFFIC MANAGEMENT
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(07) 3841 7773
www.warpgroup.com.au

CLIENT: LOGAN CITY COUNCIL

REV	DESCRIPTION	DATE

WORK DESCRIPTION & LOCATION
Stop/Go w/ PTCD on Waterford Tamborine Rd, Logan Village between Stagemann Rd & North St for the purpose of Civil works

TC REQUIREMENTS: 2 TC & 1 UTE

START DATE:	FINISHED DATE:	WORK TIME:
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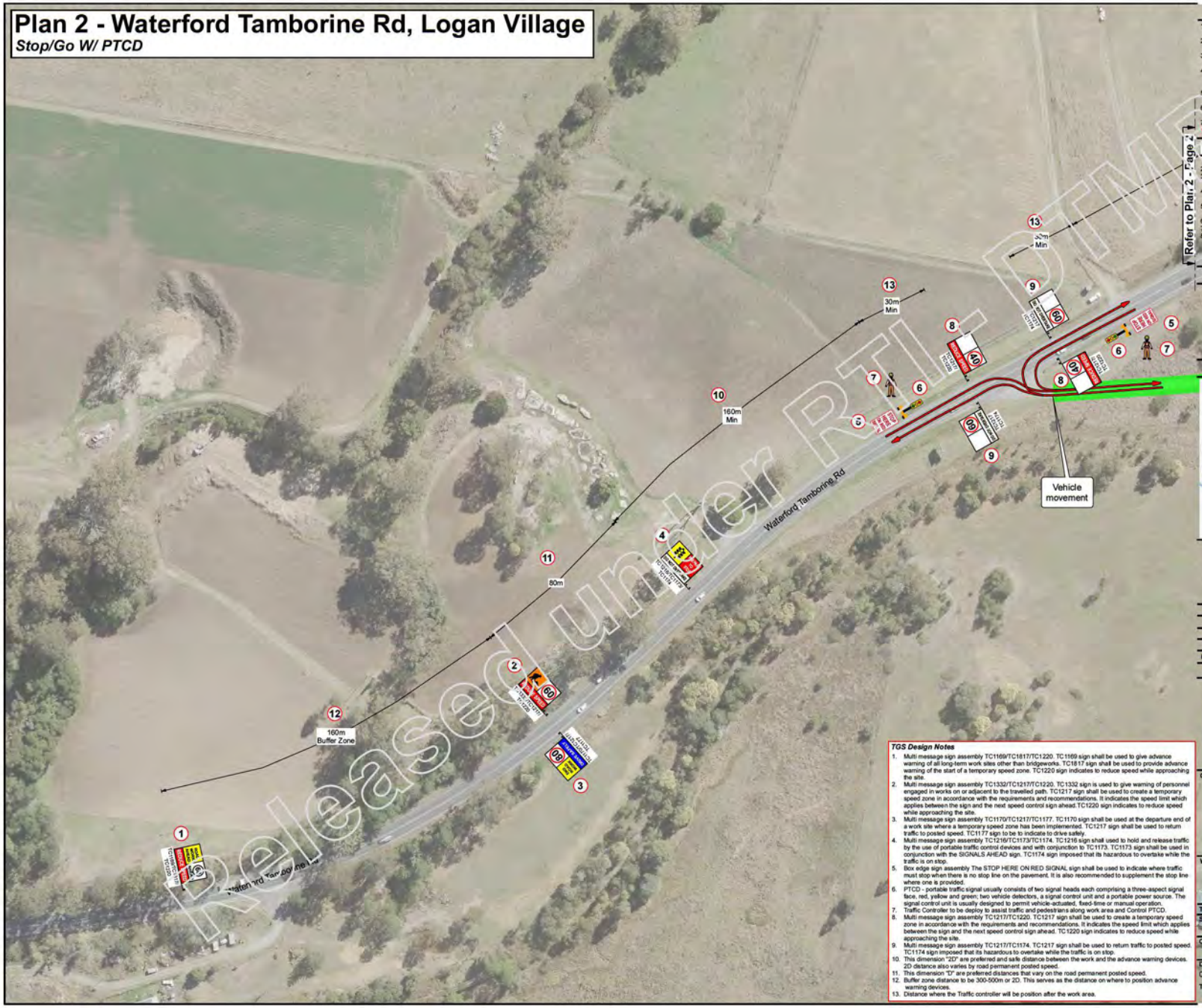
CLOSURE: STOP/GO W/ PTCD

DATE DRAWN: 03/06/2021 | PJ | NR

TMD NO:	TGS NUMBER:	REV:	SCALE:	PAGE
758	LCC-LGNVLG-01	01	NOT TO SCALE	2 OF 2

Plan 2 - Waterford Tamborine Rd, Logan Village

Stop/Go W/ PTCD



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6. Incident reports to be completed for all non-compliance and near miss incidences.
7. Queue management - Additional Traffic controller required to relieve controllers from their duty to take breaks.

Traffic Controller Notes:

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Legends:

- Cones
- UTE
- Work Area

Site Map

TGS Design Notes

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REV	DESCRIPTION	DATE

DETAILS

WARP TRAFFIC MANAGEMENT
Unit 1/23 Darnick Street
Underwood, QLD, 4119
(07) 3841 7773
www.warpgroup.com.au

CLIENT: LOGAN CITY COUNCIL

WORK DESCRIPTION & LOCATION

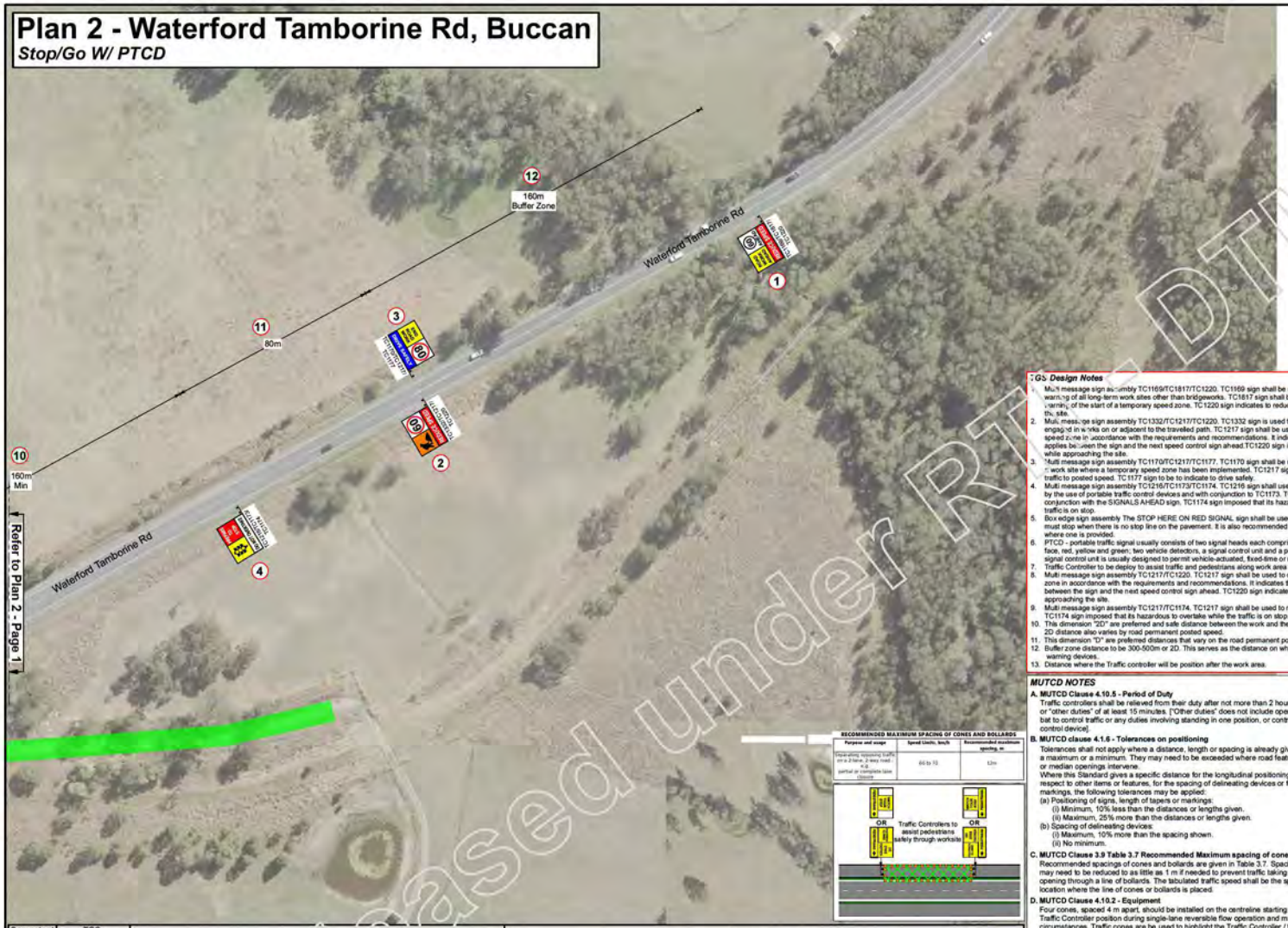
Stop/Go w/ PTCD on Waterford Tamborine Rd, Buccan between Stagemann Rd & North St for the purpose of Civil Works

TC REQUIREMENTS:	2 TC & 1 UTE (when required)		
START DATE:	FINISHED DATE:	WORK TIME:	
CLOSURE:	STOP/GO W/ PTCD		
DATE DRAWN: 03/06/2021	DRAWN BY: PI	CHECKED BY: NR	
TMD NO: 758	TGS NUMBER: LCC-LGNVLG-02	REV: 01	SCALE: NOT TO SCALE

PAGE 1 OF 2

Plan 2 - Waterford Tamborine Rd, Buccan

Stop/Go W/ PTCD



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A. MUTCD Clause 4.10.5 - Period of Duty
Traffic controllers shall be relieved from their duty after not more than 2 hours for a period of rest or "other duties" of at least 15 minutes. ["Other duties" does not include operation of a STOP/SLOW bat to control traffic or any duties involving standing in one position, or controlling traffic with a traffic control device].

B. MUTCD clause 4.1.6 - Tolerances on positioning
Tolerances shall not apply where a distance, length or spacing is already given in the text or a figure as a maximum or a minimum. They may need to be exceeded where road features such as intersections or median openings intervene.
Where this Standard gives a specific distance for the longitudinal positioning of signs or devices with respect to other items or features, for the spacing of delineating devices or for the length of tapers or markings, the following tolerances may be applied:
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(i) Minimum, 10% less than the distances or lengths given.
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C. MUTCD Clause 3.9 Table 3.7 Recommended Maximum spacing of cones & bollards
Recommended spacings of cones and bollards are given in Table 3.7. Spacing of cones and bollards may need to be reduced to as little as 1 m if needed to prevent traffic taking a wrong turn or wrong opening through a line of bollards. The tabulated traffic speed shall be the speed of the traffic at the location where the line of cones or bollards is placed.

D. MUTCD Clause 4.10.2 - Equipment
Four cones, spaced 4 m apart, should be installed on the centreline starting 10 m in advance of the Traffic Controller position during single-lane reversible flow operation and may be used in other circumstances. Traffic cones are be used to highlight the Traffic Controller / traffic control device position, the location vehicles are to stop and for delineation / traffic management purposes. The temporary hazard marker (TS-Q02) or KEEP LEFT DELINEATOR (R2-3-Q01) sign may be installed at the start of the row of the four cones in each direction to direct traffic to the correct travel path.

E. MUTCD Clause 2.4.4 - Adjustment to existing devices
Existing signs and traffic control devices which are inappropriate to, or conflict with, the temporary work site situation shall be fully covered or removed.

F. MUTCD Clause 2.5.3 - Setting out and recovery of devices
Before work commences, signs and devices at the approaches to and within the work area should be set out in accordance with the Traffic Guidance Scheme in the following sequence:
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This operation shall be carried out, where practicable, as work off the travelled path in accordance with Clause 4.3.7, or as short-term work in traffic in accordance with Clause 4.3.3, for locations in open road areas. This operation shall be carried out in accordance with Clause 4.4.2 or 4.4.3 for locations in built-up areas. A mobile works method (see Clause 4.6) shall be used if the previous method is not practicable due to the volume or speed, or both, of approaching and passing traffic.
Recovery of devices at the conclusion of the work shall be done in the reverse order using the same work method as for setting out.
Signs and devices that are erected before they are required should be fully covered by a suitable material. The cover should be removed immediately prior to the commencement of work.

RECOMMENDED MAXIMUM SPACING OF CONES AND BOLLARDS

Purpose and usage	Speed Limit/s, km/h	Recommended maximum spacing, m
Separating opposing traffic on a 2-lane, 2-way road – full or partial or complete lane closure	60 to 70	12m

Competent Person	TGS Task	Activity	Additional Information
Traffic Management Implement (TMI)	Selection and Implementation	Select and implement a work method practice in accordance with the short term low impact works in Clauses 4.3 and 4.4, and unsealed roads in Clause 4.5.	With the appropriate risk assessments. Includes all sub clauses.
		Select and implement an appropriate Generic TGS	Selection and implementation must be performed in accordance with the established protocol or procedure as documented by the Traffic Management Design (TMD) Competent Person when developing the Generic TGS.
	Implementation	Install Portable Traffic Control Devices including: Portable Traffic Signal Systems (PTSS)^*; Boom Barriers^; Rumble Strips; Speed Humps; and Speed Awareness Devices	* Includes the configuration of PTSS Type 2 devices only when operated in timed or vehicle activated modes (as instructed by a TMD). ^ The manual operation of PTSS or boom barriers shall only be performed by a Traffic Controller (TC). ^* Only if competent (through training / experience) to do so and in accordance with manufacturer's specifications.
		Provide direct supervision and instruction to a person without TMI competency to implement a TGS	The person under instruction must have the Working in Proximity to Traffic – Part 1 competency. Direct supervision requires the supervising TMI to be present (in close proximity) and able to intervene if required.
		Display text messages or electronic signs or VMS screens (both vehicle mounted and trailer mounted)	In accordance with requirements and instructions on the TGS.
		Display of direction arrow(s) on vehicle mounted arrow boards	In accordance with requirements and instructions on the TGS.
	Monitor	Monitor the performance (effectiveness) of the implemented TGS (this may include driver behaviour, vehicle speeds, queue lengths and so on)	Ensure all required traffic control devices remain in place. Monitoring of any specific item as identified in the TGS by the TMD. If the TGS is not effective, contact the TMD for modification instructions.
	Modification	Move signs within tolerances	In accordance with the MUTCD Part 3 – Clause 4.1.6. If required to move signs beyond the tolerances given in this clause, contact the TMD for modification instructions.
		In response to a long queue of traffic	Modifications to be as per the requirements of the TGS, prepared by a TMD for use with long traffic queues. If the TGS does not have provision for long queues and is not effective, contact the TMD for modification instructions.
		Modify the TGS on site In response to an emergency or unplanned event	In accordance with Appendix H, Clause H2, 'Initial Response'. Implementation of an 'Interim Response' or 'Follow-up Protection' may be performed in accordance with designs or instructions from a TMD or authorized person.

General Notes:

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5. No works to start until TGS is fully implemented and advise received from traffic management personnel.
6. Incident reports to be completed for all non-compliance and near miss instances.
7. Fatigue management - Additional Traffic controller required to relieve Traffic controllers from their duty to take breaks.

Traffic Controller Notes:

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2. TC must have an escape path.
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5. TC present to check/inspect temporary signage with regular intervals.
6. TC should be standing at a safe distance away from work area.
7. TC to assist local driveway access at all times.
8. Traffic Control activities being performed on gazette roads shall be undertaken by experienced Traffic Control staff holding a QLD Government Industry Authority and/or TMI qualification (role specific qualifications).

Legends:

Cones

UTE

Work Area

Site Map

REV	DESCRIPTION	DATE

DETAILS

WARP TRAFFIC MANAGEMENT
Unit 1/23 Darnick Street
Underwood, QLD, 4119
(07) 3841 7773
www.warpgroup.com.au

CLIENT:

LOGAN CITY COUNCIL

WORK DESCRIPTION & LOCATION

Stop/Go w/ PTCD on Waterford Tamborine Rd, Buccan
between Stagemann Rd & North St
for the purpose of Civil Works

TC REQUIREMENTS: 2 TC & 1 UTE (when required)

START DATE:	FINISHED DATE:	WORK TIME:

CLOSURE:
STOP/GO W/ PTCD

DATE DRAWN:		
03/06/2021	PI	NR

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Plan 3 - Waterford Tamborine Rd, Buccan

Stop/Go W/ PTCD

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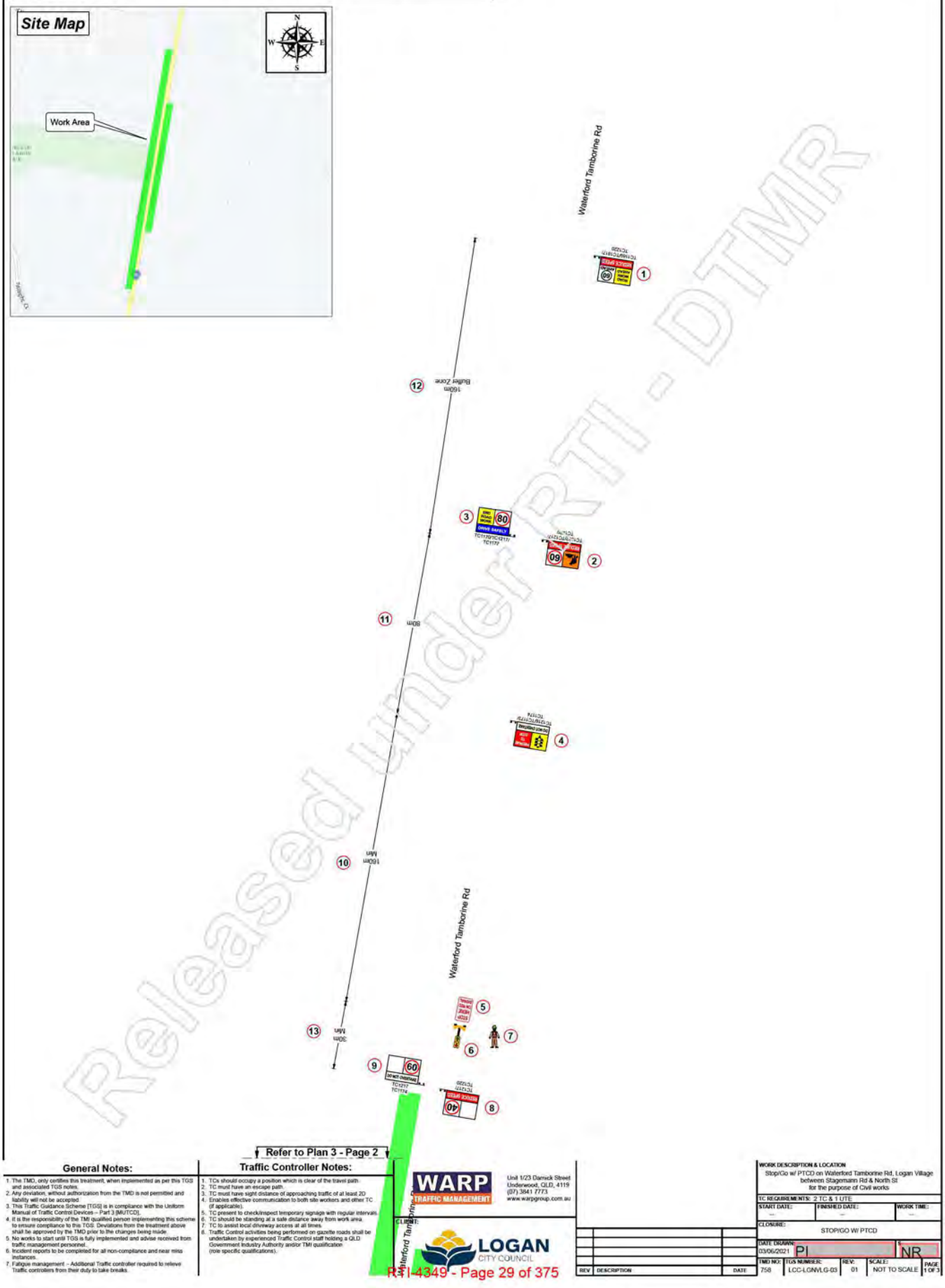

General Notes:

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3. TC must have sight distance of approaching traffic of at least 2D
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5. TC present to check/inspect temporary signage with regular intervals.
6. TC should be standing at a safe distance away from work area.
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Unit 1/23 Darnick Street
Underwood, QLD, 4119
(07) 3841 7773
www.warpgroup.com.au

CLIENT: LOGAN CITY COUNCIL

REV	DESCRIPTION	DATE

WORK DESCRIPTION & LOCATION
Stop/Go w/ PTCD on Waterford Tamborine Rd, Logan Village between Stagemann Rd & North St for the purpose of Civil works

TC REQUIREMENTS: 2 TC & 1 UTE

START DATE:	FINISHED DATE:	WORK TIME:
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CLOSURE: STOP/GO W/ PTCD

DATE DRAWN:	BY:
03/06/2021	PI / NR

TMD NO:	TGS NUMBER:	REV:	SCALE:	PAGE
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Plan 3 - Waterford Tamborine Rd, Buccan

Stop/Go W/ PTCD

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Refer to Plan 3 - Page 1

Refer to Plan 3 - Page 3

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WARP TRAFFIC MANAGEMENT
Unit 1/23 Darnick Street
Underwood, QLD, 4119
(07) 3841 7773
www.warpgroup.com.au

CLIENT: LOGAN CITY COUNCIL

REV	DESCRIPTION	DATE			

WORK DESCRIPTION & LOCATION
Stop/Go w/ PTCD on Waterford Tamborine Rd, Buccan between Stagemann Rd & North St
for the purpose of Civil works

TC REQUIREMENTS: 2 TC & 1 UTE

START DATE:	FINISHED DATE:	WORK TIME:
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CLOSURE: STOP/GO W/ PTCD

DATE DRAWN: 03/05/2021 | PI | NR

TMD NO:	TGS NUMBER:	REV:	SCALE:	PAGE
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Plan 3 - Waterford Tamborine Rd, Buccan

Stop/Go W/ PTCD

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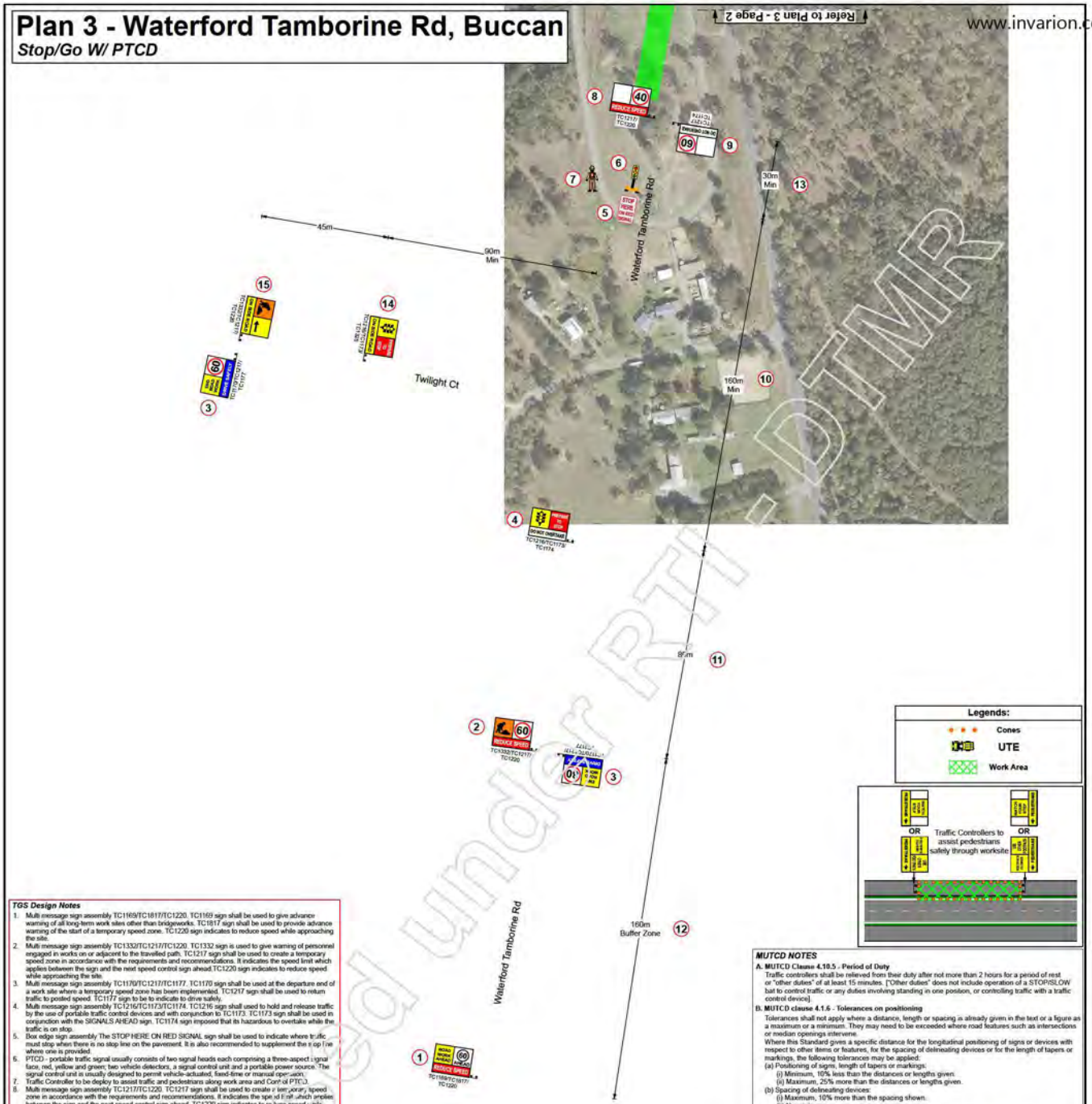

TGS Design Notes

1. Multi message sign assembly TC1169/TC1817/TC1220. TC1169 sign shall be used to give advance warning of all long-term work sites other than bridgeworks. TC1817 sign shall be used to provide advance warning of the start of a temporary speed zone. TC1220 sign indicates to reduce speed while approaching the site.
2. Multi message sign assembly TC1332/TC1217/TC1220. TC1332 sign is used to give warning of personnel engaged in works on or adjacent to the travelled path. TC1217 sign shall be used to create a temporary speed zone in accordance with the requirements and recommendations. It indicates the speed limit which applies between the sign and the next speed control sign ahead.TC1220 sign indicates to reduce speed while approaching the site.
3. Multi message sign assembly TC1170/TC1217/TC1177. TC1170 sign shall be used at the departure end of a work site where a temporary speed zone has been implemented. TC1217 sign shall be used to return traffic to posted speed. TC1177 sign to be to indicate to drive safely.
4. Multi message sign assembly TC1216/TC1173/TC1174. TC1216 sign shall used to hold and release traffic by the use of portable traffic control devices and with conjunction to TC1173. TC1173 sign shall be used in conjunction with the SIGNALS AHEAD sign. TC1174 sign imposed that its hazardous to overtake while the traffic is on stop.
5. Box edge sign assembly The STOP HERE ON RED SIGNAL sign shall be used to indicate where traffic must stop when there is no stop line on the pavement. It is also recommended to supplement the stop line where one is provided.
6. PTCD - portable traffic signal usually consists of two signal heads each comprising a three-aspect signal face, red, yellow and green; two vehicle detectors, a signal control unit and a portable power source. The signal control unit is usually designed to permit vehicle-actuated, fixed-time or manual operation.
7. Traffic Controller to be deploy to assist traffic and pedestrians along work area and Control PTCD.
8. Multi message sign assembly TC1217/TC1220. TC1217 sign shall be used to create a temporary speed zone in accordance with the requirements and recommendations. It indicates the speed limit which applies between the sign and the next speed control sign ahead. TC1220 sign indicates to reduce speed while approaching the site.
9. Multi message sign assembly TC1217/TC1174. TC1217 sign shall be used to return traffic to posted speed. TC1174 sign imposed that its hazardous to overtake while the traffic is on stop.
10. This dimension "2D" are preferred and safe distance between the work and the advance warning devices. 2D distance also varies by road permanent posted speed.
11. This dimension "D" are preferred distances that vary on the road permanent posted speed.
12. Buffer zone distance to be 300-500m or 2D. This serves as the distance driver need to react to advance warning devices.
13. Distance where the Traffic controller will be position after the work area.
14. Multi message sign assembly TC1216/TC1173/TC1174. TC1216 sign shall used to hold and release traffic by the use of portable traffic control devices and with conjunction to TC1173. TC1173 sign shall be used in conjunction with the SIGNALS AHEAD sign. TC1325 sign in local is used also is in side road.
15. Multi message sign assembly TC1332/TC1916 TC1325. TC1332 sign is used to give warning of personnel engaged in works on or adjacent to the travelled path. TC1916 sign shall be used to indicate that there is a work site on that direction.TC1325 sign indicates that work area is in side road.

Competent Person	TGS Task	Activity	Additional Information
Traffic Management Implement (TMI)	Selection and Implementation	Select and Implement a work method to close in accordance with the short term low impact works in Clauses 4.3 and 4.4 and close part road in Clause 4.5	With the appropriate risk assessments. Includes all sub clauses.
		Select and implement an appropriate Generic TGS	Selection and implementation must be performed in accordance with the established protocol or procedure as documented by the Traffic Management Design (TMD) Competent Person when developing the Generic TGS.
	Implementation	Install Portable Traffic Control Devices, including: Portable Traffic Signal Systems (PTSS)*^, Boom Barriers*, Rumble Strips, Speed Humps, and Speed Awareness Devices.	* Includes the configuration of PTSS Type 2 devices only when operated in timed or vehicle activated modes (as instructed by a TMD). ^ The manual operation of PTSS or boom barriers shall only be performed by a Traffic Controller (TC). ** Only if competent (through training / experience) to do so and in accordance with manufacturer's specifications.
		Provide direct supervision and instruction to a person without TMI competency to implement a TGS	The person under instruction must have the Working in Proximity to Traffic – Part 1 competency. Direct supervision requires the supervising TMI to be present (in close proximity) and able to intervene if required.
		Display text messages or pictograms signs on VMS screens (both vehicle mounted and trailer mounted)	In accordance with requirements and instructions on the TGS.
		Display, of direction arrow(s) on vehicle mounted arrow boards	In accordance with requirements and instructions on the TGS.
	Monitor	Monitor the performance (effectiveness) of the implemented TGS (this may include driver behaviour, vehicle speeds, queue lengths and so on)	Ensure all required traffic control devices remain in place. Monitoring of any specific item as identified in the TGS by the TMD. If the TGS is not effective, contact the TMD for modification instructions.
	Modification	Move signs within tolerances	In accordance with the MUTCD Part 3 – Clause 4.1.6. If required to move signs beyond the tolerances given in this clause, contact the TMD for modification instructions.
		In response to a long queue of traffic	Modifications to be as per the requirements of the TGS, prepared by a TMD for use with long traffic queues. If the TGS does not have provision for long queues and is not effective, contact the TMD for modification instructions.
		Modify the TGS on site in response to an emergency or unplanned event	In accordance with Appendix H, Clause H2, 'Initial Response' Implementation of an 'Interim Response' or 'Follow-up Protection' may be performed in accordance with designs or instructions from a TMD or authorized person.

MUTCD NOTES

A. MUTCD Clause 4.10.5 - Period of Duty
Traffic controllers shall be relieved from their duty after not more than 2 hours for a period of rest or "other duties" of at least 15 minutes. ["Other duties" does not include operation of a STOP/SLOW bat to control traffic or any duties involving standing in one position, or controlling traffic with a traffic control device].

B. MUTCD clause 4.1.6 - Tolerances on positioning
Tolerances shall not apply where a distance, length or spacing is already given in the text or a figure as a maximum or a minimum. They may need to be exceeded where road features such as intersections or median openings intervene.
Where this Standard gives a specific distance for the longitudinal positioning of signs or devices with respect to other items or features, for the spacing of delineating devices or for the length of tapers or markings, the following tolerances may be applied:
(a) Positioning of signs, length of tapers or markings:
(i) Minimum, 10% less than the distances or lengths given.
(ii) Maximum, 25% more than the distances or lengths given.
(b) Spacing of delineating devices:
(i) Maximum, 10% more than the spacing shown.
(ii) No minimum.

C. MUTCD Clause 3.9 Table 3.7 Recommended Maximum spacing of cones & bollards
Recommended spacings of cones and bollards are given in Table 3.7. Spacing of cones and bollards may need to be reduced to as little as 1 m if needed to prevent traffic taking a wrong turn or wrong opening through a line of bollards. The tabulated traffic speed shall be the speed of the traffic at the location where the line of cones or bollards is placed.

D. MUTCD Clause 4.10.2 - Equipment
Four cones, spaced 4 m apart, should be installed on the centreline starting 10 m in advance of the Traffic Controller position during single-lane reversible flow operation and may be used in other circumstances. Traffic cones are be used to highlight the Traffic Controller / traffic control device position, the location vehicles are to stop and for delineation / traffic management purposes. The temporary hazard marker (T5-Q02) or KEEP LEFT DELINEATOR (R2-3-Q01) sign may be installed at the start of the row of the four cones in each direction to direct traffic to the correct travel path.

E. MUTCD Clause 2.4.4 - Adjustment to existing devices
Existing signs and traffic control devices which are inappropriate to, or conflict with, the temporary work site situation shall be fully covered or removed.

D. MUTCD Clause 2.5.3 - Setting out and recovery of devices
Before work commences, signs and devices at the approaches to and within the work area should be set out in accordance with the Traffic Guidance Scheme in the following sequence:
a) Advance warning and regulatory signs (including temporary speed zone signs).
b) All intermediate advance warning and regulatory signs and devices required in advance of the taper or start of the work area.
c) All delineating devices required to form the taper including the illuminated flashing arrow sign at the end of the taper where required.
d) Delineation of the work area or side track.
e) All other required warning and regulatory signs including termination and end of temporary speed zone signs.
This operation shall be carried out, where practicable, as work off the travelled path in accordance with Clause 4.3.7, or as short-term work in traffic in accordance with Clause 4.3.3, for locations in open road areas. This operation shall be carried out in accordance with Clause 4.4.2 or 4.4.3 for locations in built-up areas. A mobile works method (see Clause 4.6) shall be used if the previous method is not practicable due to the volume or speed, or both, of approaching and passing traffic.
Recovery of devices at the conclusion of the work shall be done in the reverse order using the same work method as for setting out.
Signs and devices that are erected before they are required should be fully covered by a suitable material. The cover should be removed immediately prior to the commencement of work.

General Notes:

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3. This Traffic Guidance Scheme [TGS] is in compliance with the Uniform Manual of Traffic Control Devices – Part 3 [MUTCD].
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WARP TRAFFIC MANAGEMENT
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(07) 3841 7773
www.warpgroup.com.au

CLIENT: LOGAN CITY COUNCIL

REV	DESCRIPTION	DATE

WORK DESCRIPTION & LOCATION
Stop/Go w/ PTCD on Waterford Tamborine Rd, Buccan
between Stagemann Rd & North St
for the purpose of Civil works

TC REQUIREMENTS: 2 TC & 1 UTE

START DATE:	FINISHED DATE:	WORK TIME:
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CLOSURE: STOP/GO W/ PTCD

DATE DRAWN: 03/06/2021 | PI | NR

TMD NO:	TGS NUMBER:	REV:	SCALE:	PAGE
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Specification (Measurement)

Transport and Main Roads MRS02 Provision for Traffic

November 2019

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Feedback

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Contents

1 Introduction

This Specification applies to the control of traffic during the construction of roadworks.

This Specification shall be read in conjunction with MRS01 *Introduction to Specifications* and other Specifications as appropriate.

This Specification forms part of the Transport and Main Roads Specifications Manual.

2 Measurement of work

2.1 Standard Work Items

In accordance with the provisions of Clause 2 of MRS01 *Introduction to Specifications*, the Standard Work Items covered by this Specification are listed in Table 2.1.

Table 2.1 – Standard Work Items

Standard Item No	Description	Unit of Measurement
Provision for Traffic		
20001	Provision for traffic	lump sum
20002	Travel Time Surveys	lump sum
20003	Construction and removal of side track	m²
20004	Supply of temporary barriers	m
20005	Installation of temporary barriers	m
20006	Supply of temporary barrier end treatments	each
20007	Installation of temporary barrier end treatments	each
20008P	Supply of anti gawking screens (Provisional Quantity, if ordered)	m
20012P	Installation of anti gawking screens (Provisional Quantity, if ordered)	m
20016	Traffic management inspections	lump sum

2.2 Work Operations

Item 20001 Provision for traffic

Work operations incorporated in the above item include:

a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*

b) provision and placement of the prescribed traffic control devices for the warning, guidance and protection of the traffic and the protection of workers, construction plant and other property on or adjacent to the Works

c) ensuring that any delays to the passage of traffic are not greater than that specified in MRTS02

d) provision of police control, as necessary

e) provision of Traffic Controllers, as necessary

f) construction, maintenance and removal of temporary access along or across the Site for pedestrians, cyclists and agricultural machinery, as necessary

g) relocation of any bus stops affected by changes in traffic arrangements

h) covering and uncovering new signs, as necessary

i) covering or removal of traffic control devices when not in use

j) maintenance of emergency vehicle access at all times

k) relocation of all existing signage and any modifications required thereto to ensure that the standard of signage is consistent with that existing prior to the Contractor commencing work and that it is consistent with the requirements of the Traffic Guidance Schemes

l) supply and installation of Site access signs and all other traffic control signage as detailed in the Traffic Guidance Schemes

m) supply and operation of traffic control devices

n) supply and installation of temporary delineation of trafficked corridors

o) supply, installation and operation of temporary traffic signals

p) supply and installation of temporary delineation where access to streets and side roads has been altered

q) provision for the detouring of traffic

r) dust control

s) maintenance of entrances and construction of alternative entrances (as necessary) to private properties

t) provision of Traffic Guidance Schemes

u) provision of any information required for public notices

v) provision of out-of-hours representatives

w) design and construction of side-tracks where no separate item is provided for this work in the Schedule

x) maintenance of trafficable surfaces, where specified

y) supply and installation of temporary barriers other than those nominated Clause 1 of Annexure MRS02.1

z) supply and installation of temporary barrier end treatments other than those nominated in Clause 2 of Annexure MRS02.1

aa) supply and installation of anti-gawking screens other than those nominated in Clause 3 of Annexure MRS02.1

bb) all work associated with the preparation, submission and revision (where necessary) of the Traffic Management Plan

cc) implementation and monitoring of the Traffic Management Plan when such is specified

dd) recording of all work site signing and delineation, keeping of records, and provision of records

ee) supply of all materials, plant and equipment for temporary road lighting

ff) installation and maintenance of temporary road lighting equipment, and removal of temporary road lighting equipment after permanent road lighting is installed or as directed by the Superintendent

gg) provision of all other facilities for the safe passage of vehicular traffic through and around the Works, and

hh) removal of all temporary works and control devices used in the provisions for traffic.

Item 20002 Travel Time Surveys

Work operations incorporated in the above item include:

a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*

b) undertaking travel time surveys

c) recording data, and

d) provision of records.

Item 20003 Construction and removal of side track

Work operations incorporated in the above item include:

a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*

b) design of side track

c) provision of all materials for construction of side track

d) construction and maintenance of side track, and

e) removal of side track.

Item 20004 Supply of Temporary Barriers

Work operations incorporated in the above item include:

a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*

b) supply of barrier, and

c) delivery to the Site.

Item 20005 Installation of Temporary Barriers

Work operations incorporated in the above item include:

a) Work operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*

b) maintenance and repair of barrier

c) supply of erection angle connectors, reinforced connector assemblies and connector tie bars, as necessary

d) trimming and /or levelling surface

e) erection of barrier, including water filling where required

f) dismantling and relocation of barriers, and

g) dismantling and removal of barrier from the Site.

Item 20006 Supply of temporary barrier end treatments

Work operations incorporated in the above items include:

a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*

b) supply of all materials, and

c) delivery to the Site.

Item 20007 Installation of temporary barrier end treatments

Work operations incorporated in the above items include:

a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*

b) installation of end treatment

c) removal of end treatment for reuse or storage as necessary, and

d) maintenance of end treatment.

Item 20008P Supply of anti gawking screens (Provisional Quantity, if ordered)

Work operations incorporated in the above items include:

a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*

b) supply of materials

c) fabrication of anti-gawking screens, and

d) delivery to the Site.

Item 20012P Installation of anti gawking screens (Provisional Quantity, if ordered)

Work operations incorporated in the above items include:

a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*

b) installation of screens

c) maintenance of screens, and

d) removal of screens on completion.

Item 20016 Traffic management inspections

Work operations incorporated in the above items include:

a) Traffic management inspections as per Clause 7.4 of MRTS02.

2.3 Calculation of quantities

Calculation of quantities for the supply of temporary measures for the provision of traffic shall be based on the quantity provided by the Contractor in accordance with the Contract.

Calculation of quantities for the installation of temporary measures for the provision of traffic shall be based on the quantity installed by the Contractor in accordance with the Contract with each installation measured separately.

2.4 Provision of temporary barriers

The Principal will pay separately for the supply and/or installation of barriers only where such barriers are specifically referred to in Clause 1 of Annexure MRS02.1.

The Contractor shall be deemed to have made due allowance in Work Item 20001, Provision for Traffic for the supply and installation of temporary barriers other than those referred to in Clause 1 of Annexure MRS02.1.

2.5 Provision of temporary barrier end treatments

The Principal will pay separately for the supply and/or installation of temporary barrier end treatments only where such end treatments are specifically referred to in Clause 2 of Annexure MRS02.1.

The Contractor shall be deemed to have made due allowance in Work Item 20001, Provision for Traffic for the supply and installation of temporary barrier end treatments other than those referred to in Clause 2 of Annexure MRS02.1.

2.6 Provision of anti-gawking screens

The Principal will pay separately for the supply and/or installation of anti-gawking screens only where such screens are specifically referred to in Clause 3 of Annexure MRS02.1.

The Contractor shall be deemed to have made due allowance in Work Item 20001, Provision for Traffic for the supply and installation of anti-gawking screens other than those referred to in Clause 3 of Annexure MRS02.1.

Annexure MRS02.1 (November 2019)
Provision for Traffic

Specific Contract Requirements

Contract Number

CN-14898

Queensland Government

Note: Clause references within brackets in this Annexure refer to Clauses in the parent Specification MRS02 unless otherwise noted.

1 Payment for temporary barriers (Clauses 2.2 and 2.4)

Temporary Barriers which will be paid for under Works Items 20004 and 20005 shall be those in the location and/or for the purpose described below.

2 Payment for temporary barrier end treatments (Clauses 2.2 and 2.5)

Temporary barrier end treatments which will be paid for under Works Items 20006 and 20007 shall be those in the location and/or for the purpose described below.

3 Payment for anti-gawking screens (Clauses 2.2 and 2.6)

Anti-gawking screens which will be paid for under Works Items 20008P and 20012P shall be those in the location and/or for the purpose described below.

4 Payment for traffic management inspections (Clause 7.4)

Traffic management inspections which will be paid for under Works Items 20016 shall be those listed below.

Technical Specification

Transport and Main Roads Specifications
MRTS02 Provision for Traffic

November 2019

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Feedback

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Contents

1 Introduction

This Technical Specification applies to the control of traffic during roadworks and describes the project specific requirements for control of all traffic through the work site.

This Technical Specification shall be read in conjunction with MRTS01 *Introduction to Technical Specifications*, MRTS50 *Specific Quality System Requirements* and other Technical Specifications as appropriate.

This Technical Specification forms part of the Transport and Main Roads Specifications Manual.

1.1 Principal's documents for control of traffic during construction of roadworks

This Technical Specification forms part of the suite of documents to be applied for provision for traffic during road construction and maintenance activities. The suite of documents includes:

- Transport and Main Roads Specification MRS02 *Provision for Traffic*, including Annexures.
- Transport and Main Roads Technical Specification MRTS02 *Provision for Traffic*, including Annexures (this document).
- Queensland *Manual of Uniform Traffic Control Devices* – Part 3, Works on Roads (MUTCD Part 3) including amendments published on the Department of Transport and Main Roads website.
- *Traffic Management for Construction or Maintenance Work – Code of Practice 2008* (Workplace Health and Safety Queensland and Department of Justice and Attorney General).
- Part 3 Supplement of Queensland *Manual of Uniform Traffic Control Devices* including amendments published on the Department of Transport and Main Roads website.
- *Traffic and Road Use Management* (TRUM), Volume 1 – Guide to Traffic Management, Part 3: Traffic Studies and Analysis published on the Department of Transport and Main Roads website.
- Technical Notes: Traffic Engineering including amendments published on the Department of Transport and Main Roads website.

Where any conflicts occur between the requirements in these documents, the order of precedence shall be as listed above except:

- in any circumstance specifically approved in writing by the Administrator, and
- where there are conflicting provisions in the Part 3 Supplement of Queensland *Manual of Uniform Traffic Control Devices* and the MUTCD Part 3, the provision with the later publish date shall take precedence.

1.2 Departures from standards and innovation

The requirements and recommendations set out in this Technical Specification and the associated Principal's documents for control of traffic during construction of roadworks (refer Clause 1.1), should not be inferred to preclude innovative or alternative traffic management solutions that provide improved value for money outcomes which meet the intent of this Technical Specification.

The primary principle in developing a Traffic Management Plan (TMP) and Traffic Guidance Scheme (TGS) is to ensure the safety of road workers and road users. Safety should at all times be maintained or improved.

The secondary principle of the TMP and TGS is to balance the:

a) efficient movement of traffic, and

b) construction and traffic management costs.

Innovative treatments that provide improved value for money outcomes are therefore encouraged. Such treatments may include:

- Changes to the work scheduling/programming to occur during periods of lower traffic demand. Planning for greater network impacts through reducing the Level of Service (LOS) for the road user typically enables works to be undertaken in a more time efficient manner.
- Innovative treatments for the deployment of devices.
- Alternative device layouts using new/improved devices.

Contractors undertaking works on roads are encouraged to propose/submit innovative or alternative traffic management solutions that provide improved value for money outcomes. These solutions may involve impacts outside the specified requirements but will be considered against the benefits that are provided and submitted as an Alternative Tender, as set out in the Conditions of Contract. Safety should at all times be maintained or improved. Any Alternative Tender shall be submitted in addition to a Conforming Tender.

Further guidance on innovations and preparing an Alternative Tender is provided in the Conditions of Tendering and the Conditions of Tendering Annexure.

It is also recognised that in some cases, conditions specific to the site and proposed traffic management layout may result in it not being possible to implement all the requirements as outlined in this Technical Specification and the associated departmental documents for control of traffic during construction of roadworks (refer Clause 1.1). In those cases where compliance is impractical, the Contractor should propose minor departures from the standards and/or alternative traffic management solutions in the Traffic Management Plan (TMP) (Clause 5).

Where any innovation, alternative traffic management treatment or departure from standards is proposed, a risk assessment process shall be undertaken, as part of that proposal, in accordance with Clauses 2.2.3 and 2.2.5 of the MUTCD Part 3.

1.3 Traffic control principles

The purpose of traffic control at roadworks is to clearly communicate to all road users, including vehicle operators, pedestrians and cyclists, the path and speed at which it is safe to travel through, past or around the roadworks site. The MUTCD Part 3 provides detailed guidance on the most appropriate forms of traffic control for roadworks sites and should be applied as the optimal treatment at most sites.

The TGS and its relevance/relation to the roadworks site needs to be clear for the scheme to be accepted and credible to the road user, and effective in its implementation. Unless there is clear reason to comply with the TGS, drivers may disregard traffic control devices, most notably speed limit signs. It is in both the Contractor's and Principal's interest that speed limit choices in the TGS are realistic, self-enforced by road users, and enforceable.

As a result, there will be a focus on ensuring that the following requirements are met:

- Roadwork signage shall be in accordance with the TGS, and installed and maintained to the required standards.
- Reduced speed zones shall be kept to minimum lengths. This requires speed limit reinstatement signs to be in place as close to the end of the works requiring the limit as practicable.
- Reduced speed zones shall be kept to minimum durations. This requires speed signs to be changed or removed as soon as they are no longer appropriate.
- A speed zone for road worker safety shall only be in place if there are road workers present and while they are undertaking the works for which the speed limit is required.
- A reduced speed zone in place for road user safety (as a result of changes to the road environment) shall be justified and the danger shall be evident or made evident to the road user by the installation of appropriate warning signage.
- A reduced speed zone in place to protect works (for example, as outlined in the early trafficking requirements in MRTS11) shall be justified and the reason shall be evident or made evident to the road user, and
- Speed zones should be implemented as close to the time of commencement of works as practicable, and no longer than one hour prior to the commencement of works requiring the speed zone, and should be removed as soon as practicable, and within one hour following the completion of the works requiring the speed zone.

The Contractor retains ultimate responsibility for traffic control and management and is responsible for ensuring that the traffic guidance system is adequately designed, installed correctly and regularly reviewed on site.

Re-inspection costs will apply for breaches of these situations as identified at Clause 8.3.

2 Definition of terms

The terms used in this Technical Specification shall be as defined in Clause 2 of MRTS01 *Introduction to Technical Specifications*. Additional terms used in this Technical Specification shall be as defined in Table 2.

Table 2 – Definition of terms

Term	Definition
Anti-gawking screen	An opaque screen attached to a Temporary Road Safety Barrier (TRSB) to shield the construction work from the view of passing motorists.
Community Liaison Plan	A document that outlines how information about the project will be communicated to the community.
Dynamic deflection	The largest transverse deflection of a TRSB system recorded during an actual crash or during a full-scale impact test.
End Treatment	The collective term for devices and features at the leading and trailing ends of TRSB systems, which are selected on the basis of traffic speed and composition, the type of TRSB system and the particular site constraints.

Term	Definition
May	A permissive condition that indicates that usage of the device is conditional, or optional.
Nominated Traffic Officer	A person responsible in accordance with Clause 5.2 for preparation and implementation of the TMP and TGS.
Principal	The State of Queensland acting through the Department of Transport and Main Roads.
RPEQ	Registered Professional Engineer of Queensland.
Shall	A mandatory condition
Should	A recommendation
Speed Management Plan	A document that outlines the proposed speed limits during and outside of work hours, the measures to be taken to monitor speeds and remedial actions to ensure compliance with the speed limit.
Substantial (change in traffic)	These are changes introduced by a Traffic Guidance Scheme which result in: • reduction in the available road space by one lane or more including bicycle lanes • realignment of carriageway by more than one lane width, and • geometric change to an intersection operation.
Traffic Controller	A person authorised in accordance with Clause 5.6.2 to control traffic at roadworks.
Traffic Guidance Scheme (TGS)	An arrangement of temporary signs and devices to warn traffic and guide it through or past a work area or temporary hazard.
Traffic Management Plan (TMP)	Prepared by the Contractor in accordance with the requirements of the Contract. It outlines how the works are integrated into the operation of the road network, identifies and considers all foreseeable risks, and assesses the impact on all road users.
TRSB	Temporary Road Safety Barrier.

3 Referenced documents

Table 3 lists acronyms for documents referenced in this Technical Specification.

Table 3 – Referenced documents

Reference	Title
–	*Limitation of Actions Act* 1974
AS 3845	*Road safety barrier systems*
AS/NZS 1158	*Lighting for roads and public spaces*
AS/NZS ISO 31000:2009	*Risk Management – Principles and Guidelines*
Austroads guide	*Guide to Traffic Management Part 3 – Traffic Studies and Analysis*
Austroads AP-R403-12	Austroads Report – *Implementation of National best practice for traffic control at road sites*
MRTS01	*Introduction to Technical Specifications*
MRTS11	*Sprayed Bituminous Surfacing (Excluding Emulsion)*
MRTS14	*Road Furniture*

Reference	Title
MRTS45	*Road Surface Delineation*
MRTS50	*Specific Quality System Requirements*
MRTS94	*Road Lighting*
MUTCD	Queensland *Manual of Uniform Traffic Control Devices*, Transport and Main Roads and Supplements
RPDM	*Road Planning and Design Manual*
Standard Drawing 1470	*Single slope concrete barrier – Concrete terminal for median barrier with thrie beam guardrail connection*
Standard Drawing 1474	*Steel beam guardrail – Installation and setout*
Standard Drawing 1475	*Steel beam guardrail – Installation on bridge and barrier approaches*
TRUM	*Traffic and Road Use Management Manual*, Transport and Main Roads

4 Quality system requirements

4.1 Hold points, Witness Points and Milestones

General requirements for Hold Points, Witness Points and Milestones are specified in MRTS01 *Introduction to Technical Specifications.*

The Hold Points and Milestones applicable to this Technical Specification are summarised in Table 4.1. There are no Witness Points defined.

Table 4.1 – Hold Points, Witness Points and Milestones

Clause	Hold Point	Witness Point	Milestone
5.3	1. Approval of Traffic Management Plan		
6.2	2. Approval of Traffic Guidance Schemes*		
7.5			Submission of Traffic Management Inspection Report

*Unless specified in Clause 4 in Annexure MRTS02.1, approval of TGS shall be a Hold Point for approval of proposed speed limits only.

4.2 Conformance reporting

The Contractor shall establish and keep updated records to show the Contractor's conformance to the requirements of this Specification and other relevant reference documents.

5 Traffic management planning

5.1 TMP – General

The TMP outlines how the works are integrated into the operation of the road network. The outcome of the TMP is to describe how all road users will be accommodated throughout the duration of the works and the impacts on both road users and the construction process. Indicative staging of long term traffic management changes align to the proposed construction methodology and form the basis on which the TGS is subsequently developed.

5.2 Nominated traffic officer

The Nominated Traffic Officer shall be accountable to the Contractor and responsible for the preparation and implementation of the TMP and all TGS and other requirements contained within the TMP. The Contractor shall submit to the Administrator the name of its Nominated Traffic Officer.

The Nominated Traffic Officer shall have the requisite level of training/experience outlined in Table 5.2. When dealing with innovations, alternatives and departures from the MUTCD Part 3 – *Works on Roads*, the Nominated Traffic Officer will either be an RPEQ or have access to an appropriately experienced RPEQ with Transport and Main Roads approved Traffic Management Design training.

Table 5.2 – Nominated traffic officer training/experience requirements

Level of Complexity	Nominated Traffic Officer – Level of Training/Experience
Complex traffic management schemes which have significant impacts on delays or traffic rerouting	Successful completion of Transport and Main Roads approved Traffic Management Design Training course delivered by a registered training provider. Additional qualifications and/or experience as nominated in Clause 1 of Annexure MRTS02.1
Innovations, alternatives and departures from standards resulting in treatments other than specified in the MUTCD Part 3	An appropriately experienced RPEQ with successful completion of Transport and Main Roads approved Traffic Management Design Training course delivered by a registered training provider
TGS is selected from a suite of generic TGSs following the process outlined in MUTCD Part 3 Supplement Figure 1.4.21-1.	Successful completion of Transport and Main Roads approved Traffic Management Implement course delivered by a registered training provider
TGS are developed using the principles from the MUTCD Part 3 to develop site specific diagrams	Successful completion of Transport and Main Roads approved Traffic Management Design Training course delivered by a registered training provider

Notes:

- Statements of successful completion must be obtained through training delivered by a registered training organisation which meets the requirements of Traffic Management for Construction or Maintenance Work Code of Practice 2008.

5.3 Traffic management plan submission and approval

A TMP shall be submitted by the Contractor to the Administrator, for a direction from the Principal as to its suitability, at least 21 days before commencement of its implementation, or as nominated in Clause 2 in Annexure MRTS02.1.

Where the Work under the Contract consists of Separable Portions or other clearly identifiable sections, the TMP may be separated into identifiable sections.

The TMP shall comply with any project specific requirements stated in Clause 2 of Annexure MRTS02.1

No traffic rearrangements shall be carried out until after the Administrator has advised the Contractor that the submitted, and amended as directed, TMP is approved and suitable for use. **Hold Point 1**

5.4 Scope of traffic management plan

The TMP shall:

a) Include all the following elements as detailed in Clause 2.2.2 of the MUTCD Part 3:
   - traffic demand
   - traffic routing
   - traffic control (including proposed speed limits while workers are present and not present and their justification)
   - provision for all road users including users of paths and adjacent transport infrastructure
   - special vehicle requirements, and
   - site conditions including property accesses and roadside facilities (e.g. Bus stops, parking bays).

b) Describe traffic arrangements which provide for any necessary sequencing of the work under the Contract while minimising disruption and confusion to road users, local traffic, public transport, emergency vehicles, pedestrians and cyclists.

c) Where required, describe how the construction work area shall be physically and visually isolated from road users.

d) Provide details of how local access to communities and adjacent private properties and businesses will be maintained.

e) Provide details of arrangements to be made for detouring traffic.

f) Identify arrangements for managing the movement of oversize vehicles through the work site (height and width clearance constraints shall be provided by the Principal).

g) Provide details of all road closures and/or traffic lane restrictions required to undertake the work under the Contract.

h) Provide details for timely notification and engagement of the community (business owners, road users and other stakeholders) in advance of alterations to existing traffic conditions. The extent of notification required will depend on the scope, impact and duration of the works and will be guided by the requirements of the Community Liaison Plan. This process shall incorporate the Principal's requirements with respect to public notifications.

The notification advice should include:

- the physical changes to the road
- expected delays and traffic impacts, and
- alternative route and transport mode options.

Transport and Main Roads is currently reviewing and refreshing its systems and processes relating to event and incident management, traveller information, and road occupancy permitting. A key driver of this work is to provide a better service to our customers.

With respect to roadworks and traveller information, one area currently under investigation is the ability for detailed information about roadworks and changes to road conditions to be more efficiently shared with the department, for publication on Transport and Main Roads traveller information services and for sharing with third party stakeholders. This will allow users of traffic management applications to automatically share roadworks information, removing the need to manually communicate details, and providing richer information for our customers to allow journey planning and achieve better road safety outcomes for road users and road workers alike.

It is anticipated that Transport and Main Roads will require 'real-time' notification advice to mitigate the risk of end of queue crashes that occur when vehicle speeds are significantly reduced, or when vehicles are stationary as a result of lane closures, traffic operating under single lane reversible flow (shuttle flow) or congestion is occurring due to roadwork operations or a traffic crash or incident.

This advice will encompass:

- the worksite location and direction of travel of the traffic flow that is affected
- what is affecting the traffic flow – a lane closure on a multi-lane road, traffic operating under single lane reversible flow on two-lane way roads (controlled by traffic controllers or portable traffic signals), reduced speed limits due to roadwork operations or a traffic crash/incident
- the time and date at which the traffic control measure (lane closure, traffic controllers, portable traffic signals, reduced speed limit, traffic crash or incident) was implemented and removed
- the lane that has been closed (if a lane closure has been installed)
- the principal contractor and nominated traffic officer names and telephone numbers
- the traffic control company name and telephone number, and
- whether workers are present.

A data specification for communicating roadworks information for applications has been published and is available on www.qldtraffic.qld.gov.au.

i) Include a Speed Management Plan detailing the measures to be taken to monitor traffic speeds and to implement remedial actions should traffic speeds exceed the speed limits posted for the works. The Speed Management Plan should be prepared in accordance with the guidance in Appendix A.

j) Include the following administrative items:

- provision for participation of a senior member of the Contractor's site personnel on any traffic coordination committee convened by the Principal
- the names and contact details of the nominated out-of-hours representatives as specified in Clause 5.6.3
- the name of the Nominated Traffic Officer and evidence of the Nominated Traffic Officer's experience in compliance with the requirements of Table 5.2 (including RPEQ where required)
- details of the Contractor's organisational structure for traffic management issues including a list of the duties and responsibilities of each position nominated in that structure, and
- include a schedule of TGS giving a general description of the relevant traffic arrangements and the TGS submission date for each arrangement. Each TGS shall be prepared and submitted as specified in Clause 6.

k) Provide the following information where independent inspection of the traffic management is required as specified in Clause 7:

- name of the officer undertaking the inspection
- the schedule of inspections
- description of the methodology for undertaking the inspections

5.5 Implementation of traffic management plan

The Contractor shall:

a) implement the TMP in accordance with the schedule included in the TMP

b) provide details of the TMP, or any changes to that TMP, to any organisations or parties nominated by the Administrator

c) monitor the continued effectiveness of the TMP during the Contract and revise and update the TMP where necessary, and

d) monitor the continued effectiveness of the speed limits posted as part of the works and revise and update the speed controlling measures in accordance with the Speed Management Plan.

5.6 Administration of the traffic management plan

5.6.1 Traffic management registration

When traffic control is required, only organisations registered with the department's Traffic Management Registration Scheme shall be used. A listing of registered traffic management organisations can be obtained from the departmental website at http://www.tmr.qld.gov.au

5.6.2 Traffic controller accreditation

A Traffic Controller shall hold an appointment as an accredited person under Section 21 of the *Transport Operations (Road Use Management) Act 1995* to perform the functions of a traffic controller as prescribed by the Transport Operations (Road Use Management – Accreditation and Other Provisions) Regulation 2005. The Traffic Controller shall carry their Transport and Main Roads issued

Traffic Controller Accreditation Scheme accreditation identity card at all times while working as a traffic controller.

Traffic control shall be undertaken in accordance with the Traffic Controller Accreditation Scheme: Approved Procedure (available at http://www.tmr.qld.gov.au).

5.6.3 Out-of-hours representatives

The Contractor shall nominate a minimum of two representatives to address traffic management issues, one of whom shall be available at all times outside of the Contractor's normal working hours. These two representatives may include the Nominated Traffic Officer. The Contractor shall notify the Administrator of the name, address and telephone number of the nominated persons. Such persons, when requested by the Administrator, shall coordinate and expedite immediate repairs to and maintenance of such part of the work under the Contract as may be considered necessary by the Administrator and shall carry out such work to the satisfaction of the Administrator.

If a nominated person leaves the employ of the Contractor during the period of the Contract, the Contractor shall immediately nominate another person and provide the full details of that person.

5.6.4 Inspection and records

The Contractor shall inspect all traffic control devices and traffic control arrangements in accordance with Appendices A and B of the MUTCD Part 3.

As an alternative to the record keeping arrangements outlined in the MUTCD Part 3, photographic and/or video evidence of the TGS is permitted. Photographic and/or video evidence shall include date and time stamps and GPS location and be of sufficient resolution to accurately identify and locate traffic control devices. GPS coordinates shall be in World Geodetic System 1984 (WGS84) format or Geocentric Datum of Australia 1994 (GDA94) format, with latitude and longitude in decimal degrees. Time and date stamping shall be in Australian Eastern Standard Time (Coordinated Universal Time [UTC] + 10 hours).

Records shall be retained by the Contractor in accordance with the *Limitations of Actions Act* 1974, for actions associated with personal injury (plus as long as required for any claims to be resolved). Records shall be provided to the Administrator at the end of each month, and at other times upon request by the Administrator.

When required, the Contractor, and in particular the Nominated Traffic Officer, shall provide evidence in Court in the event that a speeding infringement notice is challenged, or in the event of a traffic incident within the site, or outside the site but contributed to by activities of the site.

> Transport and Main Roads is aware that there are number of electronic data recording systems that are capable of recording date and time based geospatial information. The use of these systems for record keeping purposes is permitted.

5.6.5 Traffic crashes and incidents

In the event of a traffic crash/incident within the site, the Contractor shall record the date and take time and date stamped photographs of the signs/devices present in the vicinity of the crash. In the event of a traffic crash/incident that requires notification to Police and relevant Emergency Services, the Contractor shall make the appropriate notifications. All crashes/incidents shall be recorded in the incident log. A copy of the incident log shall be forwarded to the Administrator within 24 hours of the incident, and at other times upon request by the Administrator.

The Contractor shall assist with the mitigation of the impacts of incidents so far as is reasonably practicable.

5.6.6 Complaints and requests for information

The Contractor shall keep a register of all complaints received and actions taken to address each complaint. The complaints register shall be forwarded to the Administrator on a weekly basis. The Contractor shall similarly keep a register of requests for information from the public. This public information request register shall also be forwarded to the Administrator on a weekly basis.

5.7 Traffic management provisions

5.7.1 General

The provision of traffic management at works sites should at all times address the need to maintain safe and effective traffic flow that minimises traffic delays and the risk of off-site incidents and driver frustration.

Further guidance is available in Part 3 Supplement of the MUTCD, with regards to methods for the assessment of impacts on traffic (available at http://www.tmr.qld.gov.au).

5.7.2 Works restriction

Work shall conform to the following principles unless approved otherwise:

Work on shoulder areas – in any section, is limited to one side of the road, or of a divided road's carriageway.

Vertical clearance – not less than 4.6 metres vertical clearance shall be provided from the trafficked surface, including any side-tracks or detours, to any obstacle. The Contractor shall make the necessary arrangements and obtain the necessary approvals from the appropriate Electricity and/or Communications Authority in the case of overhead cables.

Length of 40 km/h zone – in sections of the project where the speed restriction is 40 km/h, the maximum length of roadway with a 40 km/hr speed limit, excluding tapers and acceleration zone shall be in accordance with Clause 4.2 of the MUTCD Part 3.

Hazardous lift events – during the erection of bridge girders, deck units and other bridge components and/or while lifting and fixing street light poles and sign gantries no traffic shall be allowed under or within the distance the lifted item could fall. Traffic shall be temporarily stopped or diverted while such work is carried out.

Specific restrictions on work which impacts on traffic – work which impacts on traffic is not permitted on:

- Thursday before Easter
- Anzac Day
- during the period from the day prior to Christmas Day until New Year's Day, both inclusive, and
- during any other event deemed by the Administrator as set out in Clause 3.1 of Annexure MRTS02.1 to be a major commercial, sporting or cultural event, where the Administrator considers that such closure would cause an unacceptable level of disruption to the traffic operations associated with such events.

Prohibition Notice – the Principal is subject to a Prohibition Notice which restricts personnel from crossing multilane divided roads with posted speed limit of 100 km/h or greater. The Contractor is to conform to the requirements of this Prohibition Notice and at all times refrain from crossing these roads without the use of lane closures or speed reductions.

5.7.3 Traffic lane restrictions

Lane restrictions shall conform to the following principles unless approved otherwise.

Minimum lane requirements – the minimum number of lanes to be maintained on a midblock section of road will be determined from:

- the requirements of Clause 3.2 of Annexure MRTS02.1 which sets out the minimum requirements for various time periods and for various locations in the work site
- the requirements of Table 4.10 of the MUTCD Part 3, or
- where specified in Clause 3.2 of Annexure MRTS02.1 the required lane availability shall be determined through a traffic operational Level of Service assessment in accordance with the requirements of Clause 4.13-1 of the Part 3 Supplement of Queensland *Manual of Uniform Traffic Control Devices*.

Where the number of traffic lanes is not listed in Clause 3.2 of Annexure MRTS02.1, recent historical traffic information shall be used to provide data for the assessments under b) and c) of Clause 3.2 of Annexure MRTS02.1.

The 24 hour traffic count information at the site is to conform to the following requirements:

- be less than 12 months old
- not be collected during school holidays, and
- be undertaken on a day of the week which is expected to have the greatest traffic volumes.

The source of the traffic count information shall be documented, and, in addition to confirmation of adherence to the requirements listed above, shall be provided to the Administrator upon request.

The use and interpretation of any traffic count information is entirely at the Contractor's own risk.

The minimum lane requirements to be maintained at an intersection shall be determined as per method (A), (B) or (C) of Clause 3.3 of Annexure MTRS02.1.

Single lane reversible flow (Shuttle flow) – where single lane reversible flow (to serve both directions) is allowed, the Contractor shall maintain traffic flow under the control of traffic controllers or portable traffic signals in such a way that no road user is delayed in excess of the maximum delay specified in Clause 3.4 of Annexure MRTS02.1. In all cases, the length of one-lane, two-way operation shall be limited to one kilometre. See also Clause 4.13.1 of the MUTCD Part 3.

Stopping traffic in both directions – the Contractor may stop traffic in both directions simultaneously only for purposes of construction of specific work and during the specific period stated in Clause 3.5 of Annexure MRTS02.1. The maximum delay to any road user shall be as stated in Clause 3.5 of Annexure MRTS02.1.

Specific periods where lane closures are not permitted – work under the Contract involving lane closures, stop/slow arrangements or construction traffic entering or leaving any through traffic lanes shall not be carried out during any periods stated in Clause 3.6 of Annexure MRTS02.1 and unless otherwise stated, such restrictions shall apply 24 hours per day.

Measuring traffic delays – where stated in Clause 3.7 of Annexure MRTS02.1, the Contractor shall undertake surveys to monitor the impact of the activities on the road user. Traffic surveys shall be undertaken as stated in Clause 3.7 of Annexure MRTS02.1 and according to the Part 3 Supplement of Queensland *Manual of Uniform Traffic Control Devices* (available at http://www.tmr.qld.gov.au). Typical periods during which delays shall be recorded include during full road closures and during all road closures which require detours off site. Baseline traffic conditions prior to the commencement of works shall be measured for comparison.

5.7.4 Traffic management for route alterations

5.7.4.1 General requirements for traffic route alterations

A traffic route alteration refers to the act of closing one section of road and redirecting traffic onto another road. The traffic route alteration refers to the re-direction task only and once traffic is flowing safely on the new road, the traffic route alteration is deemed to be finished. Traffic route alterations include re-directing traffic to and from:

a) the road under construction

a) a detour on an existing road, and

b) a side-track.

When specified in Clause 3.8 of Annexure MRTS02.1, traffic may be altered from its existing route via one of these means.

5.7.4.2 Specific traffic management requirements for detours

When specified in Clause 3.8 of Annexure MRTS02.1, traffic may be detoured away from the Works via existing roads. Detours that involve the diversion of traffic off the work site are not permitted except for the express purpose of implementing a full carriageway closure to allow specific construction activities.

Any proposed detour shall be fully documented in the TMP and the relevant TGS. The Contractor shall provide details within the TMP to demonstrate that detours proposed for the purpose of implementing a full carriageway closure have sufficient capacity and are capable of supporting the traffic volumes expected during the use of the detour. The TMP shall show:

a) maximum extra length added to motorist trips

b) maximum extra delay for motorists

c) maximum number of hours for which a detour is to be implemented, and

d) any parking or other restrictions required to accommodate the detour.

The Contractor shall liaise with and make all necessary arrangements with the relevant Local Government(s) and/or other authorities concerned. These arrangements shall include making provision for such matters as the issuing of public notices in respect of the detour and ensuring the classification and condition of the roads concerned are adequate for the volume and composition of traffic to be detoured.

5.7.5 Over dimension, over weight and dangerous goods vehicles

The Contractor shall not reduce pre-existing provisions for the movement of heavy vehicles including over dimension, over weight and dangerous goods vehicles that have approval from the Administrator and/or other relevant Authorities.

5.7.6 Access to private property

Existing accesses to private properties affected by the work shall be maintained in useable condition during the construction, or alternative access arrangements acceptable to the property owners/tenants shall be made. The Contractor shall permit and provide for the free movement of traffic in and out of the properties at all times except as otherwise agreed to by the property owners/tenants.

The Contractor shall, at no expense to the Principal, make good any damage to accesses to private properties which results from the Contractor's operations during the construction of the work under the Contract.

5.7.7 Vulnerable road user movements

Where it is necessary to provide for pedestrian and/or cyclist access along or across portions of the work under the Contract, the Contractor shall provide such temporary pathways as necessary in accordance with the requirements of the MUTCD Part 3.

The pathways shall be clearly delineated, signed and fenced to prevent unintended access to the remainder of the work under the Contract. Signs shall be provided adjacent to the pathway to clearly indicate that access to the remainder of the work under the Contract is prohibited.

Adequate illumination shall be provided during all periods of darkness.

Where a large volume of pedestrian traffic has to cross the work site, consideration shall be given to directing pedestrians to suitably constructed and protected crossings.

Special provision for pedestrians may be required where the direction of traffic flow is opposite to that normally expected.

5.8 Incident management

For sites of longer than three days duration, an incident management plan is to be prepared by the Contractor and submitted to the Administrator, detailing the measures to be implemented in the event of a traffic incident occurring within the worksite or on any detour route.

The Administrator or Police may direct the Contractor as per Clause 5.6.5 to implement detours for incident management, without preparation of an incident management plan or without acting in accordance with any existing plan.

5.9 Contingency planning

On occasions a traffic route alteration can lead to excessive unforeseen delays and other impacts not predicted within the TMP.

The Contractor shall include in the TMP, a contingency to address this possibility which can be implemented immediately should traffic operation delays or safety issues exceed those identified within the accepted plan. This contingency plan may include restoration of the route in existence prior to implementation of the traffic route alteration until such time that alternative arrangements can be developed.

6 Traffic guidance scheme (TGS)

6.1 General

A TGS shows all traffic control devices and their layouts on a plan and shall be consistent with the approved TMP.

Where any change to existing traffic arrangements is proposed or where construction conflicts with normal traffic movements, the Contractor shall prepare a TGS which clearly details the revised traffic arrangements at all locations affected by the change or conflict. A separate TGS is required for each stage of the works where changes are made to the traffic control devices.

Traffic shall be controlled at all times, during construction, in accordance with the provisions of the MUTCD Part 3 and the TMP.

The requirements and recommendations set out in the MUTCD Part 3 and this Technical Specification and its Annexure do not preclude innovative or alternative traffic management solutions, as outlined in Clause 1.2.

6.2 Traffic guidance scheme submission and consideration

All TGS shall be prepared by suitably qualified and experienced persons and submitted by the Contractor to the Administrator for the Principal's consideration. Aspects of the TGS require approval in the following circumstances: **Hold Point 2**

- **Proposed speed limits:** TGS implemented for three days duration or longer (works need not be continuous over this period) shall be submitted for approval or rejection only for proposed speed limits, by the Principal. The Principal's review will consider the appropriateness of the posted speed limits when workers are present and when they are not present.
- **Improving compliance with speed limits:** as outlined in Clause 1.3, the Principal wishes to improve compliance with posted speed limits at roadworks. Together with improved speed limit choices it is intended to improve opportunities for enforcement of roadwork speed limits. Appendices A (Speed Management Plan) and B (Speed Enforcement at Roadwork Sites), outline remedial actions in response to non-compliance with the posted speed limit and the procedure with which departmental staff and contractors can request that Police undertake speed enforcement within roadwork sites, and
- **Specific circumstances:** where specified in Clause 4 of Annexure MRTS02.1.

The Principal may provide comments on other matters in the TGS.

TGS that require approval shall be clearly marked "For Approval" and be submitted at least 14 days prior to the date of the proposed traffic rearrangement, or as nominated in Clause 4 of Annexure MRTS02.1. Failure to comply with this requirement may result in the Principal deferring the date for traffic rearrangement. Such deferment shall not be a cause for an extension of time under the Contract.

TGS that do not require approval as outlined above shall be clearly marked "For Information" and be submitted to the Administrator at least three days prior to implementation.

Transport and Main Roads has made a policy decision to progressively remove itself from TGS approval. As a result "NO" should generally be chosen when completing Clause 4 of Annexure MTRS02.1. "YES" can be nominated during the transition in those Regions where it is evident that industry capability is lacking.

6.3 Scope of traffic guidance scheme

TGS shall be prepared in accordance with the requirements of the MUTCD Part 3.

The TGS shall show traffic control device layouts (including TRSB, temporary pavement marking and temporary islands), be fully dimensioned and shall generally agree with the construction sequence and other requirements shown elsewhere in the Contract.

The TGS shall also state the period for which the traffic control devices are to be in place (time and date) and the person who is responsible for installing, maintaining and removing them. Work site access arrangements shall form part of the TGS.

The TGS shall also identify those traffic control devices which are only to be in place during periods of actual work on site. Signs such as symbolic workers signs and speed limits, introduced due to reduced clearances to workers, should be covered or removed during periods when workers are no longer on site (e.g. at night). The Principal requires that speed limits are applied strictly in accordance with the MUTCD Part 3 unless accompanied by a supporting risk assessment and RPEQ approval or signoff.

Where the TGS includes changes to regulatory signs or devices, the Contractor shall include roadwork signing records in accordance with Appendix B of the MUTCD Part 3 certified by the Nominated Traffic Officer.

6.4 Implementation of traffic guidance schemes

Should the Contractor wish to depart from the speed signage arrangements in the TGS that have been submitted to Police for enforcement (in accordance with Appendix B), an amended TGS shall be submitted to the Administrator seven days prior to implementation of any new arrangements.

On a daily basis, the Contractor shall ensure that all applicable traffic redirection and/or warning measures and safety requirements are implemented prior to proceeding with any relevant work under the Contract.

The Contractor shall monitor the effectiveness of the TGS and revise it in response to incidents and/or unexpected traffic disruptions.

Details of a TGS shall be provided on request to any other party nominated by the Administrator.

6.5 Traffic guidance provisions

6.5.1 General traffic control devices

Traffic control devices and their use shall conform to the requirements of the MUTCD Part 3 and such other additional Standards as may be issued by Transport and Main Roads.

All traffic control devices shall be securely fixed in the correct position and maintained in an effective and clean condition suitable for day and night operations whilst employed on the work under the Contract. Devices which are damaged or worn, or which do not conform to the above requirements, shall not be used.

6.5.1.1 Portable Traffic Control Devices (PTCD)

PTCD shall be used in accordance with Clause 4.11-1 of the Supplement to the MUTCD Part 3. The principal may mandate the use of PTCD in specific situations stated in Clause 5.1 of Annexure MRTS02.1

6.5.2 Additional optional traffic control devices

6.5.2.1 Variable Message Signs (VMS)

VMS devices may be used to supplement other traffic control devices, particularly in communicating complex arrangements to drivers. Their need should be determined through a risk assessment either to supplement other traffic control devices or as an alternative traffic control device when site conditions constrain a preferred TGS layout.

Where they are used, the Contractor shall coordinate operation of temporary VMS with the operations of the traffic control room or traffic management centre as appropriate. The contractor shall comply with the requirements for VMS installations stated in Clause 5.2 of Annexure MRTS02.1.

Prior to the operation of the VMS at the site, the contractor shall ensure that any previous messages on the VMS have been deleted and only messages, symbols and time schedules that have been approved for the site are programmed into the VMS.

6.5.2.2 Use of police

Police presence should be limited to those occasions where:

a) a risk assessment indicates that their presence mitigates the need for other more costly measures, or

b) the situation is stated in Clause 5.3 of Annexure MRTS02.1.

Where police officers are to be employed to assist in the control of traffic around or through the work site, the Contractor shall be responsible for making all necessary arrangements with the local Police Station or relevant branch of the Police Service and for making all payments.

6.5.2.3 Speed enforcement

In addition to speed enforcement undertaken through Principal submission of speed limits for enforcement, the Contractor may implement additional speed enforcement at roadworks sites to ensure that traffic speeds are in compliance with the posted speed limits. This may result in savings associated with the TMP by being able to implement lower cost solutions by not having to cater for higher vehicle speeds.

Contractors wishing to implement site specific speed enforcement would do so at their own cost and would need to make the necessary arrangements with the Police.

6.5.2.4 Truck mounted attenuators (TMA)

The use of TMA's should be limited to the following situations:

a) in accordance with the requirements of the MUTCD Part 3 and Supplements, or

b) where a risk assessment indicates that their presence mitigates the need for other more costly measures, or

c) the situation is stated in Clause 5.4 of Annexure MRTS02.1.

6.5.3 Traffic route alterations

6.5.3.1 Specific requirements for construction under traffic

When construction under traffic is permitted as per Clause 3.8 of Annexure MRTS02.1, the Contractor shall arrange its construction program and sequencing so traffic flow is maintained through the Works in accordance with the requirements of this document and the MUTCD Part 3, as supplemented or amended by any requirements in Clause 5.5 of Annexure MRTS02.1.

6.5.3.2 Specific requirements for detours

In implementing the detour, the Contractor shall:

a) inspect the route for adequacy for the entire length of the detour

b) implement any parking or other restrictions required to allow the suitable flow of detoured traffic

c) provide suitable directional signage and other infrastructure to guide motorists, and

d) restore or arrange restoration as necessary following cessation of the detour period to the approval of the relevant Authorities.

6.5.3.3 Specific requirements for side-tracks

Where re-directing traffic onto a side-track is permitted by Clause 3.8 of Annexure MRTS02.1, construction of the side-track shall comply with the requirements set out in this document and any additional requirements stated in Clause 5.6 of Annexure MRTS02.1. All aspects of the side-track design shall be signed off by an appropriately experienced RPEQ.

Design and construction – design and construction of side-tracks shall comply with the MUTCD Part 3. Materials for construction of side-tracks shall comply with the provisions of the relevant Technical Specification.

Location and route – the location and route of side-tracks shall be in accordance with the details provided in Clause 5.6 of Annexure MRTS02.1 and/or as shown on the drawings.

Surface and clearing – the ground surface of the areas on which a side-track is to be constructed shall be cleared, grubbed and stripped of vegetation and any other undesirable matter. Such operations shall extend for not less than the full width of the surface formation of the side-track. Any tree or other object within three metres of the edge of the side-track shall be removed, shielded or delineated.

Alignment – side-tracks shall be aligned, formed, graded, drained and maintained so as to provide for safe, comfortable passage of vehicles at the indicated speed limit. In general, not more than four per cent surface cross-fall shall be provided.

Surface – the requirements for paving and/or sealing of a side-track shall be as stated in Clause 5.6 of Annexure MRTS02.1 or the MUTCD Part 3. Where paving and/or sealing of a side-track is required, the Contractor shall prepare the side-track formation and carry out the paving and/or sealing operations in accordance with the requirements of the relevant Technical Specification and such other requirements as may be stated elsewhere in the Contract. Materials for construction of side-tracks shall comply with the provisions of the relevant Technical Specification.

Geometric requirements – the minimum geometric standards of a side-track shall be as specified in Clause 5.6 of Annexure MRTS02.1.

Where a side-track is used as a part of an overnight road occupancy (e.g. crossovers on motorways between divided carriageways) only, the side-track may be designed for a lower posted speed. The Contractor shall ensure that the length of road, which the reduced speed is applied to, is as short as possible according to the MUTCD Part 3.

Width – the width of a side-track shall be as specified in Clause 5.6 of Annexure MRTS02.1. If the normal width of the road is less than six metres, suitable passing facilities, not less than 30 metres in length and providing an available width inclusive of the normal width of the road of not less than six metres, shall be located at minimum intervals of 800 metres along the side-track and at locations where sight distance is less than 100 metres.

Waterway crossings – unless the construction of special waterway crossings has been provided for elsewhere in the Contract, the form and design of waterway crossings along the route of a side-track shall be determined through an appropriate risk assessment provided by the Contractor and approved by the Principal.

The risk assessment shall consider the consequences of flooding, the time of year, and the traffic impact of road closures. When the waterway crossing design is based upon a rainfall Average Recurrence Interval that is lower than the current crossing, the Contractor shall advise this in their Offer.

The waterway crossing shall be constructed for the full width of the side-track. The edges of waterway crossings shall be signed and delineated effectively both day and night, in accordance with the requirements of the MUTCD and MRTS14.

Traffic control – side-tracks shall be signed and delineated to ensure the clarity of the route.

Lighting – side-tracks shall be lit at the points of divergence from the existing roadway to comply with Clause 5.5 or at any other points where the driving task may be more difficult to comply with.

Reuse of side-tracks – where a side-track is to be reused, all temporary pavement markings shall be updated and/or removed as necessary to comply with the Contract.

Maintenance – side-tracks shall be maintained to the standard to which they were built and to always ensure safety of users. They shall be maintained such that:

a) pavement markings or delineation is clearly visible at all times, and

b) lane closures on the side-tracks only occur when maintenance is undertaken or traffic control devices are being moved.

Decommissioning – after a side-track has been used for the last time during construction, it shall be completely removed and rehabilitated. All temporary line marking used on any permanent road surface, including tie-ins on the approach/departure to the works, that becomes obsolete shall be obliterated from the permanent road surface, and the site shall be restored to a condition equivalent to that existing before the side-track was constructed.

Any removed materials shall be disposed of in accordance with Clause 11 of MRTS01.

6.5.3.4 Implementation of traffic route alterations

Pilot vehicles may be required to implement a traffic route alteration during the process of transferring vehicles from or to an altered route.

6.5.4 Dust control

The Contractor shall take adequate precautions to effectively minimise the generation of dust, which may affect the safety and general comfort of the travelling public, the Contractor's employees and/or occupants of adjacent buildings, during the construction of the work under the Contract.

In this respect, the Contractor shall carry out regular applications of water or other palliative measures along the sections of the work traversed by the travelling public, as required, to minimise dust.

6.5.5 Night work

Only machinery fitted with reversing or other alarms, which adjusts the alarm sound output to no more than 5dB above the surrounding noise level and an alarm sound output range of 85dB – 115dB, will be used to work from midnight to 6 am.

6.5.6 Stored plant and materials

Where plant or materials are stored on the site, the Contractor shall comply with the minimum clear zone requirements of the *Road Planning and Design Manual*. Any plant or materials stored overnight within nine metres of the edge of any trafficked lane shall be delineated in accordance with the MUTCD Part 3, unless located behind a safety barrier.

6.5.7 Preventing end of queue crashes

End of queue risk control measures, in accordance with Clause 4.7.8 of the MUTCD Part 3 and Supplement, shall be used in high speed situations (see excerpt from the MUTCD Part 3 following) or where sight-distance is restricted, to prevent rear end collisions where vehicles are stopped or slowed by the work under the Contract. While decisions regarding the use of these measures will generally be made by the Contractor, Transport and Main Roads has nominated mandatory control measures in Clause 5.7 of Annexure MRTS02.1.

Excerpt from the *MUTCD Part 3 Clause 1.4.19*

1.4.19 Speed of traffic (traffic speed)

The posted speed limit or an estimate (see Note 1) of the speed of the majority of vehicles in the stream if considered to be significantly different from the speed limit (see Note 2), either above or below.

High Speed Road – Speed Limit of 80 km/h and above

Low Speed Road – Speed Limit of less than 80 km/h

Notes:

1. This estimate can be made by travelling in the stream when there is a sufficient volume of traffic to match and observe the speed of the majority of vehicles. Occasional vehicles clearly travelling faster than the majority are ignored. If the 85th percentile speed measured in accordance with Part 4 of the Manual is known at the location, this should be used in lieu.
2. A variation from the speed limit of ±10 km/h or more is considered significant.

Guidance about supplementary devices to reduce speed and prevent end of queue crashes is provided in both the MUTCD Part 3 and the Part 3 Supplement.

6.5.8 Delineation of trafficked corridors

6.5.8.1 General

Where described in Clause 5.8 of Annexure MRTS02.1, direction hazard markers, temporary raised reflective pavement markers, line marking, reflective mesh fencing and/or other such delineation devices shall be used in addition to the requirements of the MUTCD Part 3 to delineate trafficked corridors.

6.5.8.2 Materials

Materials used for temporary pavement markings shall be subject to the approval of the Administrator. Only materials which can be removed without damaging the pavement surface shall be used for temporary marking of the final pavement surface.

Delineation shall consist of bollards, traffic cones, hollow plastic ballasted barrier elements or mesh fencing using a heavy, highly visible plastic safety mesh.

When used as delineators, plastic water-ballasted TRSB shall comply with the requirements of Clause 3.10.2 of MUTCD Part 3. Stand-alone non-interconnected lightweight modules, which do not meet the requirements for a TRSB, shall not be used as temporary delineators.

Drums and cylinders which can roll if dislodged by impact or wind shall not be used as temporary delineators.

Star pickets shall not be used within 1 m of the edge of traffic lanes for speeds of 80 km/h or more. Where used, star pickets shall be fitted with end caps.

6.5.8.3 Construction

Under no circumstances shall temporary painted or thermoplastic line marking materials or temporary raised pavement markers be used on the surface of a final pavement layer.

Temporary pavement marking and temporary raised pavement markers shall be installed in accordance with the requirements of MRTS45 *Road Surface Delineation*.

Temporary delineation devices shall not damage the surface of the Works.

6.5.9 Direction and street signs

Where access to streets and side roads has been altered during the construction of the Works, the Contractor shall supply and erect all such temporary signs necessary to assist the travelling public to find their way to such streets and roads.

6.5.10 Work site access

Vehicular access points to and from the work site shall be in accordance with the Transport and Main Roads *Road Planning and Design Manual*. Acceleration and deceleration lanes and tapers shall comply with the traffic volume, speed and sight distance warrants specified in that document. Cross section widths for acceleration and deceleration lanes should be a minimum of 3.2 m.

6.5.11 Temporary road safety barriers

6.5.11.1 General

Temporary Road Safety Barriers (TRSB) shall be used to contain and redirect errant vehicles so as to reduce the likelihood of them entering the work site. They may also be used to separate opposing traffic.

6.5.11.2 Provision

Provision shall be made for TRSB at the following locations:

- at those locations identified in Clause 5.9 of Annexure MRTS02.1
- at locations that meet worker safety requirements of the MUTCD Part 3, and
- at locations where a risk assessment determines that TRSB are the most appropriate method of separation between traffic and the work site or other hazards.

Where TRSB are shown on the drawings, the type, location of barriers and deflection zone shall be as shown on the drawings.

Opposing flows of traffic may be separated with TRSB with sufficient offset provided to reduce the likelihood that TRSB deflect into opposing traffic flow in the event of impact.

When TRSB are used to protect the work site, the requirements to maintain a clearance zone behind the TRSB as specified in the MUTCD Part 3 shall apply. The maximum dynamic deflection is specified by the manufacturer.

6.5.11.3 Barrier types

Only those TRSB which are included in the Transport and Main Roads – Road Safety Barrier Systems, End Treatments and other related Road Safety Devices (Assessed as accepted for use on State-controlled roads in Queensland) shall be used. Where TRSB are manufactured according to Transport and Main Roads Standard Drawings referenced within this document, they shall be manufactured in accordance with MRTS14 *Road Furniture*.

Steel Beam Guardrail, in accordance with Standard Drawings 1474 and 1475, may be used instead of TRSB in some locations subject to the approval of the Administrator. End treatments shall be in accordance with Standard Drawings 1470, 1474 and 1475, or with an approved proprietary end

treatment listed in the Transport and Main Roads – Road Safety Barrier Systems, End Treatments and other related Road Safety Devices (Assessed as accepted for use on State-controlled roads in Queensland).

Steel Beam Guardrail shall not be used for temporary erection where posts have to be installed through pavements which remain part of the permanent works.

6.5.11.4 End treatments

Provision shall be made to treat the approach and/or departure ends of both permanent and TRSB that are exposed to on-coming traffic, including barriers that are flared to terminate outside the clear zone.

Only those end treatments listed in the Transport and Main Roads – Road Safety Barrier Systems, End Treatments and other related Road Safety Devices (Assessed as accepted for use on State-controlled roads in Queensland) shall be used.

6.5.11.5 Design of barrier system

The performance of a TRSB system is dependent not only on the design of the barrier segment, but also in the correct design of the entire TRSB system including the minimum length of TRSB and the location and form of end treatments.

Any TRSB placement shall be designed in accordance with the requirements stated in:

- AS 3845
- MRTS14 *Roadside Furniture*
- MUTCD Part 3 and Supplements, and
- *Road Planning and Design Manual* Volume 3, Part 6.

Care shall be taken at intersections to prevent visibility problems for motorists negotiating the intersection.

When a need for TRSB is identified, the barrier type shall be determined on the basis of:

a) the type, shape, deflection performance and test characteristics of the TRSB

b) the speed of traffic travelling through the work site, and

c) the clearance between the traffic and the work area.

6.5.11.6 Installation

All TRSB and end treatments shall be installed in accordance with the department's Standard Drawings and/or the manufacturer's specifications.

Water filled plastic barriers shall be filled with water to the level specified in the manufacturer's specifications.

TRSB shall have recesses at their base to allow drainage at ground surface level under the barriers.

6.5.11.7 Maintenance

The Contractor shall maintain TRSB on their correct alignment for the period that they are installed on the work site.

6.5.12 Anti-gawking screens

Anti-gawking screens are used to minimise visibility of the construction activities to the travelling public.

When the requirement for anti-gawking screens is identified in Clause 5.10 of Annexure MRTS02.1, they shall be installed where:

- so stated in Clause 5.10 of Annexure MRTS02.1, and
- where activities are being undertaken within 3.5 metres of the lane edge line and such activities are likely to cause traffic delays or may be a visual distraction to drivers.

Anti-gawking screens shall be provided as per Part 3 Supplement of Queensland *Manual of Uniform Traffic Control Devices*.

6.5.13 Temporary road lighting

Where roadway lighting currently exists, lighting shall generally be provided during roadworks. Ideally, existing lighting shall not be removed until alternative temporary lighting is provided to at least the same standard as the existing lighting. If temporary lighting is not provided, the associated risk shall be managed.

Temporary road lighting shall be provided if so stated in Clause 5.11 of Annexure MRTS02.1.

Temporary road lighting may include conflict points and potential hazards and it shall include two spans of lead-in lighting in advance of the conflict point, including:

a) significant changes in carriageway width

b) changes from single to divided carriageway

c) converging and diverging traffic streams

d) crests and humps

e) curves below 100 m radius, and

f) road sections with high night time crash rates.

The Contractor shall install, operate and maintain the temporary road lighting installations for the full period during which the relevant road is required and/or until the permanent road lighting is installed and becomes operational.

Artificial lighting shall be arranged in such a manner as to avoid creating levels of glare arising from shallow angles of incidence towards the drivers of vehicles using the adjacent traffic lanes. At no time shall artificial lighting be directed towards oncoming traffic.

7 Traffic management inspection

7.1 General

Traffic Management Inspection is an independent review to establish conformance with the approved TMP and TGS, and with the performance requirements of this Technical Specification.

Traffic Management Inspection will occur in the following circumstances:

- for motorways, any TGS that is in place for two weeks or longer
- for all projects over $10 million in construction value, and

- for all other projects as specified in Clause 6.1 of Annexure MRTS02.1.

7.2 Officer undertaking traffic management inspection

The officer undertaking the inspection of the TMP and TGS shall be accountable to the Contractor and is responsible for the independent inspection of the TMP and TGS and other requirements contained within the TMP. This officer may be an employee of the Contractor but shall be independent of the project. They shall also be independent of the process of designing and implementing the TMP and TGS. Where the contractor is the party designing and implementing the TMP and TGS, documentation shall be provided to demonstrate the officer undertaking the inspection is sufficiently independent of the team undertaking the traffic management works.

The officer undertaking the inspection shall have the requisite level of training/experience outlined in Table 7.2.

Table 7.2 – Requirements for officer undertaking traffic management inspection

Level of Complexity	Officer undertaking Traffic management inspection – level of training/experience
TMP and TGS are developed using the principles from the MUTCD Part 3 to develop site specific diagrams.	Successful completion of Transport and Main Roads approved Traffic Management Design training course delivered by a registered training organisation.
TMP and TGS entail complex traffic management schemes which have significant impacts on delays or traffic rerouting.	Successful completion of Transport and Main Roads approved Traffic Management Design training course delivered by a registered training organisation, and Additional qualifications and/or experience as nominated in Clause 6.2 of Annexure MRTS02.1
TMP and TGS entails innovations, alternatives and departures from standards resulting in treatments other than specified in the MUTCD Part 3.	An appropriately experienced RPEQ with successful completion of Transport and Main Roads approved Traffic Management Design Training course delivered by a registered training organisation.

7.3 Scope of the traffic management inspection

The inspection of the TMP and TGS shall determine at a minimum the following:

- The conformance of the TMP and the TGS to the requirements of:
  - this MRTS02 and Annexures
  - MUTCD Part 3, and
  - Supplements to MUTCD Part 3, and technical notes.
- The conformance of the installed TGS with the documented TMP and TGS
- The performance of the TMP and TGS against the traffic operational performance criteria outlined in the approved TMP and any requirements in Clause 3.2 and 3.3 of Annexure MRTS02.1, and
- The performance of the measures taken to ensure that compliance to posted speed limits is achieved.

7.4 Traffic management inspection schedule

A Traffic Management Inspection schedule shall be outlined in the TMP and shall provide the dates or milestones at which each inspection shall be undertaken. The inspection of the site covered by a TMP and TGS/s shall at a minimum be in accordance with the following requirements:

1. prior to submission of the TMP for approval
2. within two weeks of the first implementation of a TGS at the site
3. within two weeks of every subsequent TGS that results in a substantial change in the traffic patterns/location of lanes/change in risk profile etc.
4. at three monthly intervals where the requirements of condition (3) have not occurred, and
5. at other times as per the requirements outlined in Clause 6.3 of Annexure MRTS02.1.

7.5 Traffic management inspection reporting

The officer undertaking the Traffic Management Inspection shall provide a report to the Contractor for its action. The Contractor shall forward to the Administrator, within one week of the receipt of the report, the reports and findings, together with documentation of any actions taken in regard to the findings. **Milestone**

8 Administration of traffic management

8.1 Traffic management audit and inspection

The Administrator will undertake regular performance/compliance audits of the Contractor's traffic control measures and provide feedback monthly in line with the Principal's Contract Performance Report in the *Transport Infrastructure Project Delivery System* (available at https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/TIPDS).

The Principal may undertake additional surveillance and inspections at any time. Non-conformances identified will be communicated to contractors through the Administrator. Contractors shall be required to undertake the necessary modifications to the TGS to address the identified issues.

8.2 Safety performance of the TGS

If, despite a TGS being in conformance with the MUTCD Part 3, its Supplements and this Technical Specification and the implemented scheme being in conformance with the TGS, the scheme is unsafe in some way, the Contractor shall undertake the necessary Traffic Management Designer approved modifications to the TGS to address the identified issues and submit the amended TGS to the Administrator.

8.3 Traffic non-conformances

The Principal requires that traffic is managed strictly in accordance with the approved TGS. Costs for re-inspection will apply for non-conformances relating to inappropriate use of speed limits and other TGS non-conformances. Additional non-conformances may also be identified through audits against MRTS50 *Specific Quality System Requirements*.

The reinspection costs that shall apply are outlined in Clause 7 of Annexure MRTS02.1.

In the case of non-conformance, the Administrator will request the Contractor raise a non-conformance report. Examples of typical non-conformances are shown in Table 8.3.

Table 8.3 – Examples of non-conformances that attract re-inspection costs

Speed	Traffic Guidance Scheme (TGS)	Quality – MRTS50
Failure to install and maintain speed limit signs as detailed in a TGS.	Failure to maintain any other traffic control device detailed in a TGS.	Failure to maintain and update the TMP.
Reduced speed limits introduced more than one hour prior to the commencement of the works. Speed limit signs may be installed but should be covered until immediately prior to the need for their use applies.	Failure to maintain minimum travelled path dimensions.	Failure of the TGS to comply with the principles outlined in Clause 1.3.
Failure to cover/remove signs and traffic control devices associated with reduced speed limits within one hour of completion of the shift or the work requiring the reduced limit.	Failure to cover/remove unused signs and traffic control devices within two hours of completion of any revised traffic arrangement.	Traffic delay periods exceeding any maximum period nominated in the Contract.
Speed limits and associated control measures not implemented in accordance with the Speed Management Plan.	Failure to use other than designated construction workplace entries or exits for the works.	Failure to provide the required information/notification to the community or local businesses of changes to traffic movement.
	Failure to maintain an obstruction free travelled path.	Failure to assist with mitigating the impacts of traffic incidents as much as is reasonably practicable.
	Undertaking traffic rearrangements without an approved TGS except where required for incident management purposes (refer to Clause 5.8).	Any other issue raised by the Administrator deemed to be a non-conformance.

All non-conformances shall be remedied by the Contractor within two hours of receipt of notice of the non-conformance. Failure to remedy any non-conformance within the two-hour period shall entitle the Principal to carry out any remedial work deemed necessary pursuant to the Contract. All costs related to this work shall be charged to the Contractor, in addition to the costs for re-inspection as set out in Clause 7 of Annexure MRTS02.1.

9 Supplementary requirements

The requirements of MRTS02 *Provision for Traffic* are varied by the supplementary requirements given in Clause 8 of Annexure MRTS02.1.

Appendix A – Speed management plan

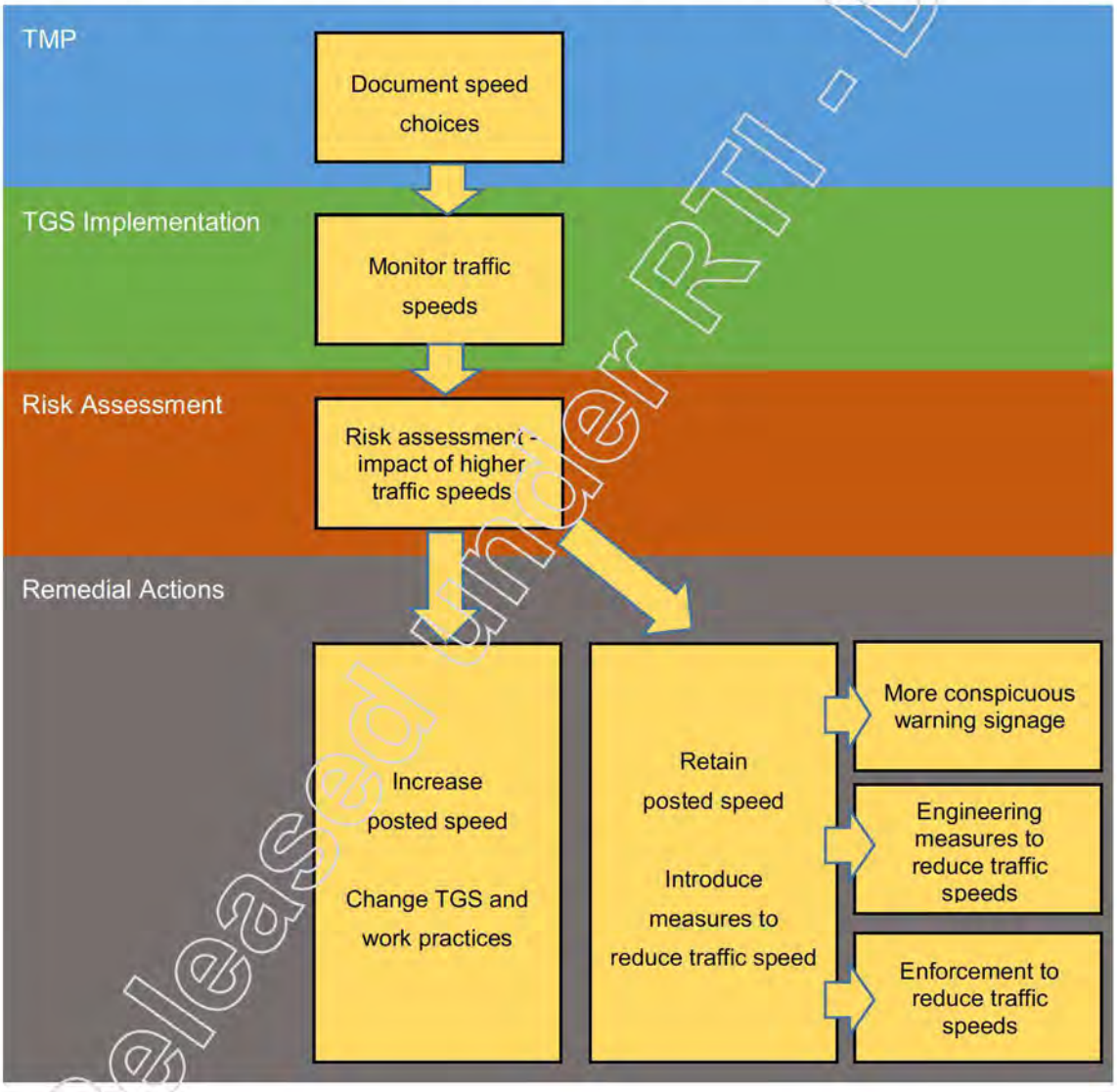
A1. Objective

The objective of the Speed Management Plan is to achieve compliance by road users with the roadwork speed limits. It documents all measures to be taken by the Contractor to achieve this outcome.

Where a posted temporary speed limit is in place for worker safety, and it is found that substantial non-compliance occurs, the contractors' obligations under workplace health and safety regulations will not be met.

A2. Planning process

The following flow chart documents the key elements to the speed management planning process.



A3. Documentation

The Speed Management Plan should include information on the following:

1. Speed choices

- permanent speed limits at the site and on the sections of road adjoining the site
- constraints and considerations impacting on the choice of speed limits to be applied throughout the works
- the speed limits adopted for the project
- conditions under which temporary speed limits are required for worker and traffic safety, and
- measures included within the TMP and TGS to restrict traffic speeds to the posted speed limits.

2. Speed monitoring

Speed surveys shall be undertaken in accordance with the practices outlined in *Austroads Guide to Traffic Management,* Part 3 Traffic Studies and Analysis or the MUTCD Part 4 – *Speed Controls*.

Documentation should address the following:

- speed monitoring arrangements:
  - contractual requirements, and
  - risk assessed additional requirements.
- collection frequency, and
- reporting arrangements.

3. Risk assessment

Where speed monitoring demonstrates that speed compliance is not achieved (the 85% percentile speed is greater than 10 km/h above the posted roadwork speed limit), a decision is required to either:

- introduce additional measures to achieve compliance with the speed limit, or
- raise the speed limit.

In the event that a decision is made to raise the speed limit, a risk assessment shall be undertaken to determine measures to mitigate the subsequent increase in risk. This risk assessment must be substantially completed prior to implementation of the TGS and the selected speed choices to ensure a timely response in the case that traffic speeds are found to exceed the posted limits.

4. Engineering remedial actions

An engineering remedial action plan should be prepared as part of the TMP to ensure that appropriate measures can be implemented at short notice should monitoring reveal non-compliance with posted speed limits. These remedial actions should be implemented before Police enforcement is considered.

The engineering remedial actions that should form part of the package of available options include:

- Alter work practices and increase speed limits:
    - modifications to all or part of the construction and worksite design should be considered to allow posted speeds to be maintained at a speed limit aligning with the observed speed of traffic
    - these modifications may restrict the use of the lowest speed limit reductions to only specified high risk activities which are more obvious to drivers as to the reason for the limit, and
    - where speed limit reductions are only required for specific short-term events, consider the use of temporary warning signs with advisory limits or other measures to better communicate the risk to drivers.
- Make warning signage more conspicuous, more prominent.
- Implement additional engineering measures to reduce traffic speeds:
    - the Part 3 Supplement of Queensland *Manual of Uniform Traffic Control Devices* outlines a number of additional measures that can be implemented to assist in reducing the speed of traffic at roadworks, and
    - alternative innovative treatments that encourage drivers to reduce speeds to comply with the posted speed limits are also encouraged.

5. Enforcement remedial actions

In the event that the preceding engineering remedial actions are ineffective, Police enforcement can be requested in accordance with the procedure in Appendix B.

Appendix B – Enforcement request procedure

B1. Objective

This Appendix documents the information that is required by police to determine whether enforcement can be undertaken and to make a decision about the appropriate enforcement strategy. The strategy will seek to improve compliance to speed limits and other regulatory signage or signals within the roadwork area.

The safety of road users and road workers within roadworks relies predominately upon driver speed compliance.

As in most situations where regulatory controls are introduced, the effectiveness of the regulation requires a combination of self-regulation and the perceived risk of a penalty associated with contravention of the regulation.

Consistent deterrence strategies, which typically comprise of a visible police or camera presence, can bring about lasting changes in road user behaviour and, as a consequence, changes in road user's attitudes which reinforce the behavioural change.

Non-compliance with temporary speed limits or signage can result from a range of factors, including:

- poor signage and roadwork management
- speed limits that do not appear intuitive to drivers and are not supported by the surrounding road environment (surface conditions, proximity of workers and so on)
- speed limits that are introduced to protect workers that are not removed after workers finish the works or move away from the road edge, and
- drivers infrequently encountering enforcement activity, despite signage indicating that roadworks speed limits are enforced.

B2. Enforcement request and determination procedure

B2.1. Request for enforcement (by Contractor through Principal)

1. Complete the Enforcement Request Form
2. Submit completed Enforcement Request Form to the Principal for approval, and
3. Contractor submits the approved Enforcement Request Form to the relevant Police Road Policing Unit (RPU) for decision.

B2.2. Enforcement decision (by Road Policing Unit, RPU)

Enforcement strategies include:

- Non-Camera Enforcement (police presence, patrols and use of hand held enforcement devices such as LIDAR), and
- Camera Enforcement (mobile speed camera, temporary unattended speed camera placements, fixed speed camera, point to point speed camera or combined red light with speed camera).

Decision process:

1. Upon receipt of the approved Enforcement Request Form from the Contractor, the relevant RPU will review the proposal which may require a site inspection to determine whether enforcement can be undertaken safely and to develop an enforcement plan. In cases where enforcement requires a camera based enforcement strategy, these matters will be referred to the Operations Manager, Traffic Camera Office. It is important to note that while police may agree a site is suitable for enforcement, attendance at the site will be influenced by other policing priorities, and
2. The RPU informs the Contractor of the enforcement decision.

B2.3. Implementation (by Road Policing Unit)

The RPU will liaise with the Contractor regarding site access and proposed dates and times of enforcement.

B2.4. Implementation (by Contractor)

1. The Contractor shall arrange to install the signs in the layout TC1620_5 (SIGN LAYOUT PRIOR TO DEPLOYMENT OF SPEED CAMERAS AT ROADWORK SITES) in advance of the site and advise the RPU that the sign(s) have been installed prior to enforcement commencing.
2. The Contractor shall ensure signage is maintained in accordance with the approved Traffic Guidance Scheme and appropriate records kept, in accordance with this Technical Specification. Copies of records shall be sent to the Principal on a daily basis for the duration of the period that the site is being enforced, and
3. The Contractor must ensure that the RPU is kept up to date with all traffic staging within the site, and the project completion date.

B2.5. Monitoring and evaluation (by Contractor)

1. The Contractor shall, for the duration of the works, monitor the site where enforcement activity has been implemented to ensure it is operating safely and effectively, and
2. This monitoring may be incorporated into the daily routine checks of roadwork signs required under the MUTCD Part 3 and through speed surveys. Accurate records of the monitoring undertaken, analysis of results and any changes made to the TMP and/or TGS must be kept. These records should be documented, secured and kept for a duration that meets evidentiary requirements (should they be required to support or defend any future court action).

B3. Enforcement request form

The information provided in this form will be used by police to establish whether enforcement can be undertaken safely and to assist with the development of an enforcement plan. As a result, Transport and Main Roads specific project descriptions (such as road number and chainage) should be avoided.			
PROJECT NAME/DESCRIPTION		**PROJECT LOCATION:**	
DISTRICT:		**REGION:**	
WORK COMMENCED:		**DURATION:**	
GPS COORDINATES:			
Longitude			
Latitude			
CONTACT OFFICER:			
Name:	**Role:**		**Date:**
Issues of concern in support of this request for enforcement (please attach supporting risk assessment, if one has been completed):			
PRINCIPAL REVIEW:			
Roadwork Speed limit appropriate: Y/N		**Enforcement supported: Y/N**	
Name:	**Signature:**	**Date:**	

Site Characteristics	Comments
Speed Limit Permanent speed limit (on approach to worksite) Roadwork speed limit (zone to be enforced)	
'Stability' of work site (number of and proposed timing of significant movements, switches or realignment of works)	
Daily Traffic Volume and Composition	
Copy of Traffic Management Plan (TMP) and Traffic Guidance Scheme (TGS) (the TGS shall include details of approved roadwork speed limit locations and will be used by QPS to identify suitable sites for enforcement activity, and determine the enforcement strategy)	
Lateral Clearances (to workers operating without temporary barrier protection)	
Crash history (prior to and/or during roadworks, if relevant)	
Speed survey data and identification of the day/s of the week and times of night or day when speed compliance issues are occurring	

Annexure MRTS02.1 (November 2019) Provision for Traffic

Specific Contract Requirements

Contract Number

CN-14898

Queensland Government

Note: Clause references within brackets in this Annexure refer to Clauses in the parent Technical Specification MRTS02 unless otherwise noted.

Part A: Traffic Management Solution

1 Nominated Traffic Control Officer or Officers (Clause 5.2)

If required, a Nominated Traffic Officer responsible for complex traffic management schemes which have significant impacts on delays or traffic rerouting, shall have the following additional qualifications and/or experience

The Contractor shall provide a full time Traffic Officer for the duration of the project completed under traffic. The nominated Traffic Control officer shall have met the minimum training requirements, together with 2 years minimum experience in developing site specific diagrams.

The nominated traffic control officer is required to have demonstrated previous experience on a similar size project (similar (or greater) highway traffic volumes, multiple stages of construction and traffic switches) and have TMR Traffic Management Design certification. In addition, the Traffic Management Companies are to satisfy the requirements as stipulated

2 Traffic Management Plan (Clause 5.3)

The following specific requirements shall apply to the Traffic Management Plan:

The following project specific requirements are to be addressed in the TMP:

- All information requested in Schedule S3 *"Traffic Management Plan Outline"* and any additional information provided with Schedule S3 as part of the tender submission;
- The method by which delays and queue lengths will be monitored and the means of communication between Traffic Controller and Site Supervisory Personnel;
- Detail the communication procedures proposed for the notification of public transport, stakeholders and emergency services affected by the works;
- Advise the DTMR Traffic Management Centre at Nerang of proposed lane closures, detours and all traffic incidents (13 19 40);
- Provision to advise relevant Authorities and Emergency Services (Police, Ambulance, SES, Fire Brigade, etc);
- Details of any temporary pavements determined necessary by the Contractor in order to comply with the requirements of this specification;
- Describe site access and egress points to/from the carriageway including proposed design layout, lighting and signage configuration;

- Provisions for school bus stops;
- Procedure for dealing with abandoned and broken down vehicles within the site. The process shall include:
  - Making the affected area safe immediately.
  - Traffic control shall be accordance with the MUTCD.
  - Immediately notify the TMC providing information on vehicle type, registration, ownership details, if possible and site conditions.
  - Co-ordination with the TMC and any preferred towing contractor to enable the removal of abandoned or broken down vehicles in the shortest possible time
- Nominate placement and details of temporary VMS's and other special signage.

Detail an incident management plan to deal with traffic incidents causing major disruption and long queues.

TMP review period (Hold Point 1) – 21 days unless an alternative requirement is specified here | 21 | **days**

3 Traffic Management Provisions (Clause 5.7)

3.1 Specific Restrictions on work (Clause 5.7.2)

Days on which work may not occur - major commercial, sporting or cultural event, where the Administrator considers that such closure would cause an unacceptable level of disruption to the traffic operations associated with such events:

- From midday the day before through to midday the working day after all Statutory Public Holidays (including Australia Day);
- From 5am through to 8pm the day of Major Events that may be impacted by construction works, as directed by the administrator, including but not limited to:
  - Local Show Holidays
- From midday Friday 2nd October till midday Tuesday 6th October (Queens Birthday Long Weekend).
- From 5am on the 24th December, until 5am on the 2nd January;
- The first and last days of Queensland school holidays from 5am until midnight.

3.2 Traffic lane restrictions – midblock (Clause 5.7.3)

The minimum number of lanes to be maintained on midblock sections of road will be determined as per the method (a), (b) or (c):

a) In accordance with the following minimum requirements **Yes** ✓ **No**

Location	Days	Time period	Number of lanes in each direction	Minimum lane width (metres)	Minimum clearance of objects (metres)	Minimum posted speed when site active (kilometres per hour)	Minimum posted speed when site inactive (kilometres per hour)
Waterford-Tamborine Rd	7 days a week	At all times	1	3.0	1.0	40	60
All Other Roads	7 days a week	5am to 10am and 2pm to 7pm	1	3.0	1.0	40	40

b) In accordance with the requirements of Table 4.10 of the MUTCD Part 3 — **Yes** [ ] **No** [✓]

c) Through an operational assessment as per Clause 4.13-1 of the Supplement to the MUTCD Part 3 — **Yes** [ ] **No** [✓]

3.3 Traffic lane restrictions – intersections (Clause 5.7.3)

The minimum number of lanes to be maintained at intersections will be determined as per the method (a), (b) or (c):

a) Maintaining the same number of lanes as the pre-works situation — **Yes** [✓] **No** [ ]

b) In accordance with following minimum requirements — **Yes** [ ] **No** [✓]

Intersection	Days	Time Period	Number of lanes on each approach	Traffic control method on each approach	Minimum posted speed when site active (kilometres per hour)	Minimum posted speed when site inactive (kilometres per hour)
n/a						

c) Through an operational assessment as per Clause 4.13-1 of the Supplement to the MUTCD Part 3 — **Yes** [ ] **No** [✓]

3.4 *Single lane reversible flow (Shuttle Flow) (Clause 5.7.3)*

The maximum delay to traffic under single lane, one way traffic arrangement shall be as follows:

Location	Days	Time period	Maximum delay time (minutes)
All Roads	Working Days	10am to 2pm	3

3.5 *Stopping traffic in both directions (Clause 5.7.3)*

Traffic may be stopped in both directions simultaneously only in the situation/s described below:

Location	Reason	Days	Time period	Maximum delay time (minutes)
All	To manoeuvre large plant items with the approval of the Administrator / Spraying bitumen	Working Days	10am to 2pm	5

3.6 *Period of no lane closures (Clause 5.7.3)*

Days during which lanes shall not be closed and work involving stop/slow arrangements shall not be carried out:

Refer to Item 3.1 and 3.2 of MRTS02.1.

3.7 *Travel time surveys (Clause 5.7.3)*

The following minimum requirements shall apply to the provision of traffic control devices and installation of ITS components:

The Contractor shall undertake travel time surveys **Yes** ✓ **No** ☐

Method and frequency at which travel time surveys will be carried out:

Weekly on a random weekday during both AM & PM peaks.

3.8 *Route alterations (Clause 5.7.4)*

Traffic may be altered from its existing route via the following means:

Through the road under construction **Yes** ✓ **No** ☐

The following sections of the work under the Contract may be constructed under traffic:

All works under the Contract in compliance with the Contract requirements and as approved by the Administrator.

The Contractor is to monitor traffic flow and adjust lane closures where appropriate to ensure that the maximum additional travel time for a vehicle approaching and travelling through the work areas does not exceed 5 minutes.

Existing provisions for Cyclists and Pedestrians are to be maintained.

Existing provisions for school bus stops are to be maintained.

The Contractor shall notify the Administrator of any proposed changes and modifications 14 days prior to the works commencing on site.

All parts of the site carrying traffic shall be trafficable at all times, kept in a safe condition, free from any obstructions/loose materials/debris and with clear directions for users as per the Contractors approved Traffic Management Plan.

Side track **Yes** ✓ **No** ☐

Traffic may be redirected around the construction onto a side-track on the following sections of work under the Contract:

As determined by the Contractor's Staging Plan Requirements

Detours on existing roads	**Yes**		**No**	✓

Traffic may be redirected around the construction, via existing roads or streets, on the following sections of work under the Contract:

4 Traffic Guidance Scheme (Clause 6.2)

The following specific approval requirements shall apply to the Traffic Guidance Scheme:

The TGS on the items listed below is required to be certified by the Contractor's Engineer (RPEQ). • All innovative treatments as per Clause 2.2.5 of MUTCD Part 3: Works on Roads • Side tracks • Traffic modelling • Change to road geometry • Change to road line marking

TGS(s) shall be approved by the Administrator	**Yes**	✓	**No**	

TGS review period (Hold Point 2) – 14 days unless an alternative requirement is specified here	14	days

5 Traffic Guidance Provisions (Clause 6.5)

5.1 Portable Traffic Control Devices (PTCD) (Clause 6.5.1.1)

PTCD shall be used in the following situations:

The Contractor shall supply and install a sufficient number of Portable Traffic Control Devices (PTCD) for the duration of the construction period to effectively advise motorists of safe opportunity to move through the work site. The number and position shall be based on the Contractor's staging.

At a minimum two (2) Portable Traffic Control Devices (PTCD) shall be provided to advise motorists from both directions their course of action. Locations will be advised by the Administrator.

The Contractor shall detail the use of, including the location, the PTCD in the TMP.

5.2 Variable Message Signs (VMS) (Clause 6.5.2.1)

VMS shall be used in the following situations:

The Contractor shall supply and install a sufficient number of portable electronic Variable Message Signs (VMS) for the duration of the construction period to effectively advise approaching motorists of changes to traffic conditions. The number and position shall be based on the Contractor's staging.

At a minimum, four VMS's (2xWaterford-Tamborine Rd, 1xAnzac Ave, 1xQuenzeh Ck Rd) shall be provided on approaches to the project site to effectively advise approaching motorists of altered traffic conditions. The VMS shall be used for no less than one (1) week prior to the commencement of, and for the full duration of the works.

The Contractor shall detail the use including the number and type of Variable Message Signs in the Traffic Management Plan, while all costs associated with this provision shall be deemed to be included in Item 1201 "Provision for Traffic".

5.3 Use of Police Officers (Clause 6.5.2.2)

Police officers shall be employed to assist in the control of traffic in the following situations:

As dictated by regulatory requirements and Contractor's risk assessment

5.4 *Traffic mounted attenuators (TMA) (Clause 6.5.2.4)*

TMA's shall be used to assist in the control of traffic in the following situations:

5.5 *Specific requirements for construction under traffic*

The following specific requirements shall apply to construction under traffic:

Stopping of Traffic

For Stopping of traffic, Portable Traffic Signal System (PTSS) shall be used, in lieu of traffic controllers using STOP/SLOW bats, in all roadworks at which the approach speed (prior to the works occurring) is 80 km/h or faster and in other circumstances assessed to be high risk (such as high volume multi-lane roads with speed limits of 70 km/h or greater).

The Portable Traffic Signal System shall comply with MRTS254.

5.6 *Specific requirements for side track (Clause 6.5.3.3)*

The following requirements for side tracks shall apply:

- Maintain access to existing properties
- Designed and constructed to be suitable for the composition of traffic currently utilising the road
- Designed and verified by an RPEQ engineer

The paving and sealing requirements for side-tracks shall be as follows:

- Sealed with a bitumous surfacing in accordance with MRTS11
- Unbound pavement to be suitable for the existing traffic composition

The minimum geometry and width requirements for side-tracks shall be as follows:

All side tracks shall meet the current design standards for traffic volume and speed.

Lighting requirements for side-tracks shall be as follows:

As determined by the Contractor's risk assessment.

5.7 *Preventing end of queue crashes (Clause 6.5.7)*

The following control measure is required to mitigate end of queue crashes:

Advance warning signs in accordance with Clause 4.7.8 of the MUTCD Part 3 and Supplement. NOTE: This is a mandatory requirement where speeds are 80 km/h or greater or where sight-distance is restricted.	
Vehicle activated speed indicator devices in accordance with Clause 3.5.5-1 of the MUTCD Part 3 Supplement.	
Other, as nominated	✓

As determined by the Contractor's risk assessment.

5.8 *Delineation of trafficked corridors (Clause 6.5.8)*

Additional delineation requirements:

Delineation is to conform to the requirements of the MUTCD.

RRPM's shall be fixed to the sides of any safety barriers used at 2 5m centres such that the approaching traffic views:

- 1xRRPM 200 mm above the roadway and
- 1xRRPM 200 mm below the top of the safety barrier

Redundant pavement markings and RRPM's are to be removed in such a manner that leaves a clean, undamaged pavement with a surface texture, reflectivity characteristics and colour comparable to the adjacent pavement surface. Unless approved by the Administrator, the use of black paint on redundant pavement marking, be it temporary or permanent, is not acceptable.

5.9 Temporary road safety barriers (Clause 6.5.11)

Additional temporary road safety barriers shall be installed in the following situations:

As determined by the Contractor's risk assessment.

5.10 Anti-gawking screens (Clause 6.5.12)

Anti-gawking screens shall be installed in the following situations::

As determined by the Contractor's risk assessment.

5.11 Temporary road lighting (Clause 6.5.13)

Temporary road lighting shall be installed in the following locations:

Where roadway lighting currently exists, lighting shall be provided for the duration of the Works. Existing lighting shall not be removed until alternative temporary lighting is provided to at least the current lighting standards. In addition, temporary road lighting shall be installed to illuminate all road safety barrier end treatments.

6 Traffic Management Inspection (Clause 7)

6.1 Traffic management inspection requirements (Clause 7.1)

In addition to the requirements of Clause 7.1, there is a need for an independent review to establish conformance with the approved TMP and TGS, and with the performance requirements of MRTS02 – Provision for traffic:

Yes ✓ **No**

6.2 *Officer undertaking Traffic Management Inspection (Clause 7.2)*

If required, the officer undertaking the Traffic Management Inspection of complex traffic management schemes which have significant impacts on delays or traffic rerouting, shall have the following additional qualifications and/or experience in addition to the requirements outlined in Table 7.1:

An appropriately experienced RPEQ with successful completion of Transport and Main Roads approved traffic Management Design training course delivered by a registered training organisation.

6.3 *Traffic Management Inspection schedule (Clause 7.4)*

In addition to the requirements of Clause 7.4, inspections of the traffic management for the works (TMP and TGS) shall be undertaken at the following times/milestones:

As directed by the Administrator

7 Cost for re-inspection (Clause 8.3)

Speed limit signage non-conformance	**$/per re-inspection**	**800.00 (excl. GST)**
Other Traffic Guidance Scheme non-conformance	**$/per re-inspection**	**800.00 (excl. GST)**

8 Supplementary requirements (Clause 9)

The following supplementary requirements shall apply:

Cl. 8.1 Traffic Incidents

The Contractor shall develop an incident management plan and include it as part of the TMP. The plan shall detail the following actions in the event of a traffic incident within the site:

- Contractor to notify Police and any required emergency services as well as the DTMR Traffic Management Centre at Nerang and the Administrator;
- Contractor to implement incident/emergency traffic control plan and prioritise specific traffic streams as necessary;

Contractor to provide an incident report and photographs of all relevant traffic controls near the incident location, to be approved by the Administrator.

Queensland Government

16 March 2021

Brett Doyle
South Coast District
PO Box 442
Nerang Qld 4211

Dear

Contract Number: CN-14898
Waterford-Tamborine Road (207) Start Chainage 10750 to Chainage 11306
Project No. 489244

Please find enclosed one copy of the executed Formal Instrument of Agreement for your retention. The full electronic version of the contract is available on the QBuild eTender website.

Should you have any difficulties in accessing this information, please advise us and we can forward to you an electronic copy.

Yours sincerely,

NR

Narelle Spano
For Manager (Prequalification and Contracts)

Department of Transport and Main Roads
Program Management & Delivery
Floor 18 | 313 Adelaide Street | Brisbane | Qld | 4000
GPO Box 1549 | Brisbane | Qld | 4001

ABN 39 407 690 291

Our Ref: CN-14898
Enquiries: Narelle Spano
Telephone +61 7 3066 8677
Website www.tmr.qld.gov.au

Formal Instrument of Agreement

QUEENSLAND GOVERNMENT

Contract Number: CN-14898

Contract between
[Contractor Details]

Name and Address of Contractor	ACN
Allroads Pty Ltd PO Box 318, Browns Plains Qld 4118	142 378 514
Contractor's Representative PI Estimating Manager	
Contractor's Representative Contact Details **Email:** tenders@allroads.net.au **Phone:** 07 3117 3800	

Referred to in the Agreement as 'the Contractor'

and

Name of Principal
The State of Queensland acting through the Department of Transport and Main Roads

'the Principal'

The Contractor agrees to perform the work under the Contract in accordance with the requirements contained in the documents listed in the completed Form C7871, *Contract Document List* signed and dated: 16 February 2021

The Contractor agrees with the Principal and the Principal agrees with the Contractor that they will comply with all conditions and matters as set out or reasonably inferred in the Contract.

Execution by the Contractor
Signed, sealed and delivered for and on behalf of

Name of Authorised Party (1) for the Contractor	Position
PI	Director
Name of Authorised Party (2) for the Contractor PI	Position DIRECTOR.
Signature (1) NR	Date 19-2-21
Signature (2) NR	Date 19/2/21.

who certifies his/her/their authorisation to execute this Deed in the presence of

Witness Signature	Date
NR	19.2.21.

The Company Seal (where applicable)

Execution by the Principal

Signed, sealed and delivered for and on behalf of the STATE OF QUEENSLAND acting through the DEPARTMENT OF TRANSPORT AND MAIN ROADS by

Name	Position
Dale Cunningham	Manager (Prequalification and Contracts)

Signature	Date
NR	4/3/2021

as Delegate of the Director-General of the Department of Transport and Main Roads in the presence of

Witness Signature	Date
NR	04.03.2021

Queensland Government

Memorandum

Our ref CN-14898
Your ref
Date 18 Feb 2021

To South Coast Regional Director
PO Box 442
Nerang Qld 4211

Subject **Contract Number: CN-14898**
Waterford-Tamborine Road (Quinzeh Creek Rd to Anzac Ave) Road Upgrade
Project No. 489244

I wish to advise that the tender from **Allroads Pty Ltd** dated 17 November 2020, for the above works for the sum of $3,546,256.76 (GST inclusive) was accepted on 16 February 2021.

All documentation has been emailed/posted to the Contractor today, a copy of the Letter of Acceptance and the Contractor Requirements Checklist is enclosed for your records.

It will be necessary for a person acting on behalf of the Principal to complete:

- **QLeave – Notification and Payment Form** published by the Building and Construction Industry Portable Long Service Leave Authority, and to arrange for the payment of the levy and fee. The necessary forms are available from any Post Office.

Please ensure that the Administrator, together with the Contractor complete Performance Reports on a monthly basis, preferably during site meetings. These reports should be submitted to us as part of the on-going prequalification assessment on the Contractor.

The attached Contractual Requirements Checklist (Form C7875) should be returned to the Prequalification team via email contractorprequal@tmr.qld.gov.au upon completion.

Regards
NR

Dale Cunningham
Manager (Prequalification and Contracts)

Department of Transport and Main Roads
Program Management & Delivery
Floor 18 | 313 Adelaide Street | Brisbane | Qld | 4000
GPO Box 1549 | Brisbane | Qld | 4001

ABN 39 407 690 291

Our Ref: CN-14898
Enquiries: Narelle Spano
Telephone +61 7 3066 8677
Website www.tmr.qld.gov.au

Contractual Requirements List

Queensland Government

C7875	Contract Number:	CN-14898

Contractor	Allroads Pty Ltd		
Contract Sum	$3,546,256.76	Date of Letter of Acceptance (LOA)	16 February 2021

The completed form is to be emailed to contractorprequal@tmr.qld.gov.au when completed. This form becomes the first performance report.

Document required	GCoC ref.	Due date	Amount	Date of lodgement	Date received as suitable
Evidence of Insurance of the Works *(not applicable if Principal Arranged Insurance)*	Cl.18	Before Contractor commences work.			
Evidence of Public Liability Insurance *(not applicable if Principal Arranged Insurance)*	Cl. 19 Cl. 21	Before Contractor commences work.			
Evidence of Insurance of Employees	Cl. 20 Cl. 21	Before Contractor commences work.			
Administrator to arrange Prestart Conference	Cl. 4.2	Before Contractor commences work.			
Primary Security	Cl. 5.2 Cl. 5.4	Within 10 Business Days of the LOA.	**$35,462.57**		
Subcontractor Payment Security	Cl. 5.2 Cl. 5.4	Within 10 Business Days of the LOA.	**$70,925.14**		
Retention Security *(if applicable)*	Cl. 5.2 Cl. 5.3 Cl. 5.4	Contractor's discretion as per Clause 5.3.	**$141,850.27**		
Contract Plan which includes the following plans: i. Construction Program ii. Quality Plan iii. Environmental Management Plan iv. Work Health and Safety Management Plan v. Traffic Management Plan (where required) vi. Community Liaison Plan (where required) vii. Severe Weather Management Plan (where required)	Cl. 33.3	Please check Item 35A of Annexure A to GCoC.			
Training Policy Compliance Plan *(where required)*	Cl. 29.3	Within 10 Business Days of LOA			
Designer's Deed of Covenant	Cl. 8.6	Applicable when 'Design by Contractor' required under Clause 8.6. Please check tender documents.			

Comments	Date of next site meeting

Report completed by		
Name/Position	Signature	Date

From: PI @allroads.net.au>
Sent: Friday, 9 July 2021 2:30 PM
To: PI ; Waterford Tamborine Road Upgrade
Cc: PI paul.a.grant (paul.a.grant@tmr.qld.gov.au)
Subject: RE: CN 14898 Waterford Tamborine Road Upgrade - Stage 2 TGS
Attachments: 21M-200 Waterford Tamborine Rd, Logan Village- Stage 2_RevC.pdf; PR210068-LGT-DWG-0002_B.pdf; PR210068-DT-008 - Document Transmittal.pdf

Hi PI

Attached is the updated TGS for Stage 2, along with the Temp lighting design.

Kind Regards

PI
Project Engineer
M NR P 1300 ALLROADS
E PI @allroads.net.au
125 Axis Place, Larapinta QLD 4110
PO Box 318, Browns Plains QLD 4118
Disclaimer Provide Feedback

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BRISBANE • TOWNSVILLE • ROCKHAMPTON • TOOWOOMBA • CHINCHILLA • PERTH

From personal informatio
Sent: Thursday, 27 May 2021 2:35 PM
To PI ghd.com>; Waterford Tamborine Road Upgrade <Waterford@ghd.com>
Cc PI @ghd.com>; PI @allroads.net.au>; PI PI @allroads.net.au>; PI @allroads.net.au>
Subject: CN 14898 Waterford Tamborine Road Upgrade - Stage 2 TGS

Hi Petrus,

Please see attached TGS for upcoming works in Stage 2.

www.invarion.com

SITE SPECIFIC NOTES

1. TMI shall implement traffic control signs and devices as per TGS.
2. 40km Temporary speed zones shall be implemented in accordance with MRTS02.1 Nov 2019
3. 40km speed limit shall be implemented where workers are within 1.2m of traffic lanes.
4. 3m Minimum Lane width shall be in accordance with MRTS02.1 Nov 2019.
5. 1m Clearance from edge of traffic lane to line of traffic cones, bollards or longitudinal channelising devices As per MRTS02.1Nov 2019.
6. 0.5m Clearance from edge of traffic lane to road safety barrier system as per the MUTCD Part 3
7. Recommended 60m Merge Taper as per table 4.6 in the MUTCD Part 3.
8. Recommended Bollard/Cone Spacing for Taper Length @ 60km speed zone is 9m as per Table 3.7
9. Recommended Bollard/Cone Spacing for Closure
@ 60km or less speed zone is 12m as per Table 3.7
@ 50km or less speed zone is 4m as per Table 3.7
10. Approved Temporary road safety barriers to be installed between workers/ deep excavations and road users.
11. Defender Steel Barriers have been selected as the nominated approved temporary road safety barrier. When excavation depths are less then 500mm then barriers can substituted with bollards.
12. Temporary line marking shall be implemented between two way traffic. Removal of permanent line marking and new line marking to be approve by an RPEQ wit TMD qualification as per MRTS02.1 Nov 2019.
13. Temporary lighting to be installed either end of the work areas. Light towers to be installed as per design manual.
14. Verge to be closed and pedestrian delineation to be installed around complete work area by Allroads.
15. No right turn into Medical Centre, Hotel and Logan St to be implemented. VMS boards to notify drivers to use lights to perform a U turn.
16. Bicycle lane shall be closed and advance warning signs to be installed for road users and cyclists to share the road.

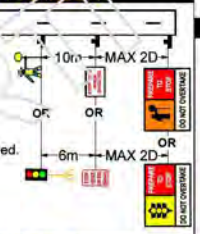
STANDARD NOTES

17. A site specific risk assessment is undertaken prior to ALL traffic control setups or when required due to changes in conditions on site.
18. A TMI Competent person can move signs within specified requirements outlined in the MUTCD Tolerances (including away from intersections, driveways, median openings, or similar). Tolerances from optimum position shall be in accordance with MUTCD Clause 4.1.6
19. Any changes to the TGS shall be approved by the authorising TMD
20. Queue Lengths shall be monitored at regular intervals. At locations with increased queue lengths the setup shall be adjusted to avoid end of queue collisions. MUTCD Clause 4.7.8
21. Inspections to be completed after setup, during closure & upon completion of pack up, or as specified/requested.
22. Work hours shall adhere to Logan City Council permit & MRTS 02.1 Nov 2019
23. Bus stops shall be maintained unless specified and managed as part of this TGS.
24. All work vehicles to be parked where they do not obstruct the view of the travel path
25. Traffic controllers should occupy a position which is clear of the travel path
26. Traffic controllers must have an escape path at all times
27. Traffic controllers should be standing a safe distance from the work area
28. Traffic controllers to communicate via two way radio with other traffic controllers, site vehicles and workers
29. Traffic Controllers shall be relieved from their duty after not more than two hours for a period of rest or other duties of at least 15 minutes MUTCD Clause 4.10.5
30. Four traffic cones with 4m spacing shall be placed prior on the centerline in advance of the Traffic Controller position, except where the TC is positioned past a merge taper. the temporary hazard marker may be installed at the start of the row of the cones in each direction to direct traffic to the correct travel path. Cones may be removed when traffic lane widths can not be maintained.
31. Existing regulatory or advisory signs that conflict with the requirements of this TGS are to be covered with no-transparent material. Refer to Clause 2.4.4 of the MUTCD
32. Short term Sign offset 1 meter from edge of travel path
33. Short term Sign Height 200mm Min
34. All long term signage shall be erected on posts 2.2 from the ground level to bottom of sign 2.2m in Clause 2.5.2
35. Signs to be within the line of sight of the intended road user
36. Signs to be not obstructed by vegetation or other signs
37. Recommended 700mm Traffic Cones with reflective sleeve to be used for the closures. MUTCD Clause 3.9.1
38. Temporary bollards shall comprise a vertical parallel sided or tapered tube of fluorescent orange or red material that is resilient to impact. They shall be at least 750 mm in height and a minimum of 100 mm in diameter.
39. Bollards shall be fitted with white horizontal retroreflective band having a retroreflective performance at least equal to Class 400T (or Class 1W) material as specified in AS/NZS 1906.1
40. Speed Signs, where, used are to be closest to traffic.
41. Where practicable and space permits, signs shall be duplicated on the right-hand side of a one-way or multi-lane roadway.
42. All residents and businesses to be notified of works.
43. Footpaths shall remain open at all times unless specified and managed as part of this TGS.
44. Emergency vehicles will be given the absolute preference in traffic control holding delays. This will be based on the "can this be done safely" by each traffic controller onsite. The time delays will be minimal on the site.
45. Approved Temporary road safety barriers to be installed as per manufacturers instructions. RPEQ sign off required if set up not as per manufacturers specs/instructions

LOCALITY MAP

TRAFFIC CONTROLLER/PTSS INSERT

1. Traffic controller/PTSS to be installed as required.
2. TMI to determine set up locations on site.
3. Traffic Controller/PTSS shall not be used if the sight distance of max value of 2D can not be met.
4. Traffic Controller/ PTSS to be located only in the highlighted work areas.
5. Traffic Controller/PTSS only permitted to stop traffic if the Prepare to stop has been installed.
6. Max delay times to be adhered to as per the MRTS02
7. Traffic controller/ PTSS can only stop one lane of traffic.



DELINEATION REQUIREMENTS

Table 3.4 Protection/Delineation Adjacent to Excavations

Speed of Traffic Km/h	Traffic Volume VPD	Clearance to excavation m	Depth of excavation, mm		
			50-250	>250-500	>500
<70	All	<2.5	Standard	Close	Safety Barrier
		2.5-5.0	Standard	Standard	Close
		>5.0	None	None	None
>70	≤1500	≤5.0	Standard	Close	Safety Barrier
		>5.0	None	None	None
	>1500	≤6.0	Standard	Close	Safety Barrier
		>6.0	None	None	None

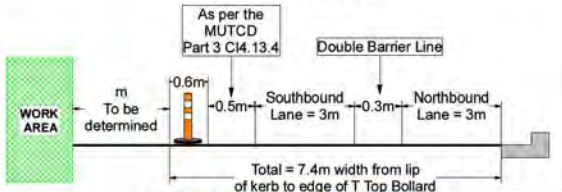
Notes:
1. Posted speed limit during roadworks
2. For Multilane roads, one-way volume. For 2-lane, 2-way roads, sum of both directions
3. Clearance to nearest edge of traffic lane or nominal edge of the edge is not marked
- When the depth of excavations is greater then 500mm or batter can not be achieved then a safety barrier shall be installed between the work area and traffic lane.
- Close delineation shall be used when excavation depths are greater then 500mm but more then 2.5m clearance from live traffic lane.

INSTALLATION & REMOVAL NOTES

1. TGS Implementation: Setup and Removal of Temporary Signage:
a. The installation and removal of this TGS shall be in accordance with MUTCD Clause 2.5. Setup and Removal of signs shall be carried out, where practicable, as work off the travelled path in accordance with clause 4.3.7, or as short term work in traffic in accordance with clause 4.3.3, for locations in open road areas.
b. In built-up areas this operation shall be carried out in accordance with clause 4.4.2 or 4.4.3. A mobile works method (Clause 4.6) shall be used if the above method is not practicable due to the volume or speed, or both, of approaching and passing vehicles.
c. The installation sequence is:
1. Advance warning & regulatory signs,
2. Intermediate advance warning & regulatory signs,
3. taper & delineation devices,
4. termination and end of speed zone signs.
d. Recovery of devices at the conclusion of the work shall be done in the reverse order using the same work method as for setting out of the signs and devices
e. In no circumstances should a Traffic Controller cross roads that have two lanes or more in each direction with a posted speed greater than 80kmph
f. A Traffic Implementation Officer is responsible for installing, maintaining and removing traffic management devices.

LANE WIDTHS & CLEARANCE

3m minimum lane widths to be maintained as per the MRTS02.1. A 0.5m clearance between live traffic and T Top Bollard shall be maintained. The below diagram sets out the required set up for lane width and clearances



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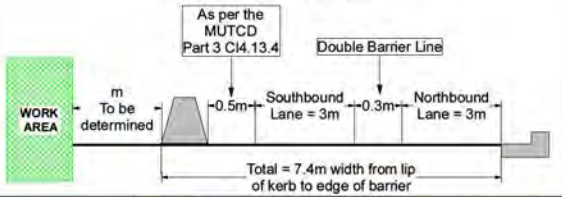
3m minimum lane widths to be maintained as per the MRTS02.1. A 0.5m clearance between live traffic and temporary safety barrier shall be maintained. The below diagram sets out the required set up for lane width and clearances



Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 2	**Pedestrian Travel Path:** Past
TGS Number: 21M-200	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	21.05.21	First Design
B	06.07.21	Amended as per client & TMR Comments
C	08.07.21	Updated new site access

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 -12	

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Just Traffic Solutions Trust
Leaders in Traffic Control Solutions
PH: 1300 722 800 FAX: 1300 722 244
EMAIL: info@justtrafficsolutions.com.au

Client Contact:
PI
NR
PI

allroads.net.au

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Effectiveness and/or suggested improvements and modifications for TGS please Email: megan@justtrafficsolutions.com.au Phone: 0455 113 044

LEGEND

- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Area
- Black & White Signs = Permanent Signs
- Traffic Island
- Temporary Line Marking
- Temporary Road Safety Barrier
- Barrier Buffer Zone
- Plant & Materials Area
- Temporary Hazard Marker
- Temporary Bollards
- Trailer Mounted Traffic Signal
- Light Tower
- VMS Boards
- PTSS- Type 1

RECOMMENDED RESOURCES

Traffic Controllers: 1 During Active Hours
Traffic Control Ute: 1 During Active Hours
VMS: 2
Light Tower: 2 Min
Traffic Cones/Bollards: TBC
Multi Frames & Legs/Poles: 49 & 98

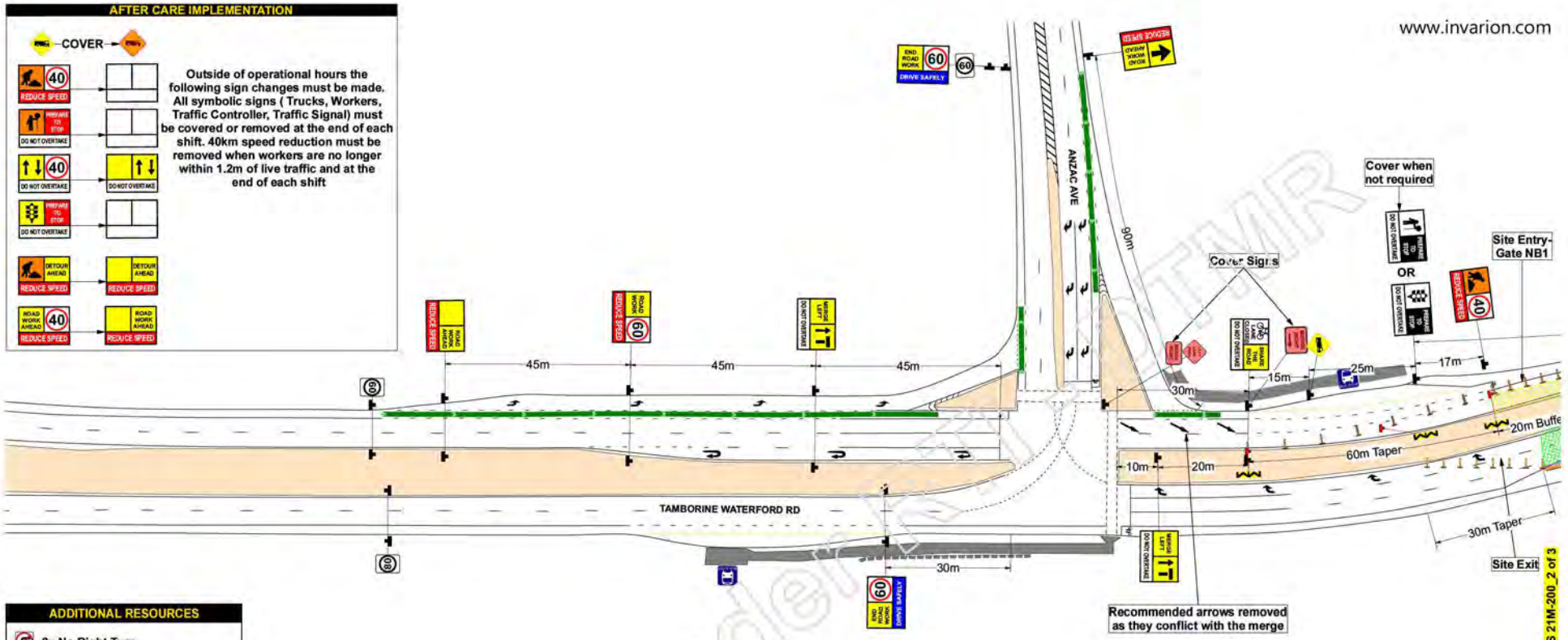
TMD SIGN OFF

DESIG
Name: Megan Davis
Signature NR
TMD No: 642 Open
Date: 21.05.21

AFTER CARE IMPLEMENTATION

COVER

Outside of operational hours the following sign changes must be made. All symbolic signs (Trucks, Workers, Traffic Controller, Traffic Signal) must be covered or removed at the end of each shift. 40km speed reduction must be removed when workers are no longer within 1.2m of live traffic and at the end of each shift



ADDITIONAL RESOURCES

- 3x No Right Turn
- 1 x Left Turn Only
- 2 x Keep Left
- 6 x Truck Symbolic
- 3 x Barrier Boar
- 14 x Lateral Shift Markers
- 1 x Give Way Signs
- 1 x Emergency Vehicles Excepted
- 1 x Stop Sign

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 2	**Pedestrian Travel Path:** Past
TGS Number: 21M-200_1 of 3	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
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PI
NR
PI

ALLROADS

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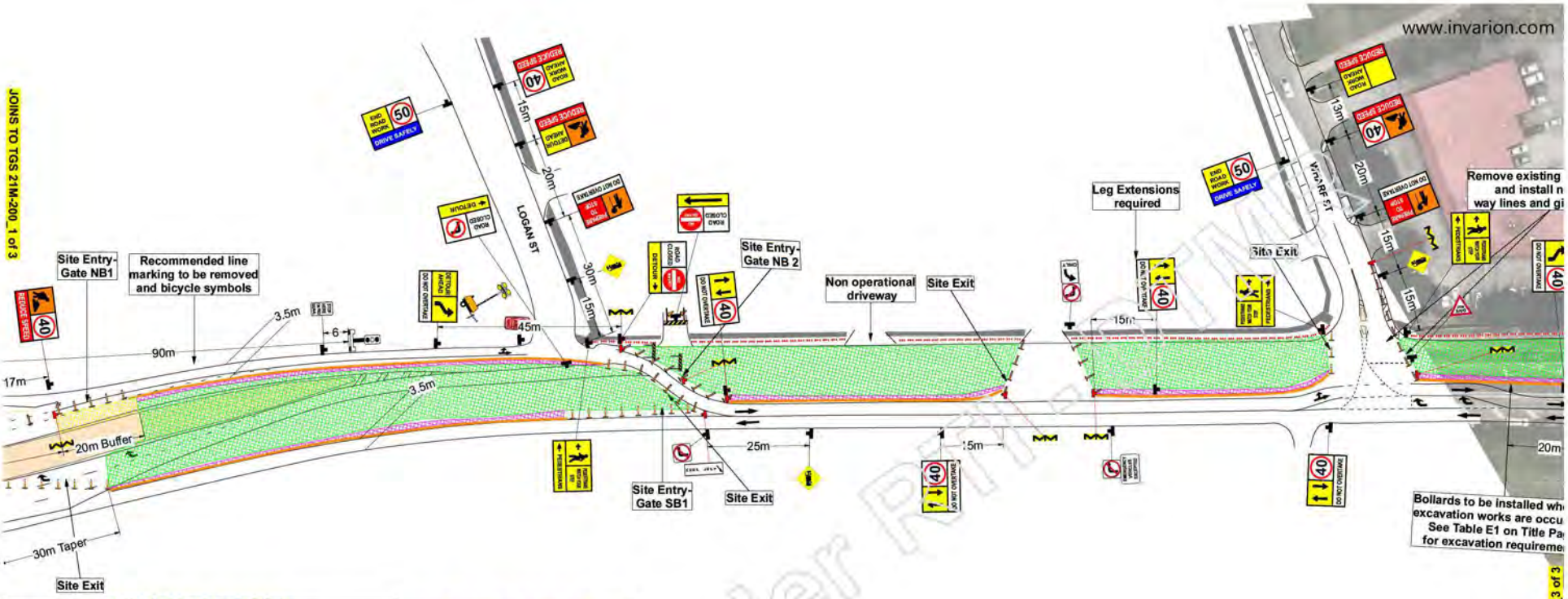
DESIG Name: PI
Signature: NR
TMD No: 642 Open
Date: 21.05.21



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- 1 x Stop Sign

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 2	**Pedestrian Travel Path:** Past
TGS Number: 21M-200_2 of 3	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
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PI NR PI

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DESIGNER:
Name: PI
Signature: NR
TMD No: 642 Open
Date: 21.05.21

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TGS Number: 21M-200_3 of 3	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
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Traffic Cones/Bollards: TBC
Multi Frames & Legs/Poles: 48 & 96

TMD SIGN OFF

DESIG Name: PI
Signature: NR
TMD No: 642 Open
Date: 21.05.21

CERTIFICATE OF COMPLIANCE

DESIGN DOCUMENTATION GENERALLY IN ACCORDANCE
WITH THE REQUIREMENTS OF AS/NZS 1158.1.1:2005 & 1158.3.1:2020

LOCALITY PLAN
UBD MAP 303 G2
NOT TO SCALE

Element Details:		
(Refer AS/NZS 1158.1.1 Section 2)		
LOCATION	WATERFORD TAMBORINE RD	WATERFORD TAMBORINE RD
SUBURB	LOGAN VILLAGE	LOGAN VILLAGE
LIGHTING CATEGORY	V5	PR5
Installation Arrangement/Geometry:		
(Refer AS/NZS 1158.1.1 Section 3)		
Carriageway Lighting Design Width (W_e)	6.5m	6.5m
Lighting Arrangement (ARR)	SINGLE SIDED	SINGLE SIDED
Straight Section Maximum Spacing (S)	47m @ 8m	N/A
Mounting Height (H)	8m	8m
Overhang	-1.0m	1.0m
Pole Setback	2.0 BB	2.0 BB
Uprest Angle	5°	5°
Column Mounting Type	TRAILER MOUNTED SOLAR	TRAILER MOUNTED SOLAR
Column Finish	Galvanised Steel	Galvanised Steel
Luminaire/Lamp Details:		
Luminaire Identification	JS-400-S.V1	JS-400-S.V1
Lamp Type	100W LED	100W LED
Initial Lamp Flux (kilo lumens)	15klms	15klms
I-Table Number (cie)	SRP314 LED100W 100V 24V DW1 SD D_5a.ies	SRP314 LED100W 100V 24V DW1 SD D_5a.ies
Lighting Tariff	N/A	N/A
Power Factor	HIGH	HIGH
Start/Run Currents (Amps)	N/A	N/A
Ingress Protection Rating	IP66	IP66
Ballast Losses	N/A	N/A
Photometric Data Details:		
Origin of NATA certified photometric data	PHILIPS	PHILIPS
Light Technical Parameters:		
DESIGN METHODS:		
(1) Straight Sections	LUMINANCE (SPACING TABLE)	N/A
(2) Longer-radius Curved Sections	N/A	N/A
(3) Intersections, Junctions and Other Specified Locations	ILLUMINANCE DESIGN RULES	ILLUMINANCE (7.5+ Lx Min.) DESIGN RULES
(4) Isolated Intersections		

Values of Light Technical Parameters:

Lighting Category	$\bar{Z}$ (cd/m²)	U_0	U_L	TI (%)	E_{av} (lux)	E_{ph} (lux)	U_{E1}	UWLR (%)
V5	0.35	0.33	0.5	20	10	8.5	0	3

Lighting Category	E_h (lux)	E_{ph} (lux)	U_{E2}
PR5	0.85	0.14	15

Road Surface Reflection Characteristics Details:

Road Surface Reflection Characteristics: CIE R3

Computer Program used to Calculate Technical Parameters:

Name of Computer Program: Perfect Lite
Source of Program: WADELLO PTY LTD
Name of Computer Program: Complies with the requirements of AS/NZS 1158.2:2005

MAINTENANCE REGIME

MAINTENANCE FACTOR ASSUMED IN THE CALCULATIONS AS FOLLOWS:

Luminaire Maintenance Factor (Refer AS/NZS 1158.1.1:2005 Appendix E)
Lamp Lumen Depreciation Factor (Refer Lamp Manufacturer's "Lamp Lumen Depreciation Curves").

MAINTENANCE FACTORS		
CLEANING INTERVAL	12 Months	0.88
POLLUTION CATEGORY	MEDIUM	
LAMP DEPRECIATION		0.9
OVERALL MAINTENANCE FACTOR		0.8

SCHEDULE OF MAINTENANCE:

Bulk lamp replacement carried out at 36 month intervals. At this time the following shall also occur:

- All optical surfaces, both internal and external, of the luminaire shall be cleaned.
- All gaskets shall be checked for deterioration and replaced where necessary.
- Damaged/Weathered visors shall be replaced.
- All accessible screws, nuts, etc. shall be checked for tightness.
- A visual check shall be made of the electrical components and wiring for signs of overheating.
- If required, the luminaire shall be realigned/adjusted to the design specification.
- There is no allowance for lamp mortality.

STREET LIGHTING CERTIFICATION

THIS TEMPORARY LIGHTING DESIGN HAS BEEN CALCULATED IN ACCORDANCE WITH DEPARTMENT OF TRANSPORT AND MAIN ROADS, ENERGY QLD & LOCAL COUNCIL GUIDE LINES. TEMPORARY LIGHTING IS EQUIVALENT TO EXISTING LEVELS OF LIGHTING AND INSTALLED TO ILLUMINATE POTENTIAL HAZARDS AND CONFLICT POINTS. ALTERNATIVELY IT HAS BEEN RISK ASSESSED THAT IT CAN BE REMOVED BY OTHERS THROUGH THE USE OF TRAFFIC CALMING MEASURES.
TEMPORARY ROAD LIGHTING CERTIFIED TO GENERALLY COMPLY WITH AS/NZS 1158 SERIES OR MRTS02, WHICHEVER IS THE LESSOR. THE LIGHTING DESIGN IS BASED UPON THE FOLLOWING MAINTENANCE SCHEDULE:

- 12 MONTH INTERVALS FOR CLEANING & INSPECTION OF LUMINARES.
- VEGETATION TO BE KEPT CLEAR OF LUMINAIRES.
- INSPECTION PATROLS & SPOT LAMP REPLACEMENT TO MAINTAIN SERVICE AVAILABILITY AT Min 95%.
- LUMINAIRES AND LAMPS TO BE REPLACED WITH EXACT EQUIVALENTS.

LOCATION	LIGHTING CATEGORY
WATERFORD TAMBORINE RD	V5
WHARF ST	PR5

REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND

I HEREBY CERTIFY UNDER THE QUEENSLAND ENGINEERING ACT 2002 & REGULATIONS 2003 THAT THIS DRAWING HAS BEEN PREPARED IN ACCORDANCE WITH THE CLIENT SPECIFICATION, RELEVANT AUSTRALIAN & INTERNATIONAL STANDARDS, INDUSTRY GUIDELINES AND LOCAL LAWS.

NAME: K PRICKETT RPEQ No: 6383 COMPANY: UDCS CONSULTING
SIGNATURE: DATE: 09-07-21

NOTES:

1. DESIGN BASED ON TRAFFIC GUIDANCE SCHEME 21M-208 Waterford Tamborine Rd Logan Village - Stage 3
2. FOR PERMANENT LIGHTING DETAILS REFER TO RATE 3 LIGHTING DESIGN
(TMR JOB No: 489244 - Drawing Numbers 857942 - 857950)

REV	AMENDMENTS	DRN	CKD	APP	DATE
B	REDUCE THE NUMBER OF TEMPORARY LIGHTS	R.H	C.B	K.P	09-07-21
A	ISSUED FOR APPROVAL	R.H	C.B	K.P	24-06-21

REDUCTION SCALE

0 10m 20m 30m 40m 50m
SCALE 1 : 500

FOR APPROVAL

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Nerang QLD 4211
DARWIN OFFICE:
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Darwin NT 0801
Telephone: (07) 3245 6009
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UDCS CONSULTING
ENGINEERING INFRASTRUCTURE PROFESSIONALS

APPROVALS	
CONST MGR:	DATE:
CLIENT:	DATE:
APPROV'D:	
RPEQ:	
CHECKED: C.W.B	DATE: 24-06-21
DRAWN: R.W.H	DATE: 24-06-21

PROJECT DETAILS	
LOGAN CITY COUNCIL WATERFORD TAMBORINE ROAD UPGRADE	
CONSTRUCTION STAGE 2 TEMPORARY LIGHTING DESIGN - SHEET 1	

A1 SCALE: AS MARKED	PROJECT NUMBER: PR210068
DRAWING NUMBER:	PR210068-LGT-DWG-0002
REVISION: B SHEET: 01 of 02	A1

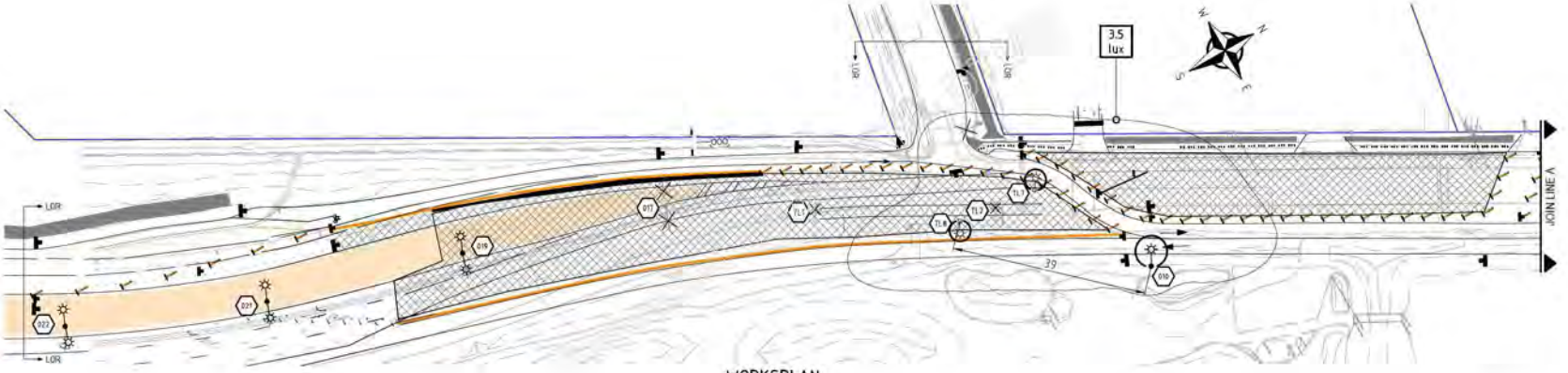
TEMPORARY STREETLIGHT SCHEDULE

LOCATION	STN NO.	SITE ID (POLE NO.)	POLE or COMPONENTS						LUMINAIRE								OUTREACH BRACKET				MOUNT HEIGHT (m)	REMARKS
			COMP ID	EXIST (m)	REC (m)	ERECT (m)	SLM or IIN	ALIGN (m)	COMP ID	EXIST	RECOVER LUMIN	RECOVER CUST	DATE DE-ENERG	ERECT LUMIN	ERECT CUST	DATE ENERG	SLM or IIN	EXIST (m)	REC (m)	ERECT (m)	SLM or IIN		
WATERFORD TAMBORINE ROAD	010	W2194118	P01			10.0 SBM		1.2 ES	SL1					L198AM3	MRD					3.0			12.0	REFER PERMANENT DESIGN
	017	W1338538	P01	10.0 SBM	10.0 SBM			EX	SL1	L198AM3	L198AM3	MRD						4.50	4.50				12.0	RECOVER POLE, OUTREACH & LUMINAIRE
									SL2	L198AM3	L198AM3	MRD												
	019	W1338539	P01	10.0 SBM				EX	SL1	L198AM3								4.50					12.0	EXISTING POLE, OUTREACH & LUMINAIRE TO REMAIN
									SL2	L198AM3														
	021	TBC	P01	10.0 SBM				EX	SL1	L198AM3								4.50					12.0	EXISTING POLE TO REMAIN
									SL2	L198AM3														
	022	TBC	P01	10.0 SBM				EX	SL1	L198AM3								4.50					12.0	EXISTING POLE TO REMAIN
									SL2	L198AM3														
	006	TBC	P01	8.5 SBM				EX	SL1	L198AM3								4.5					10.5	EXISTING POLE TO REMAIN
	005	TBC	P01	8.5 SBM				EX	SL1	L198AM3								4.5					10.5	EXISTING POLE TO REMAIN
	004	TBC	P01	8.5 SBM				EX	SL1	L198AM3								4.50					10.5	EXISTING POLE TO REMAIN
									SL2	L198AM3														
	TL1		P01	8.0 TMT	8.0 TMT			2.0 BB	SL1	L100	L100							1.1	1.1				8.0	RELOCATE TO STAGE 2 WORKS
	TL2		P01	8.0 TMT	8.0 TMT			2.0 BB	SL1	L100	L100							1.1	1.1				8.0	RELOCATE TO STAGE 2 WORKS
WHARF STREET	TL6		P01	8.0 TMT				2.0 BB	SL1	L100								1.1					8.0	JS-400-S.V1
	TL7		P01			8.0 TMT		2.0 BB	SL1					L100						1.1			8.0	JS-400-S.V1
	TL8		P01			8.0 TMT		2.0 BB	SL1					L100						1.1			8.0	JS-400-S.V1
WHARF STREET	007	TBC	P01	8.5 SBM				EX	SL1	L198AM3								1.5					10.5	EXISTING POLE TO DE-ENERGISED UNTIL PERMANT SUPPLY AVAILABLE AS PER RATE 3 LIGHTING DESIGN

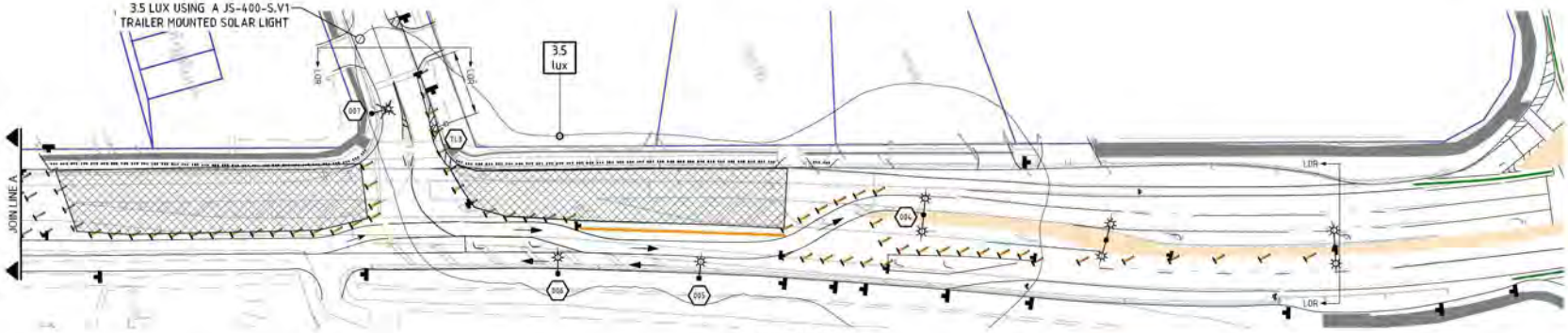
BB – DENOTES DISTANCE BEHIND BACK OF BARRIER TO CENTER OF POLE
BOK – DENOTES DISTANCE FROM BACK OF KERB TO CENTER OF POLE
SBM – SLIP BASE MOUNTED POLE
TMT – TRAILER MOUNTED SOLAR LIGHT
TSL – BLOCK MOUNTED SOLAR LIGHT
ES – EDGE OF SHOULDER

LEGEND:

- EXISTING STREET LIGHT
- PROPOSED TEMPORARY STREET LIGHT (JS-400-S.V1 TRAILER MOUNTED SOLAR LIGHT)
- EXISTING LIGHT TO BE DE-ENERGISED
- RECOVER POLE
- LDR LIMIT OF LIGHTING RECOMMENDATION



WORKSPLAN
SCALE 1:500



WORKSPLAN
SCALE 1:500

REV	AMENDMENTS	DRN	CKD	APP	DATE
B	REDUCE THE NUMBER OF TEMPORARY LIGHTS	R.H	C.B	K.P	09-07-21
A	ISSUED FOR APPROVAL	R.H	C.B	K.P	24-06-21

REDUCTION SCALE

0 10m 20m 30m 40m 50m

SCALE 1 : 500

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APPROVALS	
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RPEQ:	
CHECKED: C.W.B	DATE: 24-06-21
DRAWN: R.W.H	DATE: 24-06-21

PROJECT DETAILS
LOGAN CITY COUNCIL
WATERFORD TAMBORINE ROAD UPGRADE
CONSTRUCTION STAGE 2
TEMPORARY LIGHTING DESIGN – SHEET 2

A1 SCALE: AS MARKED
PROJECT NUMBER: PR210068
DRAWING NUMBER: PR210068-LGT-DWG-0002
REVISION: B
SHEET: 07 of 12
A1

UDCS CONSULTING

Document Transmittal

Form: UDCS-QU-FR-21
Issue: 1
Date: 31 December 2013

Date: 09-07-21

Client: Allroads

Drawing Transmittal No: PR210068-DT-008

Project Description: Waterford Tamborine Rd Upgrades – Temporary Lighting Design - Stage 2

DRAWING No.	SHEET No	ISSUE	COMMENTS
PR210068-LGT-DWG-0002	1 of 2	B	Issued for Approval – Pdf File
PR210068-LGT-DWG-0002	2 of 2	B	Issued for Approval – Pdf File

Date Received: _____

Signature: _____

Return within 7 days to Email: admin@udcs.net.au

1A/563 Bilsen Rd
Geebung Qld 4034
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UDCS Consulting Pty Ltd
ACN: 102 738 278

Ph: 07 3260 6009
Fax: 07 3314 6456
Email: admin@udcs.net.au

SITE SPECIFIC NOTES

1. TMI shall implement traffic control signs and devices as per TGS.
2. 40km Temporary speed zones shall be implemented in accordance with MRTS02.1 Nov 2019
3. 40km speed limit shall be implemented where workers are within 1.2m of traffic lanes.
4. 3m Minimum Lane width shall be in accordance with MRTS02.1 Nov 2019.
5. 1m Clearance from edge of traffic lane to line of traffic cones, bollards or longitudinal channelising devices As per MRTS02.1Nov 2019.
6. 0.5m Clearance from edge of traffic lane to road safety barrier system as per the MUTCD Part 3
7. Recommended 30m Lateral Shift Taper as per table 4.6 in the MUTCD Part 3.
8. Recommended Bollard/Cone Spacing for Taper Length @ 50km or less speed zone is 4m as per Table 3.7
9. Recommended Bollard/Cone Spacing for Closure
@ 60km or less speed zone is 12m as per Table 3.7
@ 50km or less speed zone is 4m as per Table 3.7
10. Approved Temporary road safety barriers to be installed between workers/ deep excavations and road users.
11. JJ Hook concrete barriers have been selected as the nominated approved temporary road safety barrier. When excavation depths are less then 500mm then barriers can substituted with bollards.
12. Temporary line marking shall be implemented between two way traffic. Removal of permanent line marking and new line marking to be approve by an RPEQ wit TMD qualification as per MRTS02.1 Nov 2019.
13. Temporary lighting to be installed either end of the work areas. Light towers to be installed as per design manual.
14. Verge to be closed and pedestrian delineation to be installed around complete work area by Allroads.
15. No right turn into Medical Centre, Hotel and Logan St to be implemented. VMS boards to notify drivers to use lights to perform a U turn.
16. Bicycle lane shall be closed and advance warning signs to be installed for road users and cyclists to share the road.

STANDARD NOTES

17. A site specific risk assessment is undertaken prior to ALL traffic control setups or when required due to changes in conditions on site.
18. A TMI Competent person can move signs within specified requirements outlined in the MUTCD Tolerances (including away from intersections, driveways, median openings, or similar). Tolerances from optimum position shall be in accordance with MUTCD Clause 4.1.6
19. Any changes to the TGS shall be approved by the authorising TMD
20. Queue Lengths shall be monitored at regular intervals. At locations with increased queue lengths the setup shall be adjusted to avoid end of queue collisions. MUTCD Clause 4.7.8
21. Inspections to be completed after setup, during closure & upon completion of pack up, or as specified/requested.
22. Work hours shall adhere to Logan City Council permit & MRTS 02.1 Nov 2019
23. Bus stops shall be maintained unless specified and managed as part of this TGS.
24. All work vehicles to be parked where they do not obstruct the view of the travel path
25. Traffic controllers should occupy a position which is clear of the travel path
26. Traffic controllers must have an escape path at all times
27. Traffic controllers should be standing a safe distance from the work area
28. Traffic controllers to communicate via two way radio with other traffic controllers, site vehicles and workers
29. Traffic Controllers shall be relieved from their duty after not more than two hours for a period of rest or other duties of at least 15 minutes MUTCD Clause 4.10.5
30. Four traffic cones with 4m spacing shall be placed prior on the centerline in advance of the Traffic Controller position, except where the TC is positioned past a merge taper. the temporary hazard marker may be installed at the start of the row of the cones in each direction to direct traffic to the correct travel path. Cones may be removed when traffic lane widths can not be maintained.
31. Existing regulatory or advisory signs that conflict with the requirements of this TGS are to be covered with no-transparent material. Refer to Clause 2.4.4 of the MUTCD
32. Short term Sign offset 1 meter from edge of travel path
33. Short term Sign Height 200mm Min
34. All long term signage shall be erected on posts 2.2 from the ground level to bottom of sign 2.2m in Clause 2.5.2
35. Signs to be within the line of sight of the intended road user
36. Signs to be not obstructed by vegetation or other signs
37. Recommended 700mm Traffic Cones with reflective sleeve to be used for the closures. MUTCD Clause 3.9.1
38. Temporary bollards shall comprise a vertical parallel sided or tapered tube of fluorescent orange or red material that is resilient to impact. They shall be at least 750 mm in height and a minimum of 100 mm in diameter.
39. Bollards shall be fitted with white horizontal retroreflective band having a retroreflective performance at least equal to Class 400T (or Class 1W) material as specified in AS/NZS 1906.1.
40. Speed Signs, where, used are to be closest to traffic.
41. Where practicable and space permits, signs shall be duplicated on the right-hand side of a one-way or multi-lane roadway.
42. All residents and businesses to be notified of works.
43. Footpaths shall remain open at all times unless specified and managed as part of this TGS.
44. Emergency vehicles will be given the absolute preference in traffic control holding delays. This will be based on the "can this be done safely" by each traffic controller onsite. The time delays will be minimal on the site.
45. Approved Temporary road safety barriers to be installed as per manufacturers instructions. RPEQ sign off required if set up not as per manufacturers specifications.

LOCALITY MAP

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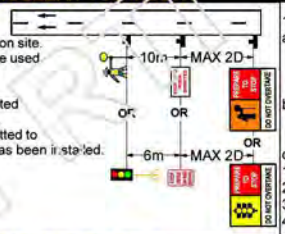
TRAFFIC CONTROLLER/PTSS INSERT

1. Traffic controller/PTSS to be installed as required.
2. TMI to determine set up locations on site.
3. Traffic Controller/PTSS shall not be used if the sight distance of max value of 2D can not be met.
4. Traffic Controller/ PTSS to be located only in the highlighted work areas.
5. Traffic Controller/PTSS only permitted to stop traffic if the Prepare to stop has been installed.
6. Max delay times to be adhered to as per the MRTS02
7. Traffic controller/ PTSS can only stop one lane of traffic.



DELINEATION REQUIREMENTS

Table 3.7 Protection/Delineation Adjacent to Excavations

Speed of Traffic Km/h	Traffic Volume VPD	Clearance to excavation m	Depth of excavation, mm		
			50-250	>250-500	>500
<70	All	<2.5	Standard	Close	Safety Barrier
		2.5-5.0	Standard	Standard	Close
		>5.0	None	None	None
>70	≤1500	≤5.0	Standard	Close	Safety Barrier
		>5.0	None	None	None
	>1500	≤6.0	Standard	Close	Safety Barrier
		>6.0	None	None	None

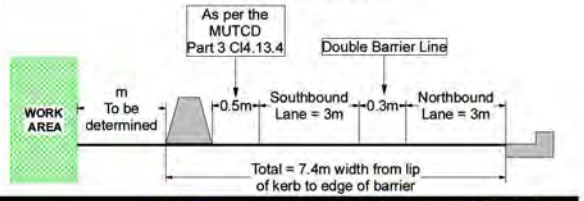
Notes:
1. Posted speed limit during roadworks
2. For Multilane roads, one-way volume. For 2-lane, 2-way roads, sum of both directions
3. Clearance to nearest edge of traffic lane or nominal edge of the edge is not marked
- When the depth of excavations is greater then 500mm or batter can not be achieved then a safety barrier shall be installed between the work area and traffic lane.
- Close delineation shall be used when excavation depths are greater then 500mm but more then 2.5m clearance from live traffic lane.

INSTALLATION & REMOVAL NOTES

1. TGS Implementation: Setup and Removal of Temporary Signage:
a. The installation and removal of this TGS shall be in accordance with MUTCD Clause 2.5. Setup and Removal of signs shall be carried out, where practicable, as work off the travelled path in accordance with clause 4.3.7, or as short term work in traffic in accordance with clause 4.3.3, for locations in open road areas.
b. In built-up areas this operation shall be carried out in accordance with clause 4.4.2 or 4.4.3. A mobile works method (Clause 4.6) shall be used if the above method is not practicable due to the volume or speed, or both, of approaching and passing vehicles.
c. The installation sequence is:
1. Advance warning & regulatory signs,
2. Intermediate advance warning & regulatory signs,
3. taper & delineation devices,
4. termination and end of speed zone signs.
d. Recovery of devices at the conclusion of the work shall be done in the reverse order using the same work method as for setting out of the signs and devices
e. In no circumstances should a Traffic Controller cross roads that have two lanes or more in each direction with a posted speed greater than 80kmph
f. A Traffic Implementation Officer is responsible for installing, maintaining and removing traffic management devices.

LANE WIDTHS & CLEARANCE

3m minimum lane widths to be maintained as per the MRTS02.1. A 0.5m clearance between live traffic and temporary safety barrier shall be maintained. The below diagram sets out the required set up for lane width and clearances



Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-154	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	31.03.21	First Design

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 -12	

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Leaders in Traffic Control Solutions
PH: 1300 722 800 FAX: 1300 722 244
EMAIL: info@justtrafficsolutions.com.au

Client Contact: PI NR PI

ALLROADS
allroads.net.au

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Effectiveness and/or suggested improvements and modifications for TGS please Email: megan@justtrafficsolutions.com.au Phone: 0455 113 044

LEGEND

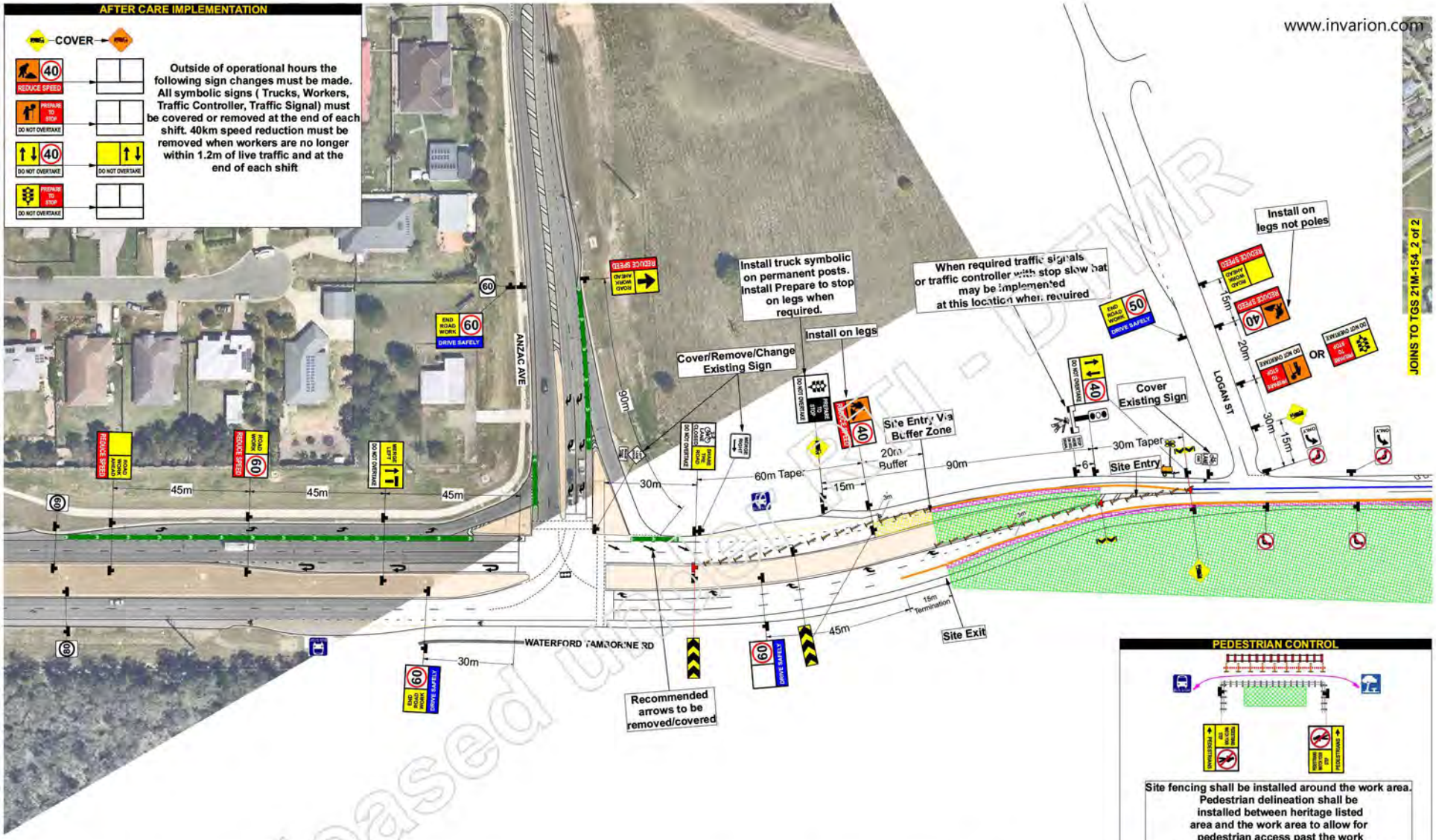
- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Area
- Black & White Signs = Permanent Signs
- Traffic Island
- Temporary Line Marking
- Temporary Road Safety Barrier
- Barrier Buffer Zone
- Plant & Materials Area
- Temporary Hazard Marker
- Temporary Bollards
- Trailer Mounted Traffic Signal
- VMS Boards
- Light Tower
- PTSS- Type 1

RECOMMENDED RESOURCES

Traffic Controllers: 1 During Active Hours
Traffic Control Ute: 1 During Active Hours
VMS: 0
Light Tower: 2 Min
Traffic Cones/Bollards: 80 Approx
Sign Frames & Legs/Poles: 50 & 100

TMD SIGN OFF

DESIG Name: PI
Signature: NR
TMD No: 642 Open
Date: 31.03.21



PEDESTRIAN CONTROL

Site fencing shall be installed around the work area. Pedestrian delineation shall be installed between heritage listed area and the work area to allow for pedestrian access past the work area from the bus stop to the memorial park.

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-154_1 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
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Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
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5 - 8	
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Traffic Cones/Bollards: 80 Approx
Sign Frames & Legs/Poles: 50 & 100

TMD SIGN OFF

DESIGNER:
Name PI
Signature: NR
TMD No: 642 Open
Date: 31.03.21

JOINS TO TGS 21M-154_1 of 2

SCREEN 1
U TURN
VIA
SIGNALS

Install on legs not poles

WHARF ST

NORTH ST

WATERFORD TAMBORINE RD

QUINZEN CREEK RD

13m 20m 30m 15m

OR

30m Taper

3.5m

7.5m

20m Buffer

6

30m Taper

15m

90m

20m

80m

30m

70m

Cover Existing Sign

Mount over barrier or install above barrier

Site entry via buffer zone

Install on sign legs not poles

When required traffic signals or traffic controller with stop slow bat may be implemented at this location when required

Install Prepare to stop and cover when not needed

AFTER CARE IMPLEMENTATION

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COVER

Outside of operational hours the following sign changes must be made. All symbolic signs (Trucks, Workers, Traffic Controller, Traffic Signal) must be covered or removed at the end of each shift. 40km speed reduction must be removed when workers are no longer within 1.2m of live traffic and at the end of each shift

PEDESTRIAN CONTROL

Site fencing shall be installed around the work area. Pedestrian delineation shall be installed between heritage listed area and the work area to allow for pedestrian access past the work area from the bus stop to the memorial park.

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-154_2 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
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PI
NR
PI

ALLROADS

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9. Recommended Bollard/Cone Spacing for Closure @ 60km or less speed zone is 12m as per Table 3.7 @ 50km or less speed zone is 4m as per Table 3.7
10. Approved Temporary road safety barriers to be installed between workers/ deep excavations and road users.
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12. Temporary line marking shall be implemented between two way traffic. Removal of permanent line marking and new line marking to be approve by an RPEQ wit TMD qualification as per MRTS02.1 Nov 2019.
13. Temporary lighting to be installed either end of the work areas. Light towers to be installed as per design manual.
14. Verge to be closed and pedestrian delineation to be installed around complete work area by Allroads.
15. No right turn into Medical Centre, Hotel and Logan St to be implemented. VMS boards to notify drivers to use lights to perform a U turn.
16. Bicycle lane shall be closed and advance warning signs to be installed for road users and cyclists to share the road.

STANDARD NOTES

17. A site specific risk assessment is undertaken prior to ALL traffic control setups or when required due to changes in conditions on site.
18. A TMI Competent person can move signs within specified requirements outlined in the MUTCD Tolerances (including away from intersections, driveways, median openings, or similar). Tolerances from optimum position shall be in accordance with MUTCD Clause 4.1.6
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24. All work vehicles to be parked where they do not obstruct the view of the travel path
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26. Traffic controllers must have an escape path at all times
27. Traffic controllers should be standing a safe distance from the work area
28. Traffic controllers to communicate via two way radio with other traffic controllers, site vehicles and workers
29. Traffic Controllers shall be relieved from their duty after not more than two hours for a period of rest or other duties of at least 15 minutes MUTCD Clause 4.10.5
30. Four traffic cones with 4m spacing shall be placed prior on the centerline in advance of the Traffic Controller position, except where the TC is positioned past a merge taper. the temporary hazard marker may be installed at the start of the row of the cones in each direction to direct traffic to the correct travel path. Cones may be removed when traffic lane widths can not be maintained.
31. Existing regulatory or advisory signs that conflict with the requirements of this TGS are to be covered with no-transparent material. Refer to Clause 2.4.4 of the MUTCD
32. Short term Sign offset 1 meter from edge of travel path
33. Short term Sign Height 200mm Min
34. All long term signage shall be erected on posts 2.2 from the ground level to bottom of sign 2.2m in Clause 2.5.2
35. Signs to be within the line of sight of the intended road user
36. Signs to be not obstructed by vegetation or other signs
37. Recommended 700mm Traffic Cones with reflective sleeve to be used for the closures. MUTCD Clause 3.9.1
38. Temporary bollards shall comprise a vertical parallel sided or tapered tube of fluorescent orange or red material that is resilient to impact. They shall be at least 750 mm in height and a minimum of 100 mm in diameter.
39. Bollards shall be fitted with white horizontal retroreflective band having a retroreflective performance at least equal to Class 400T (or Class 1W) material as specified in AS/NZS 1906.1.
40. Speed Signs, where, used are to be closest to traffic.
41. Where practicable and space permits, signs shall be duplicated on the right-hand side of a one-way or multi-lane roadway.
42. All residents and businesses to be notified of works.
43. Footpaths shall remain open at all times unless specified and managed as part of this TGS.
44. Emergency vehicles will be given the absolute preference in traffic control holding delays. This will be based on the "can this be done safely" by each traffic controller onsite. The time delays will be minimal on the site.
45. Approved Temporary road safety barriers to be installed as per manufacturers instructions. RPEQ sign off required if set up not as per manufacturers specifications.

LOCALITY MAP

TRAFFIC CONTROLLER/PTSS INSERT

1. Traffic controller/PTSS to be installed as required.
2. TMI to determine set up locations on site.
3. Traffic Controller/PTSS shall not be used if the sight distance of max value of 2D can not be met.
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6. Max delay times to be adhered to as per the MRTS02
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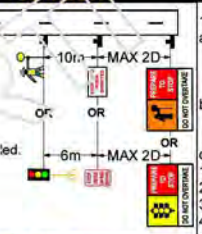


DELINEATION REQUIREMENTS

Table 3.7 Protection/Delineation Adjacent to Excavations

Speed of Traffic Km/h	Traffic Volume VPD	Clearance to excavation m	Depth of excavation, mm		
			50-250	>250-500	>500
<70	All	<2.5	Standard	Close	Safety Barrier
		2.5-5.0	Standard	Standard	Close
		>5.0	None	None	None
>70	≤1500	≤5.0	Standard	Close	Safety Barrier
		>5.0	None	None	None
	>1500	≤6.0	Standard	Close	Safety Barrier
		>6.0	None	None	None

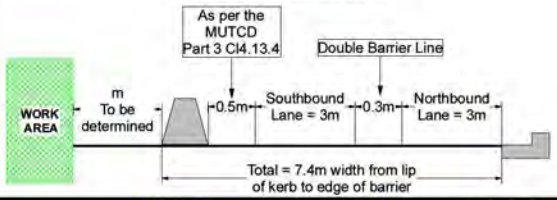
Notes:
1. Posted speed limit during roadworks
2. For Multilane roads, one-way volume. For 2-lane, 2-way roads, sum of both directions
3. Clearance to nearest edge of traffic lane or nominal edge of the edge is not marked
- When the depth of excavations is greater then 500mm or batter can not be achieved then a safety barrier shall be installed between the work area and traffic lane.
- Close delineation shall be used when excavation depths are greater then 500mm but more then 2.5m clearance from live traffic lane.

INSTALLATION & REMOVAL NOTES

1. TGS Implementation: Setup and Removal of Temporary Signage:
a. The installation and removal of this TGS shall be in accordance with MUTCD Clause 2.5. Setup and Removal of signs shall be carried out, where practicable, as work off the travelled path in accordance with clause 4.3.7, or as short term work in traffic in accordance with clause 4.3.3, for locations in open road areas.
b. In built-up areas this operation shall be carried out in accordance with clause 4.4.2 or 4.4.3. A mobile works method (Clause 4.6) shall be used if the above method is not practicable due to the volume or speed, or both, of approaching and passing vehicles.
c. The installation sequence is:
1. Advance warning & regulatory signs,
2. Intermediate advance warning & regulatory signs,
3. taper & delineation devices,
4. termination and end of speed zone signs.
d. Recovery of devices at the conclusion of the work shall be done in the reverse order using the same work method as for setting out of the signs and devices
e. In no circumstances should a Traffic Controller cross roads that have two lanes or more in each direction with a posted speed greater than 80kmph
f. A Traffic Implementation Officer is responsible for installing, maintaining and removing traffic management devices.

LANE WIDTHS & CLEARANCE

3m minimum lane widths to be maintained as per the MRTS02.1. A 0.5m clearance between live traffic and temporary safety barrier shall be maintained. The below diagram sets out the required set up for lane width and clearances



Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-154	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	31.03.21	First Design
B	23.04.21	Amended as per client comments

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 -12	

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Leaders in Traffic Control Solutions
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EMAIL: info@justtrafficsolutions.com.au

PI NR PI

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allroads.net.au

DISCLAIMER

This TGS is drawn to individual client requirements/requests. JTS Group Australia PTY LTD cannot accept responsibility for the integrity and accuracy of such information provided by third parties. No responsibility can be accepted for the use of this drawing on any other project.

Effectiveness and/or suggested improvements and modifications for TGS please Email: megan@justtrafficsolutions.com.au Phone: 0455 113 044

LEGEND

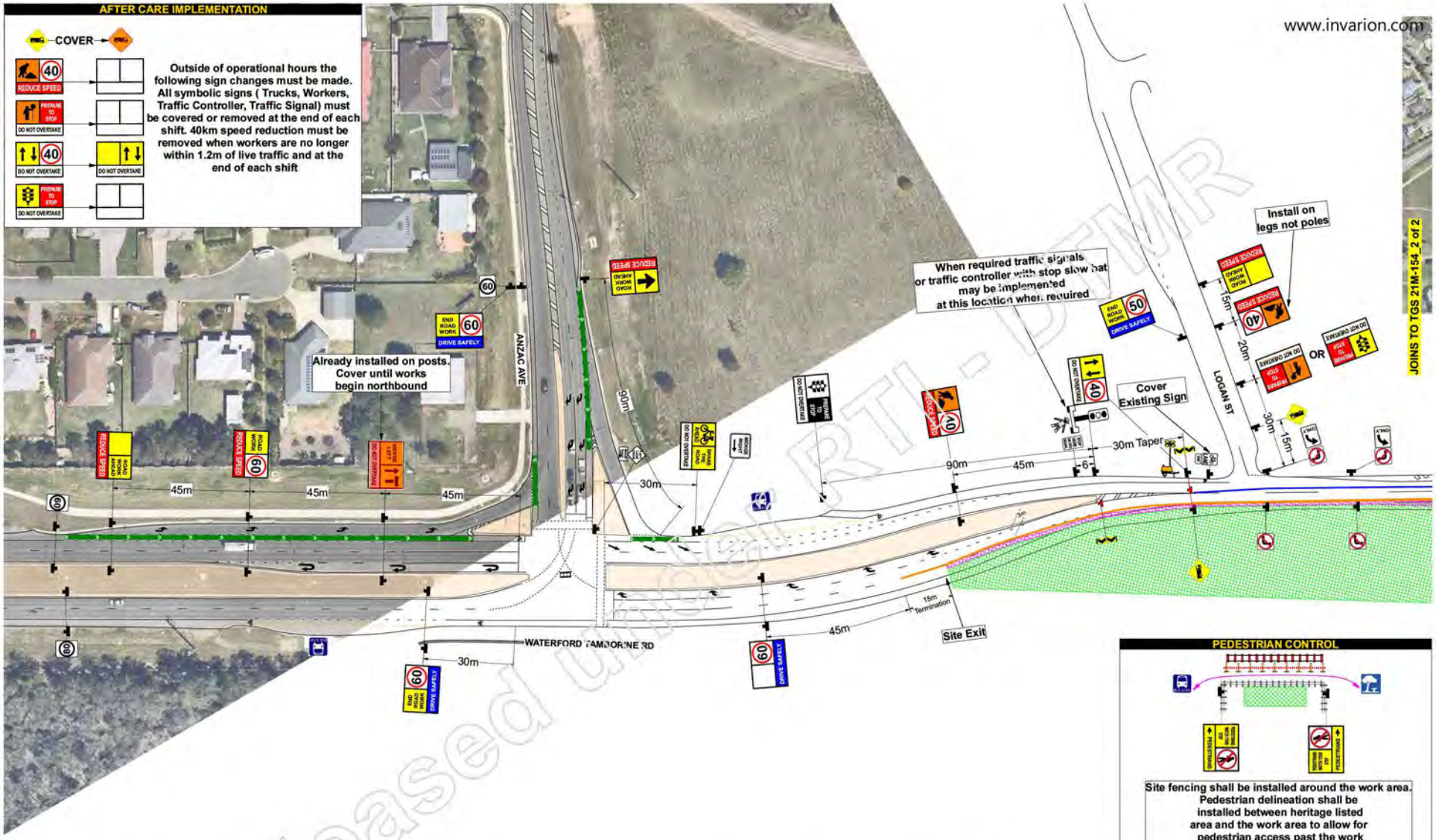
- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Area
- Black & White Signs = Permanent Signs
- Traffic Island
- Temporary Line Marking
- Temporary Road Safety Barrier
- Barrier Buffer Zone
- Plant & Materials Area
- Temporary Hazard Marker
- Temporary Bollards
- Trailer Mounted Traffic Signal
- Light Tower
- VMS Boards
- PTSS- Type 1

RECOMMENDED RESOURCES

Traffic Controllers: 1 During Active Hours
Traffic Control Ute: 1 During Active Hours
VMS: 0
Light Tower: 2 Min
Traffic Cones/Bollards: 80 Approx
Sign Frames & Legs/Poles: 50 & 100

TMD SIGN OFF

DESIGNER:
Name: PI
Signature: PI
TMD No: 642 Open
Date: 31.03.21



Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-154_1 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
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NR
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TMD SIGN OFF

DESIG Name: PI
Signature: NR
TMD No: 642 Open
Date: 31.03.21

JOINS TO TGS 21M-154_1 of 2

SCREEN 1

U TURN

VIA

SIGNALS

Install on legs not poles

Only Install during shuttle flow

WHARF ST

WATERFORD TAMBORINE RD

NORTH ST

QUINZEN CREEK RD

13m

20m

30m

15m

OR

30m Taper

3.5m

7.5m

20m Buffer

6

90m

30m Taper

15m

20m

80m

70m

Cover Existing Sign

Mount over barrier or install above barrier

Site entry via buffer zone

Install on sign legs not poles

When required traffic signals or traffic controller with stop slow bat may be implemented at this location when required

Install Prepare to stop and cover when not needed

AFTER CARE IMPLEMENTATION

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COVER

Outside of operational hours the following sign changes must be made. All symbolic signs (Trucks, Workers, Traffic Controller, Traffic Signal) must be covered or removed at the end of each shift. 40km speed reduction must be removed when workers are no longer within 1.2m of live traffic and at the end of each shift

PEDESTRIAN CONTROL

Site fencing shall be installed around the work area. Pedestrian delineation shall be installed between heritage listed area and the work area to allow for pedestrian access past the work area from the bus stop to the memorial park.

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-154_2 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
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ALLROADS

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DESI
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Signature: NR
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ALLROADS
CIVIL CONSTRUCTION • MINING

P 1300 ALLROADS or 07 3829 9436
E admin@allroads.net.au
125 Axis Place, Larapinta QLD 4110
PO Box 318, Browns Plains QLD 4118
www.allroads.net.au | **ABN** 42 142 378 514

23rd March 2021

PI
Allroads Pty Ltd
Project Engineer
PI @allroads.net.au

Dear PI

Project: CN14898 Waterford Tamborine Road
Subject: RPEQ Certification for Specific TGS Elements
Reference: A3066-ALL-TGS-RPEQ-001

With reference to the Waterford Tamborine Rd project, specific Traffic Guidance Scheme (TGS) elements under the contract have been nominated to require RPEQ certification.

TGS for Stage 1 (21M-100), 1A (21M-101) and 1B (21M-112) have been reviewed and I have deemed the following RPEQ certification is applicable.

- Changes to road line marking (Per MRTS02.1 Annexure)

All other TGS elements have been signed off by the qualified Traffic Management Designer Megan Davis (JTS) #624 Open in accordance with the MUTCD Part 3 and DTMR guidelines.

The TGS referenced above detail the removal of existing road line markings and installation of a new (temporary) double barrier centreline to undertake a lateral shift to existing traffic movements and facilitate construction works.

The new (temporary) double barrier line marking is detailed on Waterford Tamborine Rd, between Logan and Wharf Side Streets, along a straight alignment. Lateral shift tapers and merges are detailed to be delineated using approved traffic management devices per MUTCD Part 3 (cones, T-top bollard or other approved device). Right turn movements will be restricted between Wharf and Logan St, with no breaks in the double barrier centre line at driveway accesses or side streets.

The TGS referenced above are deemed suitable for implementation with reference to the proposed temporary changes to road line marking during the construction phase, on the basis the following recommendations are met.

- Risk Assessment prior to implementation
- Minimum traffic lane widths of 3m must be maintained per MRTS02.1 and MUTCD Part 3.
- Application of temporary line marking to be in accordance with MUTCD and DTMR specifications and installed by a competent line marking contractor.
- Line marking dimensions to be in accordance with MUTCD Part 2
- Removal of existing line marking with abrasive method (grinding or water blasting)
- Changed Traffic Condition Notification (VMS Board or Temporary Signage) following initial installation

If you have any enquiries relating to this letter, please do not hesitate to contact the undersigned.

Kind Regards,

NR

PI
BEng (Civil) RPEQ CPEng NER
RPEQ #24909, TMD 623 (Open)

HAZARD AND RISK IDENTIFICATION WORKSHEET

Use this form to assess hazards and risks at a specific work site, or for a specific activity. Workers involved directly and other affected workers should be consulted. The Assessor should be competent and experienced, and familiar with the work.

Work Location:	Waterford Tamborine Road	**Date:**	23 / 03 / 2021
Assessor:	Name: PI	Position: Project Manager / RPEQ	
Persons Consulted:	PI		

Activity / task:

Removal of existing line marking and installation of a new (temporary) double barrier centre line to suit
changed traffic conditions with lateral shift movement.
Reference documents: TGS Stage 1, 1A, 1B and associated risk assessments

Hazards (In order)

1. Existing line marking not removed correctly = confusion to drivers, risk of accident, visibility issues
2. New line marking is not installed to specifications = confusion to drivers, risk of accident, durability and visibility issues
3. Minimum 3m lane widths not installed = risk of accident
4. Changed traffic conditions = confusion to drivers, risk of accident
5. Queue Lengths with Right Turn Movements = risk of accident, congestion

Control measures (In order of Hazard):

1. Removal of existing line marking using abrasive method (grinding or blasting)
2. Installation of line marking per DTMR and MUTCD specifications and installed by a competent line marking contractor
3. Installation of line marking per DTMR and MUTCD specifications and installed by a competent line marking contractor
4. Changed traffic condition notification following initial installation (VMS message or temp signage)
5. No break in double barrier line for right turn movements. U-turn facilities available at nearby intersections of North St and Anzac Ave.

Are the current control measures: (circle one)	**Unacceptable**	**Improvement required**	**Adequate**

Further controls required:

Contractor to monitor the work site and traffic conditions on a daily basis
Ensure installed temporary line marking remains in good order for duration of construction stage
Review and action any further improvements as identified
Existing speed limit has been reduced during construction works

Additional notes:

SITE SPECIFIC NOTES

1. TMI shall implement traffic control signs and devices as per TGS.
2. 40km Temporary speed zones shall be implemented in accordance with MRTS02.1 Nov 2019
3. 40km speed limit shall be implemented where workers are within 1.2m of traffic lanes.
4. 3m Minimum Lane width shall be in accordance with MRTS02.1 Nov 2019.
5. 1m Clearance from edge of traffic lane to line of traffic cones, bollards or longitudinal channelising devices As per MRTS02.1Nov 2019.
6. 0.5m Clearance from edge of traffic lane to road safety barrier system as per the MUTCD Part 3
7. Recommended 30m Lateral Shift Taper as per table 4.6 in the MUTCD Part 3.
8. Recommended Bollard/Cone Spacing for Taper Length @ 50km or less speed zone is 4m as per Table 3.7
9. Recommended Bollard/Cone Spacing for Closure @ 60km or less speed zone is 12m as per Table 3.7 @ 50km or less speed zone is 4m as per Table 3.7
10. Approved Temporary road safety barriers to be installed between workers/ deep excavations and road users.
11. Defender Steel Barriers have been selected as the nominated approved temporary road safety barrier. When excavation depths are less then 500mm then barriers can substituted with bollards.
12. Temporary line marking shall be implemented between two way traffic. Removal of permanent line marking and new line marking to be approve by an RPEQ wit TMD qualification as per MRTS02.1 Nov 2019.
13. Temporary lighting to be installed either end of the work areas. Light towers to be installed as per design manual.
14. Verge to be closed and pedestrian delineation to be installed around complete work area by Allroads.
15. Driveways must be maintained as per MRTS02.1 Nov 2019.
16. Bicycle lane shall be closed and advance warning signs to be installed for road users and cyclists to share the road.

STANDARD NOTES

17. A site specific risk assessment is undertaken prior to ALL traffic control setups or when required due to changes in conditions on site.
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TRAFFIC CONTROLLER/PTSS INSERT

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Notes:
1. Posted speed limit during roadworks
2. For Multilane roads, one-way volume. For 2-lane, 2-way roads, sum of both directions
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- Close delineation shall be used when excavation depths are greater then 500mm but more then 2.5m clearance from live traffic lane.

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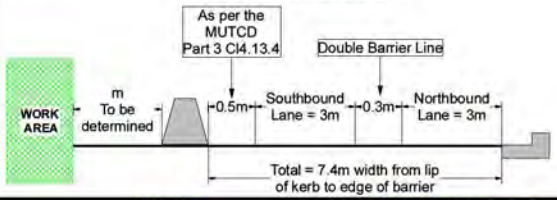
a. The installation and removal of this TGS shall be in accordance with MUTCD Clause 2.5. Setup and Removal of signs shall be carried out, where practicable, as work off the travelled path in accordance with clause 4.3.7, or as short term work in traffic in accordance with clause 4.3.3, for locations in open road areas.
b. In built-up areas this operation shall be carried out in accordance with clause 4.4.2 or 4.4.3. A mobile works method (Clause 4.6) shall be used if the above method is not practicable due to the volume or speed, or both, of approaching and passing vehicles.
c. The installation sequence is:
1. Advance warning & regulatory signs,
2. Intermediate advance warning & regulatory signs,
3. taper & delineation devices,
4. termination and end of speed zone signs.
d. Recovery of devices at the conclusion of the work shall be done in the reverse order using the same work method as for setting out of the signs and devices
e. In no circumstances should a Traffic Controller cross roads that have two lanes or more in each direction with a posted speed greater than 80kmph
f. A Traffic Implementation Officer is responsible for installing, maintaining and removing traffic management devices.

LANE WIDTHS & CLEARANCE

3m minimum lane widths to be maintained as per the MRTS02.1. A 0.5m clearance between live traffic and temporary safety barrier shall be maintained. The below diagram sets out the required set up for lane width and clearances



Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-112	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	10.03.21	First Design
B	19.03.21	Updated as per client comments

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 -12	

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NOT TO SCALE

Just Traffic Solutions Trust
Leaders in Traffic Control Solutions
PH: 1300 722 800 FAX: 1300 722 244
EMAIL: info@justtrafficsolutions.com.au

P NR
E PI @allroads.net.au

ALLROADS

LEGEND

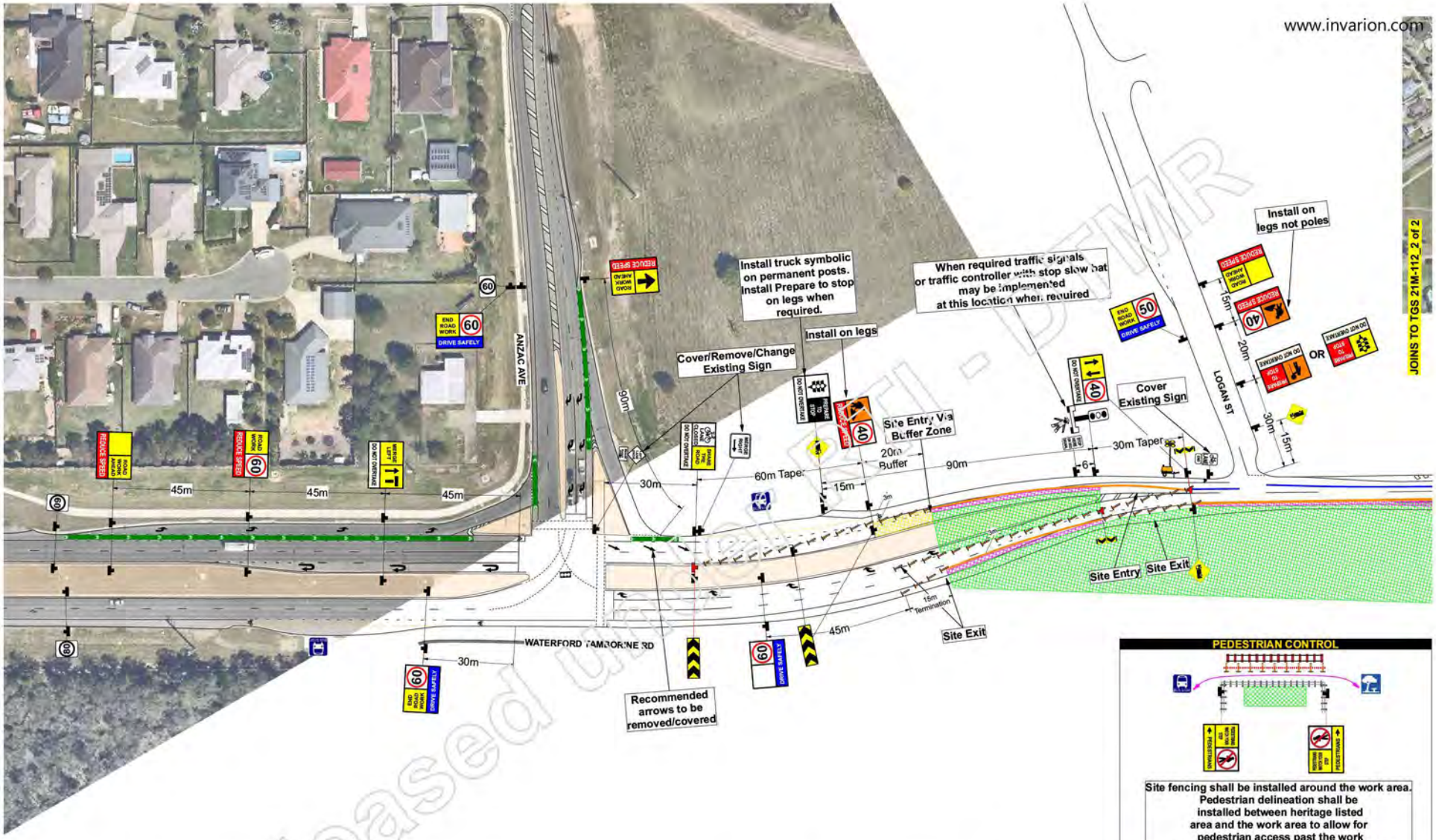
- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Vehicle
- Black & White Signs = Permanent Signs
- Traffic Island
- Temporary Line Marking
- Temporary Road Safety Barrier
- Barrier Buffer Zone
- Plant & Materials Area
- Temporary Hazard Marker
- Temporary Bollards
- Trailer Mounted Traffic Signal
- Light Tower
- VMS Boards
- PTSS- Type 1

RECOMMENDED RESOURCES

Traffic Controllers:	1 During Active Hours
Traffic Control Ute:	1 During Active Hours
VMS:	0
Light Tower:	2 Min
Traffic Cones/Bollards:	80 Approx
Sign Frames & Legs/Poles:	46 & 92

TMD SIGN OFF

DESIGNER:
Name: PI
Signature: NR
TMD No: 642 Open
Date: 10.03.21



PEDESTRIAN CONTROL

Site fencing shall be installed around the work area. Pedestrian delineation shall be installed between heritage listed area and the work area to allow for pedestrian access past the work area from the bus stop to the memorial park.

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-112_1 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	10.03.21	First Design
B	19.03.21	Amended as per client comments

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 -12	

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JTS Just Traffic Solutions Trust
Leaders in Traffic Control Solutions
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EMAIL: info@justtrafficsolutions.com.au

PI NR PI

ALLROADS CIVIL CONSTRUCTION + MINING

DISCLAIMER

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Effectiveness and/or suggested improvements and modifications for TGS please Email: megan@justtrafficsolutions.com.au Phone: 0455 113 044

LEGEND

- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Area
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- Trailer Mounted Traffic Signal
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- VMS Boards
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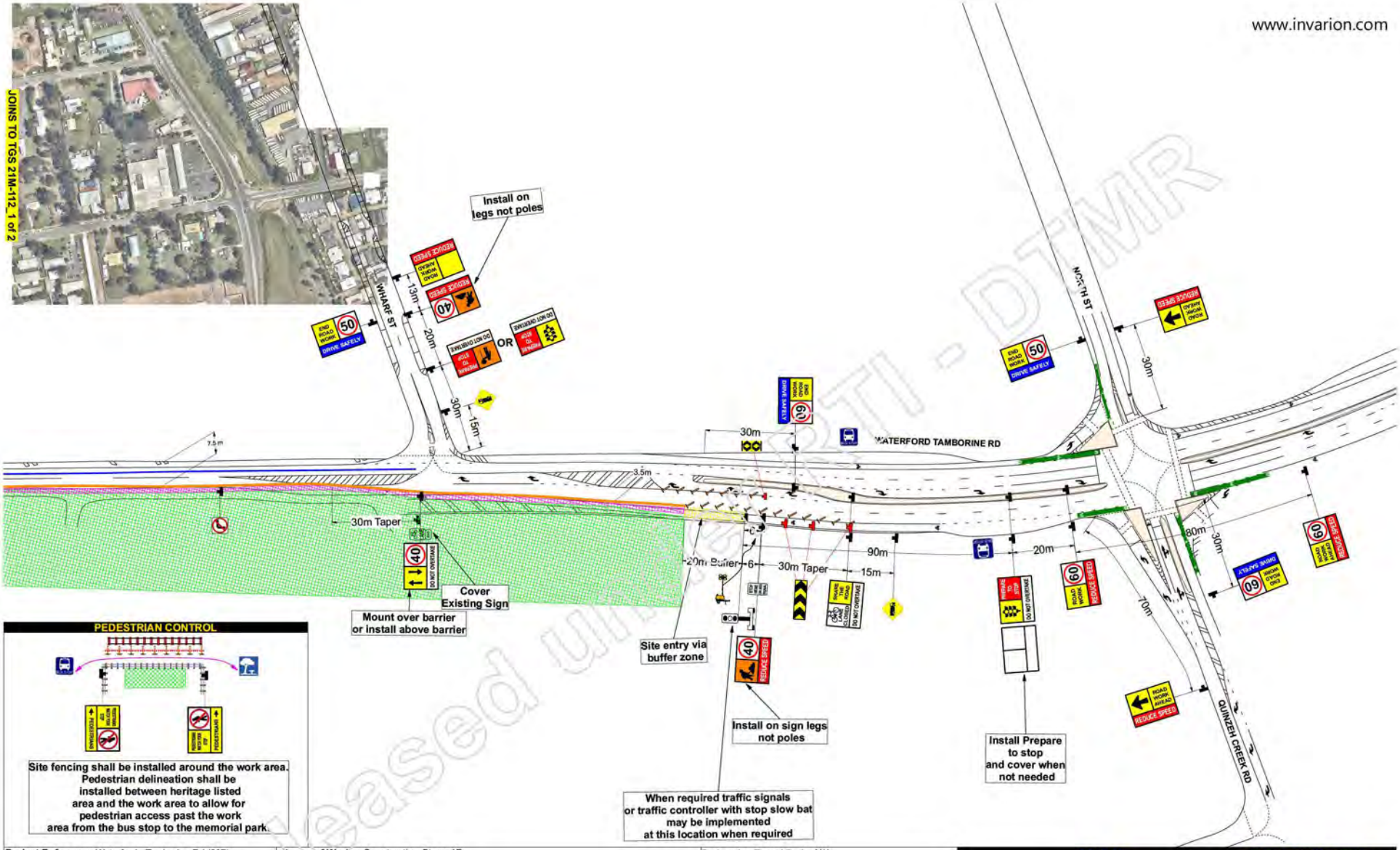
Traffic Cones/Bollards:	80 Approx
Sign Frames & Legs/Poles:	46 & 92

TMD SIGN OFF

DESIGNER:
Name: PI
Signature: NR
TMD No: 642 Open
Date: 10.03.21

www.invarion.com

JOINS TO TGS 21M-112_1 of 2



PEDESTRIAN CONTROL

Site fencing shall be installed around the work area. Pedestrian delineation shall be installed between heritage listed area and the work area to allow for pedestrian access past the work area from the bus stop to the memorial park.

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-112_2 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	10.03.21	First Design

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
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9 - 12	

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Leaders in Traffic Control Solutions
PH: 1300 722 800 FAX: 1300 722 244
EMAIL: info@justtrafficsolutions.com.au

PI
NR
PI

ALLROADS

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Effectiveness and/or suggested improvements and modifications for TGS please Email: megan@justtrafficsolutions.com.au Phone: 0455 113 044

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VMS: 0
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Traffic Cones/Bollards: 80 Approx
Sign Frames & Legs/Poles: 46 & 92

TMD SIGN OFF

DESIGNER:
Name: PI
Signature: NR
TMD No: 642 Open
Date: 10.03.21

TGS DESKTOP RISK ASSESSMENT

Prepared By:	PI	**TMD Number:**	642 Open	**Signature:**	NR
Project Name/ Job Number:	Waterford Tamborine Rd Upgrade		**Site Address:**	Waterford Tamborine Rd, Logan Village	
Date: 10.03.21	**Revised:** 19.03.21		**Scope of Works:**	Road Construction Works- long Term set up	
Existing Signposted Speed:	60km/h	**Lateral Clearance Between Traffic Lanes & Workers:**		<1.2m	
Road Type/Functional Hierarchy:	Built Up	**Site Risk Rating:**	High	**Level of Planning Required:**	Site Specific TGS

TGS DEVELOPMENT

TGS Development shall be completed with careful consideration. Considerations should include:
1. Protection of workers
2. Provision of adequate warning for road hazards, workers on site and/or plant engaged on the road.
3. Adequate warning and instruction to road users for guidance through, around or past the work site

Risk management entails the identification and analysis of all safety risks likely to arise during works on road including the setting up, operating, changing and ultimate dismantling of a traffic guidance scheme, followed by the determination of appropriate measures to mitigate those risks. The process is appropriate at all levels of planning and operation including the following:
1. When preparing a standardised plan and safe work method statement for the conduct of all types of closures on the road and footpath.
2. Preparing traffic guidance schemes for more extensive or complex works where site specific risks will assume importance.

RISK MANAGEMENT PROCESS TABLE

STEP 1	Determine site risk rating
STEP 2	Determine required level of planning
STEP 3	Consider risk at work site
STEP 4	Consider risk control measures
STEP 5	Decide risk controls

C = Consequence	L = Likelihood	Hierarchy of control	Suggested Treatment
5 = Catastrophic. Death, disablement, significant incident, unacceptable risk, significant financial cost.	**5 = Almost Certain.** Could occur in most circumstances.	**1 = Elimination.** Modify the process method or material to eliminate the hazard completely. **2 = Substitution.** Replace the material, substance or process with a less hazardous one. **3 = Isolate.** Isolate the hazard from the person by safeguarding or by space or time. **4 = Redesign / Engineering Controls.** Redesign or modify the plant or process to reduce or eliminate the risk. **5 = Isolation** Isolation of the hazard. **6 = PPE & Administration** Use of PPE where no other controls are practical. Providing controls such as training, procedures, or signage.	**Catastrophic** Do not proceed, re-evaluate controls
4 = Major. Extensive injuries leading to lost time, major risk-damage to plant and equipment, major financial cost for repairs / reinstatement.	**4 = Likely.** Could probably occur in most circumstances.		**High** Should be corrected or the risk significantly reduced, even if the treatment costs are high
3 = Moderate. Medical treatment, medium risk-damage to plant and equipment, medium financial cost for repairs / reinstatement.	**3 = Possible.** Could occur at some time.		**Moderate** Manage by routine procedures
2 = Minor. First Aid treatment, minor risk-damage to plant and equipment, minor financial cost for repairs / reinstatement.	**2 = Unlikely.** Could occur at some time.		**Low** Manage by routine procedures
1 = Insignificant: No injuries, slight damage, low financial cost for repairs / reinstatement.	**1 = Rare.** Could occur only in Exceptional circumstances.		**When assessing risk, maximum reasonable consequence should always be established prior to assessing likelihood.**

RISK MATRIX

LIKELIHOOD	C x L = RISK RATING	C = Consequences				
		5 = Catastrophic Death	**4 = Major** Hospital Required	**3 = Moderate** Medical Treatment	**2 = Minor** First Aid Treatment	**1 = Insignificant** No Injuries
	5 = Almost Certain	Catastrophic (25)	Catastrophic (20)	High (15)	High (10)	Moderate (5)
	4 = Likely	Catastrophic (20)	Catastrophic (16)	High (12)	Moderate (8)	Moderate (4)
	3 = Possible	High (15)	High (12)	Moderate (9)	Moderate (6)	Low (3)
	2 = Unlikely	High (10)	Moderate (8)	Moderate (6)	Moderate (4)	Low (2)
	1 = Rare	Moderate (5)	Moderate (4)	Low (3)	Low (2)	Low (1)

STEP NO.	ACTIVITY (List each specific task or steps taken to do this work)	POTENTENIAL HAZARD/RISK (List the hazards and risks identified when doing each specific step or task)	RISK LEVEL = (C) x (L)	REQUIRED HAZARD/RISK CONTROL (For each hazard or risk identified list the control measures required to eliminate or minimise the hazard or risk)	RISK LEVEL = (C) x (L)	PERSON/S RESPONSIBLE (Nominate the persons/s who will action the controls)
1	TGS Design	Inadequate TGS Design	**5 x 2 = 10**	- TGS Design completed/approved by qualified TMD individuals. - Complete risk assessment prior to design.	**5 x 1 = 5**	Traffic Management Designer
2	Work Area/Workers	Works to be completed in live traffic lane & road verge, putting workers at risk of being hit by a road user.	**5 x 5 =25**	- Lateral Shift (Shoulder Closure) southbound on Waterford Tamborine Rd. - Lane Closure & Lateral Shift Northbound on Waterford Tamborine Rd. - Laterally shift traffic on existing roadway to the road edge of the northbound traffic lanes. - Minimum lane widths can be maintained as per MRTS02 and edge clearances. - Two-way traffic will be maintained as per MRTS02 - Delineation of work area & advance warning signs to be installed prior to the commencement of works.	**5 x 1 = 5**	TMD to design TGS accordingly and to the MUTCD standards. Allroads to confirm the TGS is correct for their work area and allows them to complete necessary works.

		Laterally shifting traffic to travel parallel and within close proximity of each other has the potential of head on crashes.	**5 x 5 =25**	- Temporary line marking to be installed to separate the travel path of the road users. - Temporary line marking shall be designed by an RPEQ. - Reflective pavement markers shall be used when required. - Existing line marking to be removed or covered. - Temporary speed limits during work hours to be reduced to 40km/h. - Advance warning signs showing two-way traffic to be installed prior to the lateral shift.	**5 x 1 = 5**	TMD to allocate on TGS the travel path and temp line marking locations. RPEQ to design and approve temp line marking requirements.
		Workers on foot within 1.2m of live traffic	**4 x 4 =16**	- 40km/h speed reduction to be installed during working hours/workers on site. - 40km/h speed reduction will be compliant with the MRTS02.	**4 x 1 = 4**	TMD to design on TGS. TMI to implement on site.
		Excavation depths deeper then 500m and within 2.5m of live traffic has the risk of road users crashing through the bollards and/or traffic cones and into workers and excavations.	**4 x 4 =16**	- As per the MUTCD temporary road safety barriers to be installed between road users and deep excavations that are within 2.5m of live traffic. - Bollards to be used as close delineation for when excavation depths are more then 2.5m from live traffic.	**4 x 1 =4**	TMD Allroads

				- Delineation required shall be as per table E1 of the MUTCD Part 3.		
3	Temporary Road Safety Barriers	- Incorrect barrier & installation causing unsafe protection for workers and road users.	**5 x 2 = 10**	- Barriers to be installed as per the manufacturer's specs. - Where they can not be met RPEQ approval required. - Allroads to determine the barriers of choice from the approved barriers list from TMR. - Deflection clearance shall be determined from the barrier specifications by Allroads. Deflection must be allowed between the temporary road safety barrier and workers.	**5 x 1 = 5**	TMD to specify where barriers shall be located. Allroads shall determine the barrier of choice and the specifications required to be implemented.
4	Public Vehicles	Collision between work vehicles & road users	**5 x 4 = 20**	- Works shall be completed during permitted hours. - Work vehicles to enter and exit site via the allocated areas. - Prestart to be completed on site to discuss the procedures for entering and exiting site. - All site vehicles must turn on their vehicle mounted warning device before entering site and on site.	**5 x 1 = 5**	TMD to design locations on TGS. Allroads to complete on site prestart daily. TMI & TC to assist on site.

				- Traffic controllers may assist vehicles entering and exiting site by holding traffic. - Radio communication between site vehicles and traffic controllers. - Site vehicles to exit site only when it is clear to do so.		
		End of Queue Collision	**4 x 3 = 12**	- Traffic speeds shall be monitored by TMI/ TC on site. - Sight distance to Traffic Controller/PTSS to be a maximum 2D. - TMI to install advance warning signage as per TGS & MUTCD, if changes are required TMD to approve. - Traffic Delays/Stoppage under stop/go shall be kept to the minimum to allow constant movement of traffic. Delay times as per MRTS02.1 - Queued traffic signs may be installed if traffic queues can not be maintained and kept within existing advance warning signs. Queued traffic signs shall be installed as per	**4 x 1 = 4**	TMD to design TGS and amend accordingly. TMI to ensure they monitor traffic queues and amend as per the TMD recommendations.

				MUTCD Part 3 and TMD design.		
5	Pedestrians	Work area affects the verge, pedestrian interaction with onsite plant & on-site vehicles and entering the work area can cause injury to pedestrians.	**4 x 4 =16**	- There is no footpath within the work area. - The verge shall be closed to pedestrian traffic. - Pedestrian fencing and barricading to be installed on site around the work area. - Pedestrians can continue along existing pathway on Waterford Tamborine Rd. - Pedestrian delineation from the bus stop to the memorial park shall be installed along the verge behind the work area.	**4 x 1 = 4**	TMD Ailroads
6	Cyclists	Closing traffic lanes and laterally shifting traffic increases exposure for on road cyclists. Risk of vehicle and cyclist collision.	**4 x 4 = 16**	- Advance warning signage for cyclists to be installed either end of the work area. - Share the road signs to be displayed for road users and cyclists. - Do not overtake signs to be installed to ensure road users do not cross the temporary centre line and travel around the cyclists.	**4 x 1 = 4**	TMD to design TGS showing the allowance for on road cyclists. TMI to install TGS on site as per the TMD instructions.
7	Signage	Confusion to Road Users	**3 x 3 = 9**	- All conflicting signage/speed signs to be covered when implementing TGS.	**3 x 1 =3**	TMD to nominate permanent signs to be covered.

				- Signs shall be uncovered when traffic control devices are removed at end of shift/project. - Workers Symbolic, Truck Symbolic & PTS signs shall be covered or removed when no longer required or at end of shift. - Signs to be installed where the road users have clear visibility of the sign and its message.		TMI to installed temporary traffic signs and devices as displayed on TGS and cover all existing signs that conflict with the TGS.
8	Local residents/ Businesses	Unable to access property	**1 x 4 = 4**	- All driveways to be maintained unless prior approval has been granted to close access. - Traffic controllers shall assist with entry and exit into driveways when required. - Notification to business to be sent from Allroads.	**1 x 1 = 1**	TMD to allocate on TGS the driveways and how they are managed. TMI to ensure this is replicated on site when installation of TGS is completed. Allroads to notify residents/local businesses.
		Vehicles turning right into medical centre from the southbound traffic lanes	**3 x 4 = 12**	- No right turn sign to be implemented on the southbound traffic lane.	**3 x 1 = 1**	TMD to design the TGS displaying the no right turn sign.

		has the risk of queued traffic due to lane availability being decreased to 3m and no room to travel around turning vehicle.		- VMS boards to display u turn option message at Anzac Ave. - Road users to use existing u turn facility and use the northbound traffic lane to enter the medical centre.		TMI to implement during site set up. Allroads to organise message on VMS boards and notification to the medical centre.
		Right turn lane closed into Wharf St has the potential for road users to become confused and cause queued traffic back to the signalised intersection.	**4 x 3 = 12**	- Right turn lane shall be maintained. - Line marking to determine the separation between the travel lane and right turn lane. - Approval to close the right turn lane will be required from TMR before being implemented.	**4 x 1 = 4**	TMD to design TGS with right turn lane open. TMI to ensure when implementation of TGS occurs that the right turn lane is maintained. Allroads to ensure they do not close the right turn lane.
9	Low Visibility	During night hours poor lighting may result in vehicles crashing into traffic control devices/barriers	**4 x 4 = 16**	- Temporary lighting towers to be installed to delineate each end of the work area where road users are required to laterally shift. - Lighting towers to be implemented as per their design manual.	**4 x 1 = 4**	Allroads to install temp light towers.
10	Traffic Control Devices	Members of the public moving or removing temporary traffic control devices causing confusion	**4 x 4 = 16**	- All long-term signs to be installed on poles mounted into the ground at 2.2m high as per the MUTCD.	**4 x 1 = 4**	TMD to allocate sign height requirements.

		to road users and potential risk of road users crashing.		- Regular site checks to be completed by Allroads/JTS. - Contact details for out of hours representative to be display at site compound for members of the public to access if they require to notify of a situation.		Allroads to ensure site checks are completed and engage JTS to complete if required. Allroads to ensure out of hours contact information is displayed.
11	Stopping Traffic	Stopping traffic within 50m of a signalised intersection has the risk of causing confusion to the road users and causing road users to crash or hit the traffic controller.	**4 x 4 =16**	- Traffic controllers to ensure they do not stop traffic within 50m min of the signalised intersection. - Traffic controllers to ensure the TGS has been designed where they can stop traffic safely (1 lane of traffic and safe distance from the signalised intersection). - TMI to consult TMD if position of the Tc cannot be implemented safely. - PTSS may be used in lieu of a traffic controller on stop slow bat. - TGS shall display where Tc/PTSS to be implemented when required.	**4 x 1 =4**	TMD to design the TGS where traffic controllers are safe to stop traffic. TMI to implement as per the TGS and if can not be completed safely they shall consult the TMD for changes. Allroads to co ordinate with TMI on site when required to stop traffic.

41/30673
GHD Pty Ltd
Level 13 - The Rocket, 203 Robina Town Centre Dr
Robina Qld 4226
Telephone: 5557 1000
Facsimile: 5557 1099

Waterford-Tamborine Road Upgrade (Qunizeh Creek Rd to Anzac Ave)

Department of Transport and Main Roads

Contract Notice

CN No: 40018

Contractor: The Project Manager
Allroads Pty Ltd

Contract: CN-14898

Date: 24/03/2021

Attn: PI

Fax:

Author: PI

Description: TGS 1B: 21M-112 REV A

We refer to the following correspondence:

- 23 March 2021 Allroads Letter, "A3066-ALL-TGS-RPEQ-001"

Pursuant to the provisions of Clause 8.5 of the General Conditions of Contract, the submitted Risk Assessment along with TGS 21M-112 Rev A (Stage 1B) is considered suitable for implementation, conditional to the adherence to the contract requirements noted in MRTS02.1 Item 3.1 to 3.8.

In accordance with Clause 6.2 of MRTS02, Hold Point 2 is released for:

- TGS 1B (21M-112) REV A

TGS 21M-100 and 21M-101 have been assessed as not suitable due to the removal of the right turn lane into Wharf Street (refer MRTS02.1 Item 3.3 requirement to "maintain same number of lanes as pre-works situation").

If this Contract Notice **does not** *detail that the direction is a variation and the Contractor is of the belief that it is, the Contractor is advised to comply with any notification clauses within the Contract.*

ACKNOWLEDGEMENT CONTRACTOR

Contractor's Representative	Signature	Date

ADMINISTRATOR

Administrator's Representative	Signature	Date
PI	NR	24/03/21

41/30673
GHD Pty Ltd
Level 13 - The Rocket, 203 Robina Town Centre Dr
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Telephone: 5557 1000
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Waterford-Tamborine Road Upgrade (Qunizeh Creek Rd to Anzac Ave)

Department of Transport and Main Roads

Contract Notice

CN No: 40030

Contractor: The Project Manager
Allroads Pty Ltd

Contract: CN-14898

Date: 19/04/2021

Attn: PI

Fax:

Author: PI

Description: TGS 21M-154-STAGE 1B

We refer to the following correspondence:

- 24/3/2021 CN40018 "TGS 1B: 21M-112 Rev A"
- 16/4/2021 Allroads email "RE: CN14898 - Waterford Tamborine Rd - Stage 1 TGS right turn movements "

Pursuant to the provisions of Clause 8.5 of the General Conditions of Contract, the submitted TGS is considered suitable for implementation.

If this Contract Notice **does not** *detail that the direction is a variation and the Contractor is of the belief that it is, the Contractor is advised to comply with any notification clauses within the Contract.*

ACKNOWLEDGEMENT
CONTRACTOR

ADMINISTRATOR

Contractor's Representative	Signature	Date	Administrator's Representative	Signature	Date
			PI	NR	19/4/21

SITE SPECIFIC NOTES

1. TMI shall implement traffic control signs and devices as per TGS.
2. 40km Temporary speed zones shall be implemented in accordance with MRTS02.1 Nov 2019
3. 40km speed limit shall be implemented where workers are within 1.2m of traffic lanes.
4. 3m Minimum Lane width shall be in accordance with MRTS02.1 Nov 2019.
5. 1m Clearance from edge of traffic lane to line of traffic cones, bollards or longitudinal channelising devices As per MRTS02.1Nov 2019.
6. 0.5m Clearance from edge of traffic lane to road safety barrier system as per the MUTCD Part 3
7. Recommended 30m Lateral Shift Taper as per table 4.6 in the MUTCD Part 3.
8. Recommended Bollard/Cone Spacing for Taper Length @ 50km or less speed zone is 4m as per Table 3.7
9. Recommended Bollard/Cone Spacing for Closure @ 60km or less speed zone is 12m as per Table 3.7 @ 50km or less speed zone is 4m as per Table 3.7
10. Approved Temporary road safety barriers to be installed between workers/ deep excavations and road users.
11. JJ Hook concrete barriers have been selected as the nominated approved temporary road safety barrier. When excavation depths are less then 500mm then barriers can substituted with bollards.
12. Temporary line marking shall be implemented between two way traffic. Removal of permanent line marking and new line marking to be approve by an RPEQ wit TMD qualification as per MRTS02.1 Nov 2019.
13. Temporary lighting to be installed either end of the work areas. Light towers to be installed as per design manual.
14. Verge to be closed and pedestrian delineation to be installed around complete work area by Allroads.
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28. Traffic controllers to communicate via two way radio with other traffic controllers, site vehicles and workers
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31. Existing regulatory or advisory signs that conflict with the requirements of this TGS are to be covered with no-transparent material. Refer to Clause 2.4.4 of the MUTCD
32. Short term Sign offset 1 meter from edge of travel path
33. Short term Sign Height 200mm Min
34. All long term signage shall be erected on posts 2.2 from the ground level to bottom of sign 2.2m in Clause 2.5.2
35. Signs to be within the line of sight of the intended road user
36. Signs to be not obstructed by vegetation or other signs
37. Recommended 700mm Traffic Cones with reflective sleeve to be used for the closures. MUTCD Clause 3.9.1
38. Temporary bollards shall comprise a vertical parallel sided or tapered tube of fluorescent orange or red material that is resilient to impact. They shall be at least 750 mm in height and a minimum of 100 mm in diameter.
39. Bollards shall be fitted with white horizontal retroreflective band having a retroreflective performance at least equal to Class 400T (or Class 1W) material as specified in AS/NZS 1906.1.
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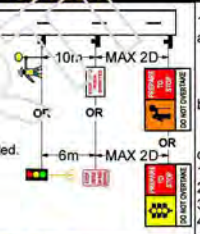

DELINEATION REQUIREMENTS

Table 3.7 Protection/Delineation Adjacent to Excavations

Speed of Traffic Km/h	Traffic Volume VPD	Clearance to excavation m	Depth of excavation, mm		
			50-250	>250-500	>500
<70	All	<2.5	Standard	Close	Safety Barrier
		2.5-5.0	Standard	Standard	Close
		>5.0	None	None	None
>70	≤1500	≤5.0	Standard	Close	Safety Barrier
		>5.0	None	None	None
	>1500	≤6.0	Standard	Close	Safety Barrier
		>6.0	None	None	None

Notes:
1. Posted speed limit during roadworks
2. For Multilane roads, one-way volume. For 2-lane, 2-way roads, sum of both directions
3. Clearance to nearest edge of traffic lane or nominal edge of the edge is not marked
- When the depth of excavations is greater then 500mm or batter can not be achieved then a safety barrier shall be installed between the work area and traffic lane.
- Close delineation shall be used when excavation depths are greater then 500mm but more then 2.5m clearance from live traffic lane.

INSTALLATION & REMOVAL NOTES

1. TGS Implementation: Setup and Removal of Temporary Signage:
a. The installation and removal of this TGS shall be in accordance with MUTCD Clause 2.5. Setup and Removal of signs shall be carried out, where practicable, as work off the travelled path in accordance with clause 4.3.7, or as short term work in traffic in accordance with clause 4.3.3, for locations in open road areas.
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e. In no circumstances should a Traffic Controller cross roads that have two lanes or more in each direction with a posted speed greater than 80kmph
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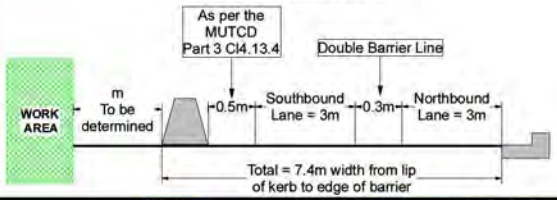
LANE WIDTHS & CLEARANCE

3m minimum lane widths to be maintained as per the MRTS02.1. A 0.5m clearance between live traffic and temporary safety barrier shall be maintained. The below diagram sets out the required set up for lane width and clearances



Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-154	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	31.03.21	First Design

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 -12	

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JTS Just Traffic Solutions Trust
Leaders in Traffic Control Solutions
PH: 1300 722 800 FAX: 1300 722 244
EMAIL: info@justtrafficsolutions.com.au

ALLROADS CIVIL CONSTRUCTION · MINING

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Effectiveness and/or suggested improvements and modifications for TGS please Email: megan@justtrafficsolutions.com.au Phone: 0455 113 044

LEGEND

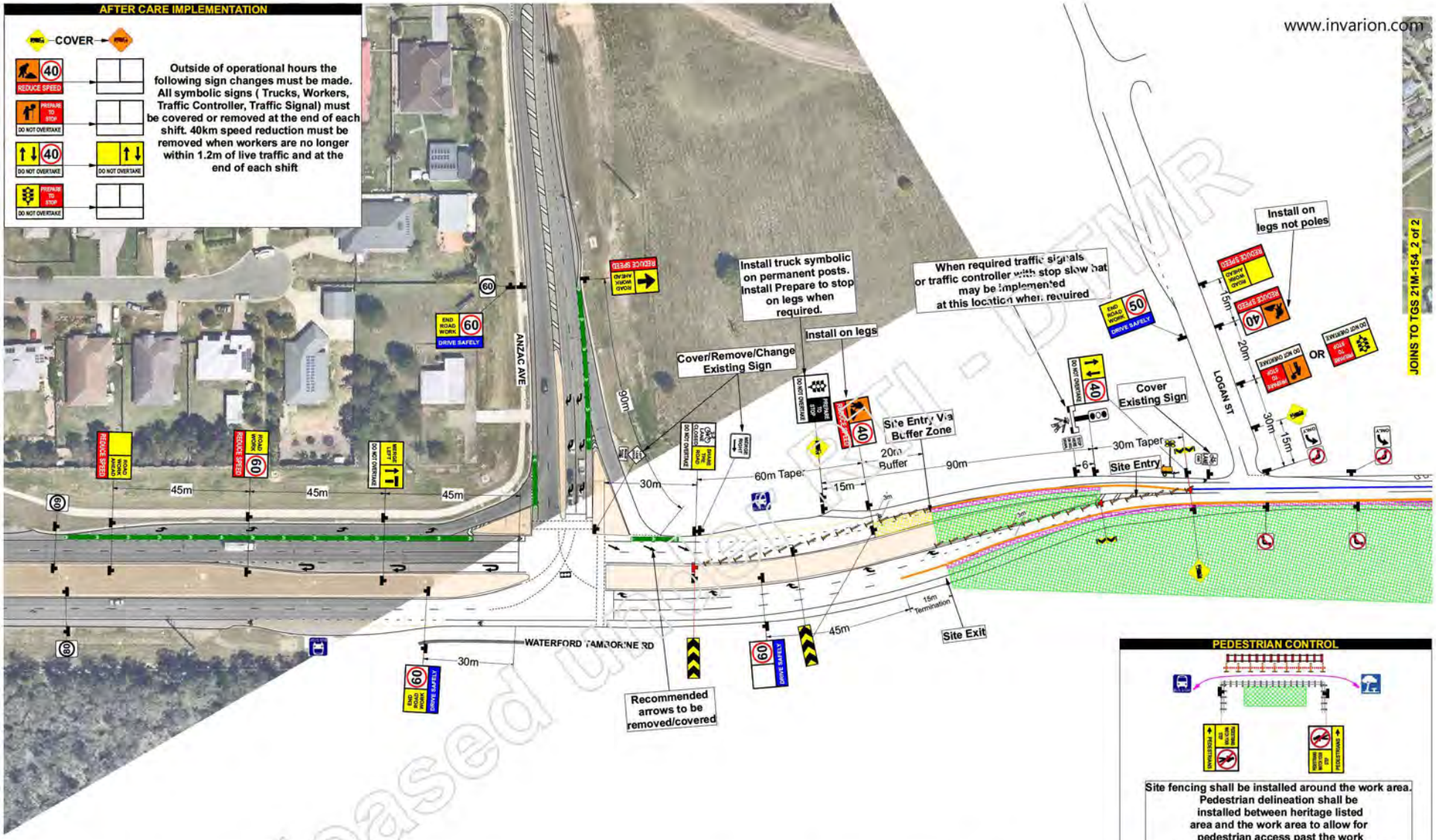
- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Area
- Black & White Signs = Permanent Signs
- Traffic Island
- Temporary Line Marking
- Temporary Road Safety Barrier
- Barrier Buffer Zone
- Plant & Materials Area
- Temporary Hazard Marker
- Temporary Bollards
- Trailer Mounted Traffic Signal
- Light Tower
- VMS Boards
- PTSS- Type 1

RECOMMENDED RESOURCES

Traffic Controllers: 1 During Active Hours
Traffic Control Ute: 1 During Active Hours
VMS: 0
Light Tower: 2 Min
Traffic Cones/Bollards: 80 Approx
Sign Frames & Legs/Poles: 50 & 100

TMD SIGN OFF

DESI Name: Phil
Signature: NR
TMD No: 642 Open
Date: 31.03.21



Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-154_1 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

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Sign Frames & Legs/Poles: 50 & 100

TMD SIGN OFF

DESIGNER:
Name: PI
Signature: NR
TMD No: 642 Open
Date: 31.03.21

JOINS TO TGS 21M-154_1 of 2

Install on legs not poles

SCREEN 1

U TURN VIA SIGNALS

OR

WHARF ST

NORTH ST

WATERFORD TAMBORINE RD

QUINZEE CREEK RD

13m 20m 30m 15m 30m 3.5m 7.5m 30m Taper 20m Buffer 6 30m Taper 15m 90m 20m 80m 30m 70m

Cover Existing Sign

Mount over barrier or install above barrier

Site entry via buffer zone

Install on sign legs not poles

Install Prepare to stop and cover when not needed

When required traffic signals or traffic controller with stop slow bat may be implemented at this location when required

AFTER CARE IMPLEMENTATION

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COVER

Outside of operational hours the following sign changes must be made. All symbolic signs (Trucks, Workers, Traffic Controller, Traffic Signal) must be covered or removed at the end of each shift. 40km speed reduction must be removed when workers are no longer within 1.2m of live traffic and at the end of each shift

PEDESTRIAN CONTROL

Site fencing shall be installed around the work area. Pedestrian delineation shall be installed between heritage listed area and the work area to allow for pedestrian access past the work area from the bus stop to the memorial park.

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-154_2 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
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41/30673
GHD Pty Ltd
Level 13 - The Rocket, 203 Robina Town Centre Dr
Robina Qld 4226
Telephone: 5557 1000
Facsimile: 5557 1099

Waterford-Tamborine Road Upgrade (Qunizeh Creek Rd to Anzac Ave)

Department of Transport and Main Roads

Contract Notice

CN No: 40073

Contractor: The Project Manager
Allroads Pty Ltd

Contract: CN-14298

Date: 20/05/2021

Attn PI

Fax:

Author: PI

Description: TGS 21M-154 - STAGE 1B

We refer to the following correspondence:

- 14/05/2021 Allroads email, Re: "RE: current TGS" (TGS 21M-154 Stage 1B Option D_RevB)

Pursuant to the provisions of Clause 8.5 of the General Conditions of Contract, the submitted TGS is considered suitable for implementation.

Refer attached TGS for ease of reference.

If this Contract Notice **does not** *detail that the direction is a variation and the Contractor is of the belief that it is, the Contractor is advised to comply with any notification clauses within the Contract.*

ACKNOWLEDGEMENT
CONTRACTOR

ADMINISTRATOR

Contractor's Representative	Signature	Date	Administrator's Representative	Signature	Date
			PI	NR	20/05/2021

SITE SPECIFIC NOTES

1. TMI shall implement traffic control signs and devices as per TGS.
2. 40km Temporary speed zones shall be implemented in accordance with MRTS02.1 Nov 2019
3. 40km speed limit shall be implemented where workers are within 1.2m of traffic lanes.
4. 3m Minimum Lane width shall be in accordance with MRTS02.1 Nov 2019.
5. 1m Clearance from edge of traffic lane to line of traffic cones, bollards or longitudinal channelising devices As per MRTS02.1Nov 2019.
6. 0.5m Clearance from edge of traffic lane to road safety barrier system as per the MUTCD Part 3
7. Recommended 30m Lateral Shift Taper as per table 4.6 in the MUTCD Part 3.
8. Recommended Bollard/Cone Spacing for Taper Length @ 50km or less speed zone is 4m as per Table 3.7
9. Recommended Bollard/Cone Spacing for Closure @ 60km or less speed zone is 12m as per Table 3.7 @ 50km or less speed zone is 4m as per Table 3.7
10. Approved Temporary road safety barriers to be installed between workers/ deep excavations and road users.
11. JJ Hook concrete barriers have been selected as the nominated approved temporary road safety barrier. When excavation depths are less then 500mm then barriers can substituted with bollards.
12. Temporary line marking shall be implemented between two way traffic. Removal of permanent line marking and new line marking to be approve by an RPEQ wit TMD qualification as per MRTS02.1 Nov 2019.
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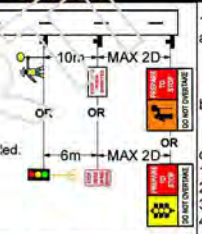

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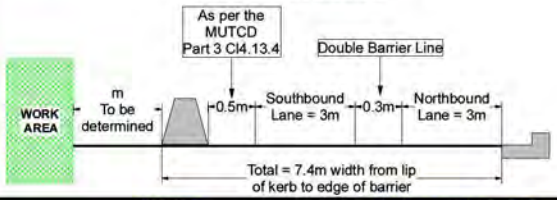

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B	23.04.21	Amended as per client comments

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LEGEND

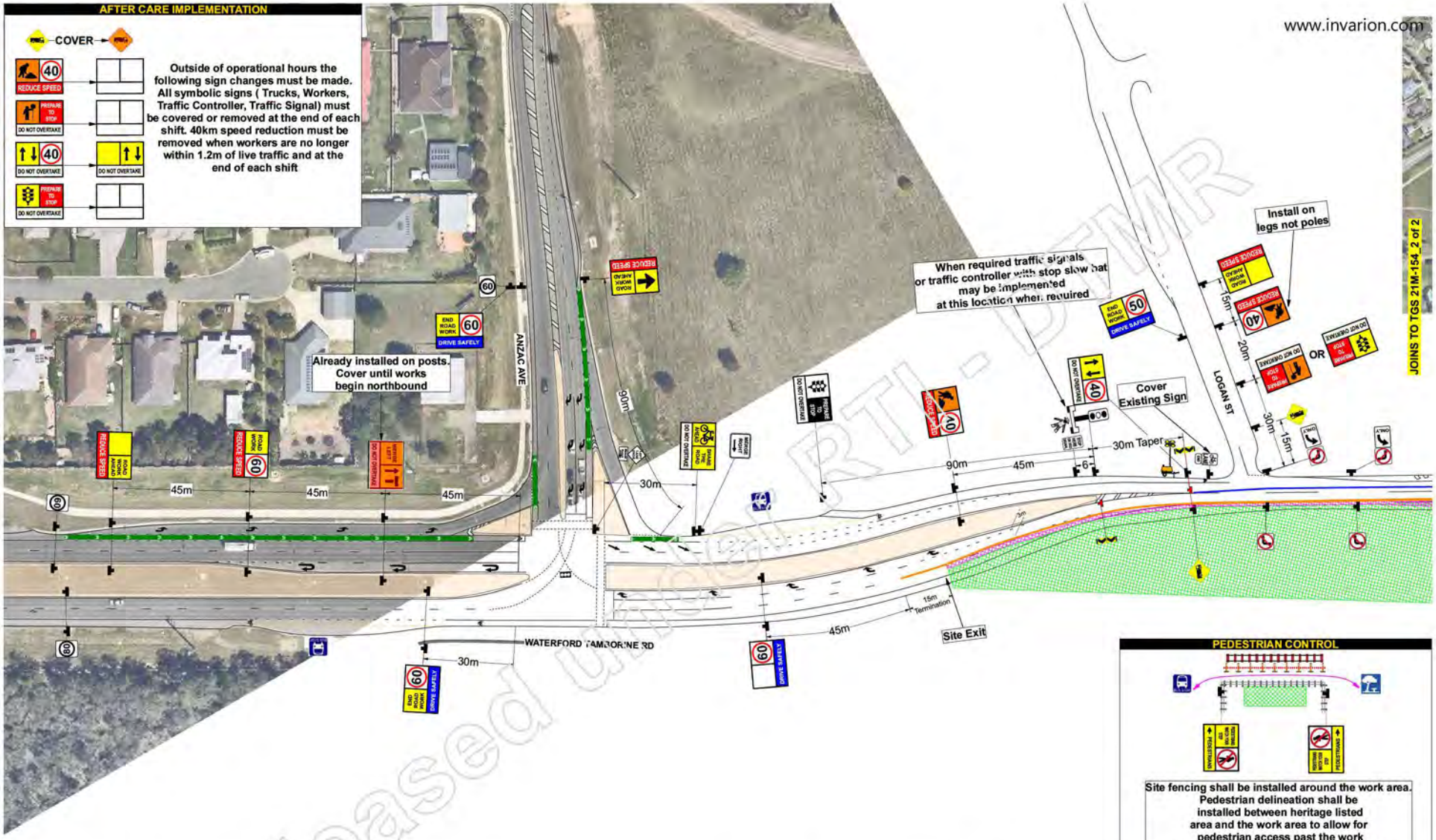
- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Area
- Black & White Signs = Permanent Signs
- Traffic Island
- Temporary Line Marking
- Temporary Road Safety Barrier
- Barrier Buffer Zone
- Plant & Materials Area
- Temporary Hazard Marker
- Temporary Bollards
- Trailer Mounted Traffic Signal
- VMS Boards
- Light Tower
- PTSS- Type 1

RECOMMENDED RESOURCES

Traffic Controllers: 1 During Active Hours
Traffic Control Ute: 1 During Active Hours
VMS: 0
Light Tower: 2 Min
Traffic Cones/Bollards: 80 Approx
Sign Frames & Legs/Poles: 50 & 100

TMD SIGN OFF

DESIGNER:
Name: PI
Signature: NR
TMD No: 642 Open
Date: 31.03.21



Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
TGS Number: 21M-154_1 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	31.03.21	First Design
B	23.04.21	Amended as per client comments

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FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 -12	

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Leaders In Traffic Control Solutions
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Name: Megan Davis
Signature: NR
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JOINS TO TGS 21M-154_1 of 2

Install on legs not poles

SCREEN 1

U TURN VIA SIGNALS

OR

Only Install during shuttle flow

WHARF ST

WATERFORD TAMBORINE RD

NORTH ST

QUINZEN CREEK RD

13m

20m

30m

15m

3.5m

7.5m

30m Taper

20m Buffer

6

90m

20m

80m

70m

Cover Existing Sign

Mount over barrier or install above barrier

Site entry via buffer zone

Install on sign legs not poles

When required traffic signals or traffic controller with stop slow bat may be implemented at this location when required

Install Prepare to stop and cover when not needed

AFTER CARE IMPLEMENTATION

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COVER

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PEDESTRIAN CONTROL

Site fencing shall be installed around the work area. Pedestrian delineation shall be installed between heritage listed area and the work area to allow for pedestrian access past the work area from the bus stop to the memorial park.

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1B	**Pedestrian Travel Path:** N/A
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41/30673
GHD Pty Ltd
Level 13 - The Rocket, 203 Robina Town Centre Dr
Robina Qld 4226
Telephone: 5557 1000
Facsimile: 5557 1099

Waterford-Tamborine Road Upgrade (Qunizeh Creek Rd to Anzac Ave)

Department of Transport and Main Roads

Contract Notice

CN No: 40102

Contractor: The Project Manager
Allroads Pty Ltd

Contract: CN-14898

Date: 12/07/2021

Attn: PI

Fax:

Author: PI

Description: TGS 21M-200 (STAGE 2) & TEMP LIGHTING DESIGN

We refer to the following correspondence:

- 9/07/2021 Allroads email, Ref: "RE: CN 14898 Waterford Tamborine Road Upgrade - Stage 2 TGS"

Pursuant to the provisions of Clause 8.5 of the General Conditions of Contract, the submitted TGS is considered suitable for implementation, conditional to submitting a site specific Risk Assessment.

In accordance with Clause 6.2 of MRTS02, Hold Point 2 is released.

The temporary lighting design including the certification (refer attached) is deemed suitable for use.

Your TGS (including associated risk assessment) should be updated to include the risk and mitigation of temporary lights.

The Contractor shall ensure that the lights are checked on a daily basis for compliance with the lighting design.

If this Contract Notice **does not** *detail that the direction is a variation and the Contractor is of the belief that it is, the Contractor is advised to comply with any notification clauses within the Contract.*

ACKNOWLEDGEMENT
CONTRACTOR

ADMINISTRATOR

Contractor's Representative	Signature	Date	Administrator's Representative	Signature	Date
			PI	NR	12/7/2021

SITE SPECIFIC NOTES

1. TMI shall implement traffic control signs and devices as per TGS.
2. 40km Temporary speed zones shall be implemented in accordance with MRTS02.1 Nov 2019
3. 40km speed limit shall be implemented where workers are within 1.2m of traffic lanes.
4. 3m Minimum Lane width shall be in accordance with MRTS02.1 Nov 2019.
5. 1m Clearance from edge of traffic lane to line of traffic cones, bollards or longitudinal channelising devices As per MRTS02.1Nov 2019.
6. 0.5m Clearance from edge of traffic lane to road safety barrier system as per the MUTCD Part 3
7. Recommended 60m Merge Taper as per table 4.6 in the MUTCD Part 3.
8. Recommended Bollard/Cone Spacing for Taper Length @ 60km speed zone is 9m as per Table 3.7
9. Recommended Bollard/Cone Spacing for Closure
@ 60km or less speed zone is 12m as per Table 3.7
@ 50km or less speed zone is 4m as per Table 3.7
10. Approved Temporary road safety barriers to be installed between workers/ deep excavations and road users.
11. Defender Steel Barriers have been selected as the nominated approved temporary road safety barrier. When excavation depths are less then 500mm then barriers can substituted with bollards.
12. Temporary line marking shall be implemented between two way traffic. Removal of permanent line marking and new line marking to be approve by an RPEQ wit TMD qualification as per MRTS02.1 Nov 2019.
13. Temporary lighting to be installed either end of the work areas. Light towers to be installed as per design manual.
14. Verge to be closed and pedestrian delineation to be installed around complete work area by Allroads.
15. No right turn into Medical Centre, Hotel and Logan St to be implemented. VMS boards to notify drivers to use lights to perform a U turn.
16. Bicycle lane shall be closed and advance warning signs to be installed for road users and cyclists to share the road.

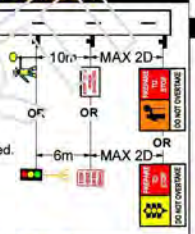
STANDARD NOTES

17. A site specific risk assessment is undertaken prior to ALL traffic control setups or when required due to changes in conditions on site.
18. A TMI Competent person can move signs within specified requirements outlined in the MUTCD Tolerances (including away from intersections, driveways, median openings, or similar). Tolerances from optimum position shall be in accordance with MUTCD Clause 4.1.6
19. Any changes to the TGS shall be approved by the authorising TMD
20. Queue Lengths shall be monitored at regular intervals. At locations with increased queue lengths the setup shall be adjusted to avoid end of queue collisions. MUTCD Clause 4.7.8
21. Inspections to be completed after setup, during closure & upon completion of pack up, or as specified/requested.
22. Work hours shall adhere to Logan City Council permit & MRTS 02.1 Nov 2019
23. Bus stops shall be maintained unless specified and managed as part of this TGS.
24. All work vehicles to be parked where they do not obstruct the view of the travel path
25. Traffic controllers should occupy a position which is clear of the travel path
26. Traffic controllers must have an escape path at all times
27. Traffic controllers should be standing a safe distance from the work area
28. Traffic controllers to communicate via two way radio with other traffic controllers, site vehicles and workers
29. Traffic Controllers shall be relieved from their duty after not more than two hours for a period of rest or other duties of at least 15 minutes MUTCD Clause 4.10.5
30. Four traffic cones with 4m spacing shall be placed prior on the centerline in advance of the Traffic Controller position, except where the TC is positioned past a merge taper. the temporary hazard marker may be installed at the start of the row of the cones in each direction to direct traffic to the correct travel path. Cones may be removed when traffic lane widths can not be maintained.
31. Existing regulatory or advisory signs that conflict with the requirements of this TGS are to be covered with no-transparent material. Refer to Clause 2.4.4 of the MUTCD
32. Short term Sign offset 1 meter from edge of travel path
33. Short term Sign Height 200mm Min
34. All long term signage shall be erected on posts 2.2 from the ground level to bottom of sign 2.2m in Clause 2.5.2
35. Signs to be within the line of sight of the intended road user
36. Signs to be not obstructed by vegetation or other signs
37. Recommended 700mm Traffic Cones with reflective sleeve to be used for the closures. MUTCD Clause 3.9.1
38. Temporary bollards shall comprise a vertical parallel sided or tapered tube of fluorescent orange or red material that is resilient to impact. They shall be at least 750 mm in height and a minimum of 100 mm in diameter.
39. Bollards shall be fitted with white horizontal retroreflective band having a retroreflective performance at least equal to Class 400T (or Class 1W) material as specified in AS/NZS 1906.1
40. Speed Signs, where, used are to be closest to traffic.
41. Where practicable and space permits, signs shall be duplicated on the right-hand side of a one-way or multi-lane roadway.
42. All residents and businesses to be notified of works.
43. Footpaths shall remain open at all times unless specified and managed as part of this TGS.
44. Emergency vehicles will be given the absolute preference in traffic control holding delays. This will be based on the "can this be done safely" by each traffic controller onsite. The time delays will be minimal on the site.
45. Approved Temporary road safety barriers to be installed as per manufacturers instructions. RPEQ sign off required if set up not as per manufacturers specifications

LOCALITY MAP

TRAFFIC CONTROLLER/PTSS INSERT

1. Traffic controller/PTSS to be installed as required.
2. TMI to determine set up locations on site.
3. Traffic Controller/PTSS shall not be used if the sight distance of max value of 2D can not be met.
4. Traffic Controller/ PTSS to be located only in the highlighted work areas.
5. Traffic Controller/PTSS only permitted to stop traffic if the Prepare to stop has been installed.
6. Max delay times to be adhered to as per the MRTS02
7. Traffic controller/ PTSS can only stop one lane of traffic.



DELINEATION REQUIREMENTS

Table 3.4 Protection/Delineation Adjacent to Excavations

Speed of Traffic Km/h	Traffic Volume VPD	Clearance to excavation m	Depth of excavation, mm		
			50-250	>250-500	>500
<70	All	<2.5	Standard	Close	Safety Barrier
		2.5-5.0	Standard	Standard	Close
		>5.0	None	None	None
>70	≤1500	≤5.0	Standard	Close	Safety Barrier
		>5.0	None	None	None
	>1500	≤6.0	Standard	Close	Safety Barrier
		>6.0	None	None	None

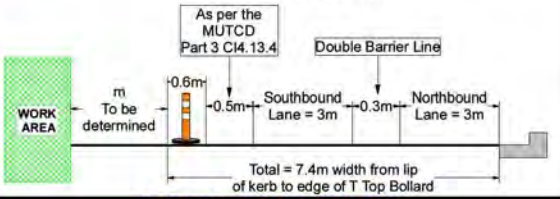
Notes:
1. Posted speed limit during roadworks
2. For Multilane roads, one-way volume. For 2-lane, 2-way roads, sum of both directions
3. Clearance to nearest edge of traffic lane or nominal edge of the edge is not marked
- When the depth of excavations is greater then 500mm or batter can not be achieved then a safety barrier shall be installed between the work area and traffic lane.
- Close delineation shall be used when excavation depths are greater then 500mm but more then 2.5m clearance from live traffic lane.

INSTALLATION & REMOVAL NOTES

1. TGS Implementation: Setup and Removal of Temporary Signage:
a. The installation and removal of this TGS shall be in accordance with MUTCD Clause 2.5. Setup and Removal of signs shall be carried out, where practicable, as work off the travelled path in accordance with clause 4.3.7, or as short term work in traffic in accordance with clause 4.3.3, for locations in open road areas.
b. In built-up areas this operation shall be carried out in accordance with clause 4.4.2 or 4.4.3. A mobile works method (Clause 4.6) shall be used if the above method is not practicable due to the volume or speed, or both, of approaching and passing vehicles.
c. The installation sequence is:
1. Advance warning & regulatory signs,
2. Intermediate advance warning & regulatory signs,
3. taper & delineation devices,
4. termination and end of speed zone signs.
d. Recovery of devices at the conclusion of the work shall be done in the reverse order using the same work method as for setting out of the signs and devices
e. In no circumstances should a Traffic Controller cross roads that have two lanes or more in each direction with a posted speed greater than 80kmph
f. A Traffic Implementation Officer is responsible for installing, maintaining and removing traffic management devices.

LANE WIDTHS & CLEARANCE

3m minimum lane widths to be maintained as per the MRTS02.1. A 0.5m clearance between live traffic and T Top Bollard shall be maintained. The below diagram sets out the required set up for lane width and clearances



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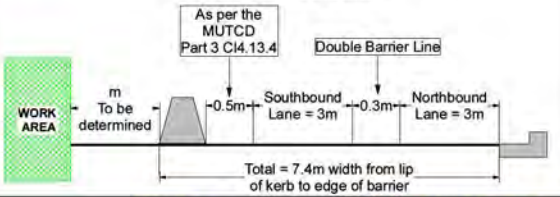

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 2	**Pedestrian Travel Path:** Past
TGS Number: 21M-200	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
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- **Nam** PI
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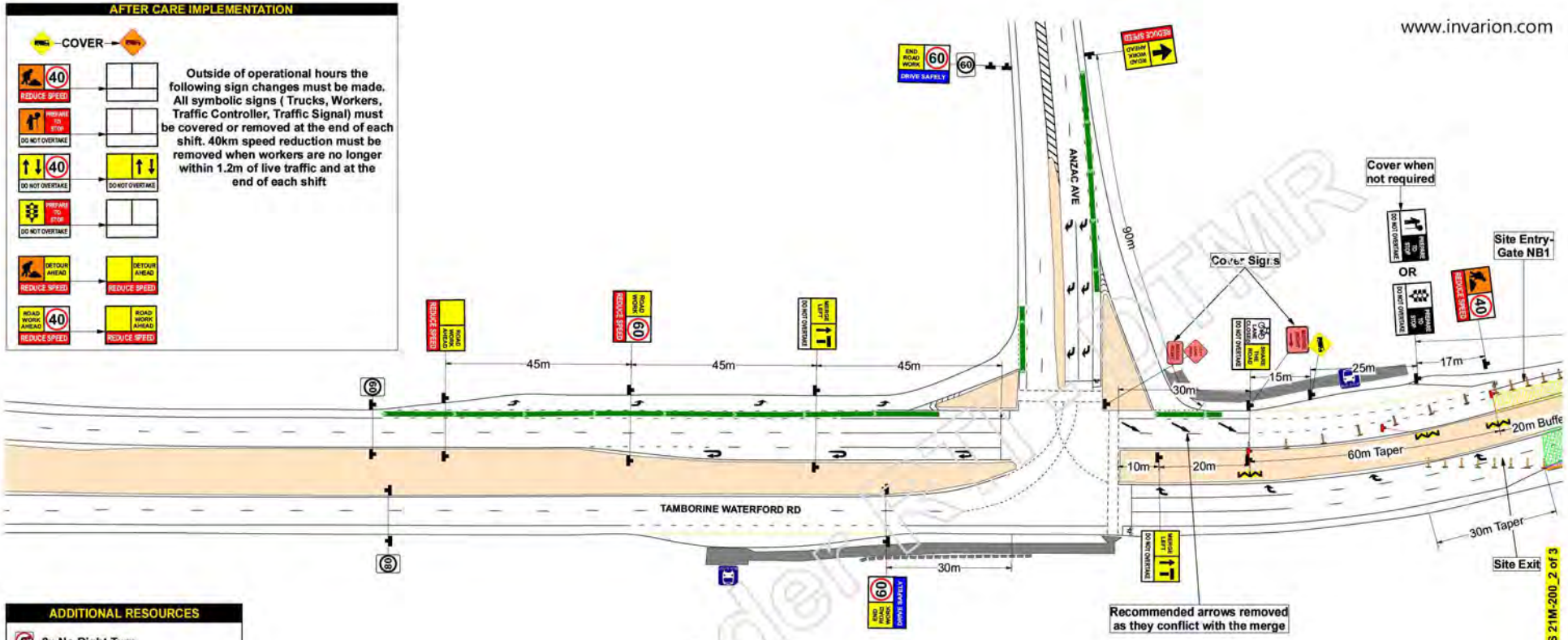

ADDITIONAL RESOURCES

- 3x No Right Turn
- 1 x Left Turn Only
- 2 x Keep Left
- 6 x Truck Symbolic
- 3 x Barrier Boar
- 14 x Lateral Shift Markers
- 1 x Give Way Signs
- 1 x Emergency Vehicles Excepted
- 1 x Stop Sign

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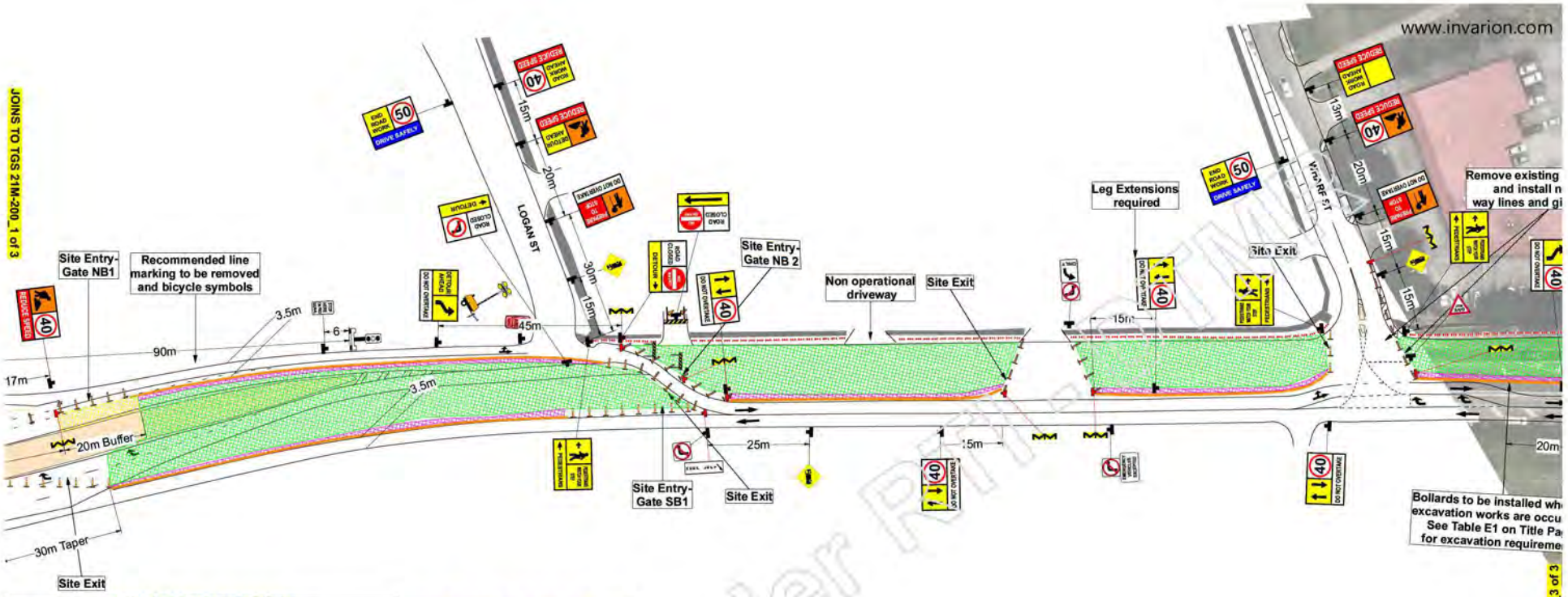

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ALLROADS

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This TGS is drawn to individual client requirements/requests. JTS Group Australia PTY LTD cannot accept responsibility for the integrity and accuracy of such information provided by third parties. No responsibility can be accepted for the use of this drawing on any other project.

Effectiveness and/or suggested improvements and modifications for TGS please Email: megan@justtrafficsolutions.com.au Phone: 0455 113 044

LEGEND

- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Area
- Black & White Signs = Permanent Signs
- Traffic Island
- Temporary Line Marking
- Temporary Road Safety Barrier
- Barrier Buffer Zone
- Plant & Materials Area
- Lateral Shift Markers
- Temporary Bollards
- Trailer Mounted Traffic Signal
- Light Tower
- VMS Boards
- PTSS- Type 1

RECOMMENDED RESOURCES

Traffic Controllers: 1 During Active Hours
Traffic Control Ute: 1 During Active Hours
VMS: 2
Light Tower: 2 Min
Traffic Cones/Bollards: TBC
Multi Frames & Legs/Poles: 49 & 98

TMD SIGN OFF

DESIGNER:
Name: PI
Signature: NR
TMD No: 642 Open
Date: 21.05.21

ADDITIONAL RESOURCES

- 3x No Right Turn
- 1 x Left Turn Only
- 2 x Keep Left
- 6 x Truck Symbolic
- 3 x Barrier Boar
- 14 x Lateral Shift Markers
- 1 x Give Way Signs
- 1 x Emergency Vehicles Excepted
- 1 x Stop Sign

AFTER CARE IMPLEMENTATION

Outside of operational hours the following sign changes must be made. All symbolic signs (Trucks, Workers, Traffic Controller, Traffic Signal) must be covered or removed at the end of each shift. 40km speed reduction must be removed when workers are no longer within 1.2m of live traffic and at the end of each shift

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 2	**Pedestrian Travel Path:** Past
TGS Number: 21M-200_3 of 3	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: <1.2m	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** 40km/h
QDTMR: South Coast	**Traffic Method:** Long Term Contraflow	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	21.05.21	First Design
B	06.07.21	Updated as per client & TMR comments
C	06.07.21	Updated new site access

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 -12	

PRINT IN A3
NOT TO SCALE

Just Traffic Solutions Trust
Leaders In Traffic Control Solutions
PH: 1300 722 800 FAX: 1300 722 244
EMAIL: info@justtrafficsolutions.com.au
allroads.net.au

PI
NR
PI

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RECOMMENDED RESOURCES

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Traffic Control Ute: 1 During Active Hours
VMS: 2
Light Tower: 2 Min
Traffic Cones/Bollards: TBC
Multi Frames & Legs/Poles: 48 & 96

TMD SIGN OFF

DESIGNER:
Name: PI
Signature: NR
TMD No: 642 Open
Date: 21.05.21

CERTIFICATE OF COMPLIANCE

DESIGN DOCUMENTATION GENERALLY IN ACCORDANCE
WITH THE REQUIREMENTS OF AS/NZS 1158.1.1:2005 & 1158.3.1:2020

LOCALITY PLAN
UBD MAP 303 G2
NOT TO SCALE

Element Details:		
(Refer AS/NZS 1158.1.1 Section 2)		
LOCATION	WATERFORD TAMBORINE RD	WATERFORD TAMBORINE RD
SUBURB	LOGAN VILLAGE	LOGAN VILLAGE
LIGHTING CATEGORY	V5	PR5
Installation Arrangement/Geometry:		
(Refer AS/NZS 1158.1.1 Section 3)		
Carriageway Lighting Design Width (W_e)	6.5m	6.5m
Lighting Arrangement (ARR)	SINGLE SIDED	SINGLE SIDED
Straight Section Maximum Spacing (S)	47m @ 8m	N/A
Mounting Height (H)	8m	8m
Overhang	-1.0m	1.0m
Pole Setback	2.0 BB	2.0 BB
Uprest Angle	5°	5°
Column Mounting Type	TRAILER MOUNTED SOLAR	TRAILER MOUNTED SOLAR
Column Finish	Galvanised Steel	Galvanised Steel
Luminaire/Lamp Details:		
Luminaire Identification	JS-400-S.V1	JS-400-S.V1
Lamp Type	100W LED	100W LED
Initial Lamp Flux (kilo lumens)	15klms	15klms
I-Table Number (cie)	SRP314 LED100W 100V 24V DW1 SD D_5a.ies	SRP314 LED100W 100V 24V DW1 SD D_5a.ies
Lighting Tariff	N/A	N/A
Power Factor	HIGH	HIGH
Start/Run Currents (Amps)	N/A	N/A
Ingress Protection Rating	IP66	IP66
Ballast Losses	N/A	N/A
Photometric Data Details:		
Origin of NATA certified photometric data	PHILIPS	PHILIPS
Light Technical Parameters:		
DESIGN METHODS:		
(1) Straight Sections	LUMINANCE (SPACING TABLE)	N/A
(2) Longer-radius Curved Sections	N/A	N/A
(3) Intersections, Junctions and Other Specified Locations	ILLUMINANCE DESIGN RULES	ILLUMINANCE (7.5+ Lx Min.) DESIGN RULES
(4) Isolated Intersections		

Values of Light Technical Parameters:

Lighting Category	$\bar{Z}$ (cd/m²)	U_0	U_L	TI (%)	E_{av} (lux)	E_{ph} (lux)	U_{E1}	UWLR (%)
V5	0.35	0.33	0.5	20	10	8.5	8	3

Lighting Category	E_h (lux)	E_{ph} (lux)	U_{E2}
PR5	0.85	0.14	15

Road Surface Reflection Characteristics Details:

Road Surface Reflection Characteristics: CIE R3

Computer Program used to Calculate Technical Parameters:

Name of Computer Program: Perfect Lite
Source of Program: WADELLO PTY LTD
Name of Computer Program: Complies with the requirements of AS/NZS 1158.2:2005

MAINTENANCE REGIME

MAINTENANCE FACTOR ASSUMED IN THE CALCULATIONS AS FOLLOWS:

Luminaire Maintenance Factor (Refer AS/NZS 1158.1.1:2005 Appendix E)
Lamp Lumen Depreciation Factor (Refer Lamp Manufacturer's "Lamp Lumen Depreciation Curves").

MAINTENANCE FACTORS		
CLEANING INTERVAL	12 Months	0.88
POLLUTION CATEGORY	MEDIUM	
LAMP DEPRECIATION		0.9
OVERALL MAINTENANCE FACTOR		0.8

SCHEDULE OF MAINTENANCE:

Bulk lamp replacement carried out at 36 month intervals. At this time the following shall also occur:

- All optical surfaces, both internal and external, of the luminaire shall be cleaned.
- All gaskets shall be checked for deterioration and replaced where necessary.
- Damaged/Weathered visors shall be replaced.
- All accessible screws, nuts, etc. shall be checked for tightness.
- A visual check shall be made of the electrical components and wiring for signs of overheating.
- If required, the luminaire shall be realigned/adjusted to the design specification.
- There is no allowance for lamp mortality.

STREET LIGHTING CERTIFICATION

THIS TEMPORARY LIGHTING DESIGN HAS BEEN CALCULATED IN ACCORDANCE WITH DEPARTMENT OF TRANSPORT AND MAIN ROADS, ENERGY QLD & LOCAL COUNCIL GUIDE LINES. TEMPORARY LIGHTING IS EQUIVALENT TO EXISTING LEVELS OF LIGHTING AND INSTALLED TO ILLUMINATE POTENTIAL HAZARDS AND CONFLICT POINTS. ALTERNATIVELY IT HAS BEEN RISK ASSESSED THAT IT CAN BE REMOVED BY OTHERS THROUGH THE USE OF TRAFFIC CALMING MEASURES.
TEMPORARY ROAD LIGHTING CERTIFIED TO GENERALLY COMPLY WITH AS/NZS 1158 SERIES OR MRTS02, WHICHEVER IS THE LESSOR. THE LIGHTING DESIGN IS BASED UPON THE FOLLOWING MAINTENANCE SCHEDULE:

- 12 MONTH INTERVALS FOR CLEANING & INSPECTION OF LUMINARES.
- VEGETATION TO BE KEPT CLEAR OF LUMINAIRES.
- INSPECTION PATROLS & SPOT LAMP REPLACEMENT TO MAINTAIN SERVICE AVAILABILITY AT Min 95%.
- LUMINAIRES AND LAMPS TO BE REPLACED WITH EXACT EQUIVALENTS.

LOCATION	LIGHTING CATEGORY
WATERFORD TAMBORINE RD	V5
WHARF ST	PR5

REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND

I HEREBY CERTIFY UNDER THE QUEENSLAND ENGINEERING ACT 2002 & REGULATIONS 2003 THAT THIS DRAWING HAS BEEN PREPARED IN ACCORDANCE WITH THE CLIENT SPECIFICATION, RELEVANT AUSTRALIAN & INTERNATIONAL STANDARDS, INDUSTRY GUIDELINES AND LOCAL LAWS.

NAME: K PROKETT RPEQ No: 6383 COMPANY: UDCS CONSULTING
SIGNATURE: DATE: 09-07-21

NOTES:

1. DESIGN BASED ON TRAFFIC GUIDANCE SCHEME 21M-208 Waterford Tamborine Rd Logan Village - Stage 3
2. FOR PERMANENT LIGHTING DETAILS REFER TO RATE 3 LIGHTING DESIGN.
   (TMR JOB No: 489244 - Drawing Numbers 857942 - 857950)

REV	AMENDMENTS	DRN	CKD	APP	DATE
B	REDUCE THE NUMBER OF TEMPORARY LIGHTS	R.H	C.B	K.P	09-07-21
A	ISSUED FOR APPROVAL	R.H	C.B	K.P	24-06-21

REDUCTION SCALE: 0 10m 20m 30m 40m 50m
SCALE 1 : 500

FOR APPROVAL

BRISBANE OFFICE:
PO Box 235
Nerang QLD 4211
DARWIN OFFICE:
GPO Box 3943
Darwin NT 0801
Telephone: (07) 3245 6009
Facsimile: (07) 3314 6456
Email: info@udcs.net.au

UDCS CONSULTING
ENGINEERING INFRASTRUCTURE PROFESSIONALS

APPROVALS

CONST MGR:	DATE:
CLIENT:	DATE:
APPROVED:	
RPEQ:	
CHECKED:	
DRAWN: R.W.H	DATE: 24-06-21

PROJECT DETAILS
LOGAN CITY COUNCIL
WATERFORD TAMBORINE ROAD UPGRADE
CONSTRUCTION STAGE 2
TEMPORARY LIGHTING DESIGN - SHEET 1

A1 SCALED: AS MARKED	PROJECT NUMBER: PR210068
DRAWING NUMBER:	PR210068-LGT-DWG-0002
REVISION: B	
SHEET: 01 of 02	A1

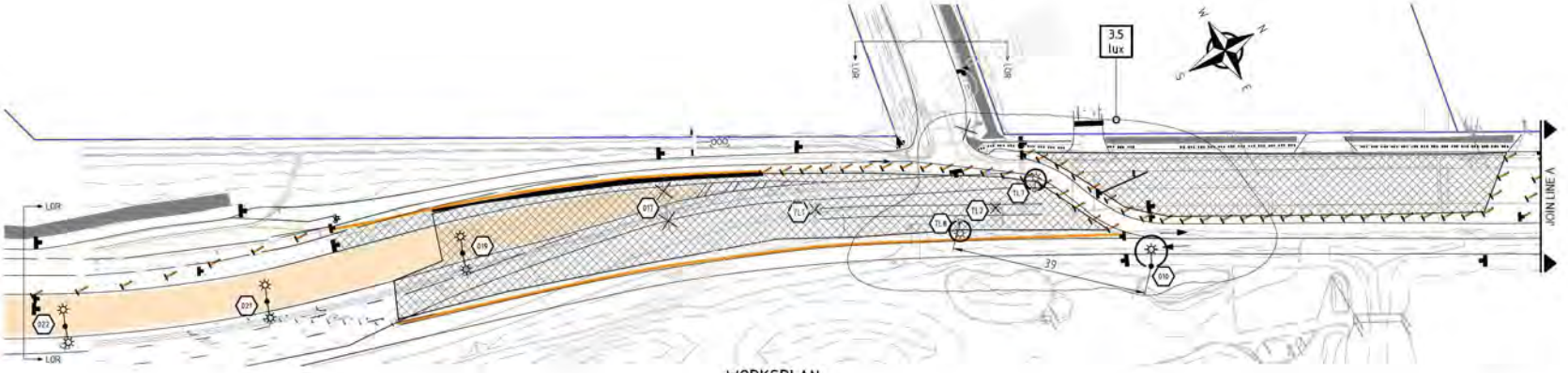
TEMPORARY STREETLIGHT SCHEDULE

LOCATION	STN NO.	SITE ID (POLE NO.)	POLE or COMPONENTS						LUMINAIRE								OUTREACH BRACKET				MOUNT HEIGHT (m)	REMARKS
			COMP ID	EXIST (m)	REC (m)	ERECT (m)	SLM or IIN	ALIGN (m)	COMP ID	EXIST	RECOVER LUMIN	RECOVER CUST	DATE DE-ENERG	ERECT LUMIN	ERECT CUST	DATE ENERG	SLM or IIN	EXIST (m)	REC (m)	ERECT (m)	SLM or IIN		
WATERFORD TAMBORINE ROAD	010	W2194118	P01			10.0 SBM		1.2 ES	SL1					L198AM3	MRD					3.0		12.0	REFER PERMANENT DESIGN
	017	W1338538	P01	10.0 SBM	10.0 SBM			EX	SL1	L198AM3	L198AM3	MRD						4.50	4.50			12.0	RECOVER POLE, OUTREACH & LUMINAIRE
									SL2	L198AM3	L198AM3	MRD										
	019	W1338539	P01	10.0 SBM				EX	SL1	L198AM3								4.50				12.0	EXISTING POLE, OUTREACH & LUMINAIRE TO REMAIN
									SL2	L198AM3												
	021	TBC	P01	10.0 SBM				EX	SL1	L198AM3								4.50				12.0	EXISTING POLE TO REMAIN
									SL2	L198AM3												
	022	TBC	P01	10.0 SBM				EX	SL1	L198AM3								4.50				12.0	EXISTING POLE TO REMAIN
									SL2	L198AM3												
	006	TBC	P01	8.5 SBM				EX	SL1	L198AM3								4.5				10.5	EXISTING POLE TO REMAIN
	005	TBC	P01	8.5 SBM				EX	SL1	L198AM3								4.5				10.5	EXISTING POLE TO REMAIN
	004	TBC	P01	8.5 SBM				EX	SL1	L198AM3								4.50				10.5	EXISTING POLE TO REMAIN
									SL2	L198AM3												
	TL1		P01	8.0 TMT	8.0 TMT			2.0 BB	SL1	L100	L100							1.1	1.1			8.0	RELOCATE TO STAGE 2 WORKS
	TL2		P01	8.0 TMT	8.0 TMT			2.0 BB	SL1	L100	L100							1.1	1.1			8.0	RELOCATE TO STAGE 2 WORKS
WHARF STREET	TL6		P01	8.0 TMT				2.0 BB	SL1	L100								1.1				8.0	JS-400-S.V1
	TL7		P01			8.0 TMT		2.0 BB	SL1					L100						1.1		8.0	JS-400-S.V1
	TL8		P01			8.0 TMT		2.0 BB	SL1					L100						1.1		8.0	JS-400-S.V1
WHARF STREET	007	TBC	P01	8.5 SBM				EX	SL1	L198AM3								1.5				10.5	EXISTING POLE TO DE-ENERGISED UNTIL PERMANT SUPPLY AVAILABLE AS PER RATE 3 LIGHTING DESIGN

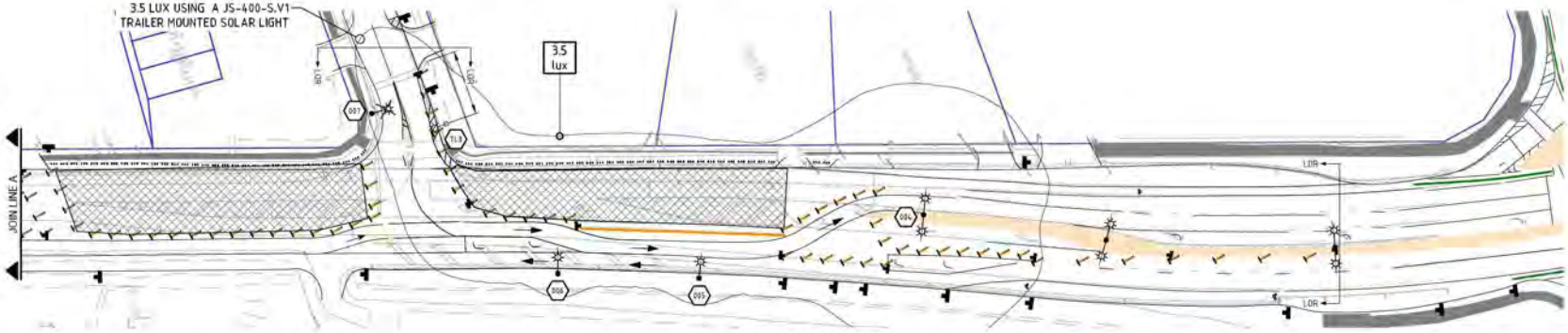
BB – DENOTES DISTANCE BEHIND BACK OF BARRIER TO CENTER OF POLE
BOK – DENOTES DISTANCE FROM BACK OF KERB TO CENTER OF POLE
SBM – SLIP BASE MOUNTED POLE
TMT – TRAILER MOUNTED SOLAR LIGHT
TSL – BLOCK MOUNTED SOLAR LIGHT
ES – EDGE OF SHOULDER

LEGEND:

- EXISTING STREET LIGHT
- PROPOSED TEMPORARY STREET LIGHT (JS-400-S.V1 TRAILER MOUNTED SOLAR LIGHT)
- EXISTING LIGHT TO BE DE-ENERGISED
- RECOVER POLE
- LDR LIMIT OF LIGHTING RECOMMENDATION



WORKSPLAN
SCALE 1:500



WORKSPLAN
SCALE 1:500

REV	AMENDMENTS	DRN	CKD	APP	DATE
B	REDUCE THE NUMBER OF TEMPORARY LIGHTS	R.H	C.B	K.P	09-07-21
A	ISSUED FOR APPROVAL	R.H	C.B	K.P	24-06-21

REDUCTION SCALE

0 10m 20m 30m 40m 50m
SCALE 1 : 500

FOR APPROVAL

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PO Box 235
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Facsimile: (07) 3374 6456
Email: info@udcs.net.au

UDCS CONSULTING
ENGINEERING INFRASTRUCTURE PROFESSIONALS

APPROVALS

CONST MGR:	DATE:
CLIENT:	DATE:
APPROVED: K.J.P	PS
RPEQ: 6963	
CHECKED: C.W.B	DATE: 24-06-21
DRAWN: R.W.H	DATE: 24-06-21

PROJECT DETAILS

LOGAN CITY COUNCIL
WATERFORD TAMBORINE ROAD UPGRADE

CONSTRUCTION STAGE 2
TEMPORARY LIGHTING DESIGN – SHEET 2

A1 SCALE:	AS MARKED
PROJECT NUMBER:	PR210068
DRAWING NUMBER:	PR210068-LGT-DWG-0002
REVISION:	B
SHEET:	07 of 12

A1

41/30673
GHD Pty Ltd
Level 13 - The Rocket, 203 Robina Town Centre Dr
Robina Qld 4226
Telephone: 5557 1000
Facsimile: 5557 1099

Waterford-Tamborine Road Upgrade (Qunizeh Creek Rd to Anzac Ave)

Department of Transport and Main Roads

Contract Notice

CN No: 40004

Contractor: The Project Manager
Allroads Pty Ltd

Contract: CN-14898

Date: 16/03/2021

Attn PI

Fax:

Author: PI

Description: TRAFFIC MANAGEMENT PLAN

We refer to the following correspondence,

- 02/03/2021 Allroads email, Ref: "CN14898 - Waterford Tamborine Rd - Project Management Plan Submission"
- 12/03/2021 GHD email, Ref: "WTR: Desktop review of PMP"

Pursuant to the provisions of Clause 8.5 of the General Conditions of Contract, the submitted Management Plan is deemed suitable for use.

TGS' that form part of your Traffic Management Plan have not been reviewed and the Contractor is requested to submit all TGS' and temporary designs under a separate submission for the review and approval by the Administrator.

If this Contract Notice **does not** *detail that the direction is a variation and the Contractor is of the belief that it is, the Contractor is advised to comply with any notification clauses within the Contract.*

ACKNOWLEDGEMENT CONTRACTOR

Contractor's Representative	Signature	Date

ADMINISTRATOR

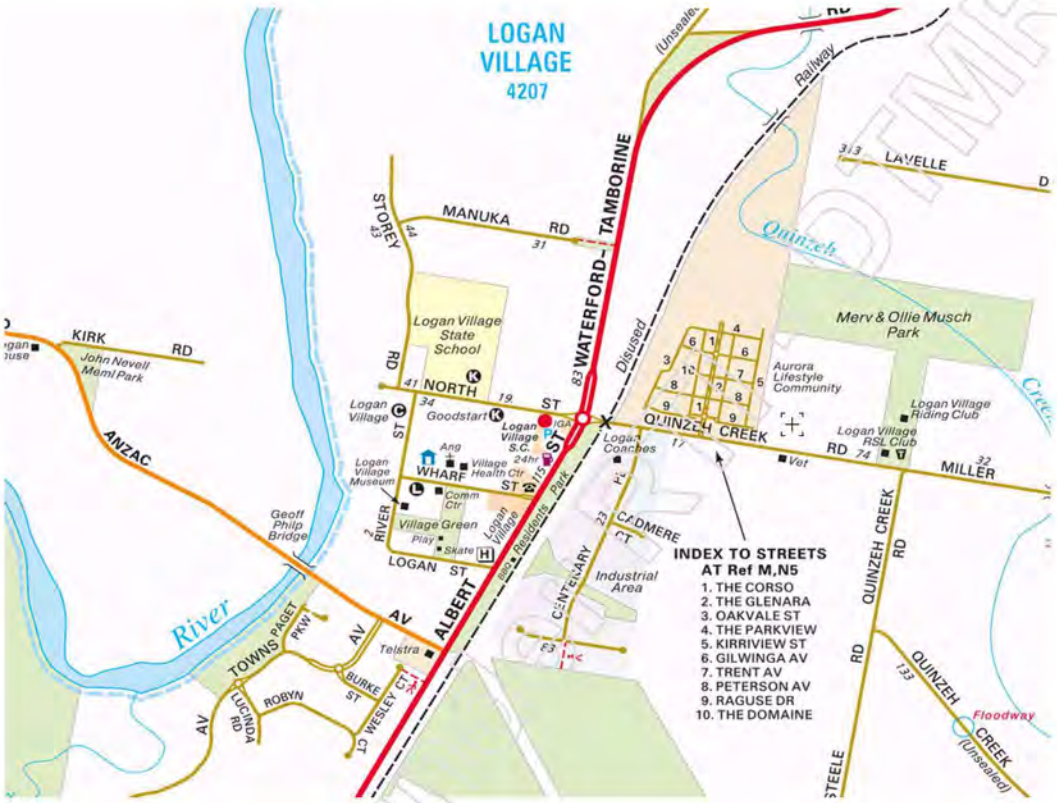
Administrator's Representative	Signature	Date
PI	NR	16/3/21

Just Traffic Solutions Trust
Leaders in Traffic Control Solutions

ABN: 16 594 553 165
TMR REGISTRATION: 0258

TRAFFIC MANAGEMENT PLAN

WATERFORD TAMBORINE RD, LOGAN VILLAGE



CLIENT:

ALLROADS
CIVIL CONSTRUCTION • MINING
www.allroads.net.au

PREPARED BY: JTS GROUP AUSTRALIA PTY LTD

VERSION 1

02.03.21

CONTENTS

1. TMP DOCUMENT

1.1 TMP VERSION HISTORY

Version Number	Date	Status
1	02.03.21	Prepared for Approval

1.2 APPROVAL/ SIGN OFF

Internal Approval		Position	Signature	Date
Prepared By:	PI	TMD: 642 Open		02.03.21
Amended By:				
Amended By:				

1.3 GLOSSARY OF TERMS

TERM	DEFINITION
AGRD	Austroads Guide to Road Design
AGTM	Austroads Guide to Traffic Management
BCC	Brisbane City Council
DTMR	Department of Transport and Main Roads
MUTCD	Manual of Traffic Control Devices
NTO	Nominated Traffic Officer
PTSS	Portable Traffic Signal System

QAS	Queensland Ambulance Service
QFRS	Queensland Fire and Rescue Service
QPS	Queensland Police Service
RPDM	Road Planning and Design Manual
TCASP	Traffic Controller Accreditation Scheme Approved Procedure
TGS	Traffic Guidance Scheme
TMA	Traffic Mounted Attenuator
TMC	Traffic Management Centre
TMD	Traffic Management Designer
TMP	Traffic Management Plan
VMS	Variable Message Sign

1.4 TMP TABLE REFERENCE

Reference	Description
Table 1	Proposed Work Schedule
Table 2	Deflection Table
Table 3	Traffic Lane Restrictions-MRTS02
Table 4	Bus Stop Timetable 30626
Table 5	Bus Stop Timetable 30625
Table 6	Bus Stop Timetable 30624
Table 7	TGS Project List
Table 8	Emergency Contacts

1.5 TMP FIGURE REFERENCE

Reference	Description
Figure 1	Site Locations
Figure 2	Landmarks
Figure 3	Work Area
Figure 4	Extract from MUTCD Appendix E
Figure 5	Extract from MUTCD part 3 works on roads- Desirable lane for each direction
Figure 6	Heavy vehicle route diagram
Figure 7	Route to Logan Hospital
Figure 8	Route to Logan Village Yarrabilba Police Station
Figure 9	Route to Munruben Ambulance Station
Figure 10	Route to Logan Village Fire Station
Figure 11	End of Queue Set Up
Figure 12	Hierarchy of Control Measures
Figure 13	Management Hierarchy

2. INTRODUCTION

The following Traffic Management Plan (TMP) is to provide a framework of work stages, document processes and traffic management measures required to implement different road closures required for the construction works on Waterford Tamborine Rd, Logan Village. The TMP shall provide a summary on how all the project activities are to be implemented onto the road network.

2.1 TMP OBJECTIVES AND AIM

- Ensure the safety for all road users.
- Certify that all workers, visitors, contractors, and the public are protected from any traffic hazards that could occur because of the construction project.
- Lower any disruption, delays or congestion that may occur to the road users.
- Make sure that all access to properties and any commercial business premises are always kept accessible.
- Certify that all traffic lanes accommodate for the volume of traffic.
- Ensure that all traffic delays and congestion is kept to a minimum
- Provide that the correct warning and information signs are erected and are in accordance with the MUTCD to allow correct delineation for the travel paths through/around the worksite.
- Provide protection to all road users from the works and ensure that there are no hazards in the work area.
- Accommodate for the needs of road users, motorists, pedestrians, cyclists, public transport passengers and people with disabilities can go around, through or past the work areas safely.
- Provide for work activities to be undertaken sequentially to reduce the adverse impacts of the work.
- Offer the safety procedures required for the work personnel to enter and leave the work site areas in a safe manner.

2.2 INTERFACE WITH OTHER PLANS

This TMP may be required to form parts of other required plans. Such plans may include:

- Construction Plan
- Quality Plan
- Environmental Management Plan
- Work Health & Safety Management Plan
- Community Liaison Plan
- Serve Weather Management Plan

2.3 TMP DOCUMENT CONTROL

The TMP shall be reviewed and updated as required, at intervals not exceeding every 6 months. Updates to the TMP are to include improvements that are to be made which have concluded from site inspections,

audits, and reviews. Details of the updates shall be documented in the version history. The updated TMP shall be made available to any organisations which require to follow and proceed with works as per the TMP. Each organisation should be given a hard copy.

3. PROJECT INFORMATION

3.1 DESCRIPTION OF PROPOSED WORKS

Allroads have been engaged to complete road upgrade works on Waterford Tamborine Rd between Quinzeh Creek Rd & Anzac Ave, Logan Village. The works apart of an ongoing TMR project. Project details can be found on the TMR website link below.

https://www.tmr.qld.gov.au/projects/Waterford-Tamborine-Road-North-Street-intersection

3.2 PROJECT SPECIFIC DETAILS

Project Title: Waterford Tamborine Rd (207) Quinzeh Creek Rd to Anzac Ave Four Laning

Contract Number: CN-14898

Reference ID: Chainage 10747.610 – 11306.000

Principal Contractor: Allroads

ABN: 59 010 126 100

Date of Commencement: March 2021

Date for completion: September 2021

3.3 LOCATION OF WORKS

3.3.1 LOCATION – WATERFORD TAMBORINE RD, LOGAN VILLAGE

The proposed works are located on Waterford Tamborine Rd between Quinzeh Creek Rd & Anzac Ave on both North and Southbound lanes.

FIGURE 1. SITE LOCATIONS

3.4 SCOPE OF WORKS

3.4.1 DESCRIPTION

The scope of works associated with the project include but are not limited to:

- Earthworks
- Excavations
- Landscaping
- Road Works/Reinstatement

3.5 KEY CONTACT DETAILS

3.5.1 ROAD ASSET OWNER

Client: Department of Transport and Main Roads

Phone: 5563 6600

Email: southcoast@tmr.qld.gov.au

3.5.2 PRINCIPAL CONTRACTOR

Principal Contractor: Allroads

Contact: PI

Mobile NR

Email PI @allroads.net.au

3.5.3 TRAFFIC MANAGEMENT COMPANY

Name: JTS Group Australia Pty Ltd

Phone: 1300 722 800

Website: www.jtsgroup.com.au

Email: info@jtsgroup.com.au

3.5.4 NOMINATED TRAFFIC OFFICER

Company: JTS Group Australia Pty Ltd

Contact: PI

TMD: 642 Open

Mobile NR

Email PI @jtsgroup.com.au

3.6 KEY LANDMARKS

There are many key landmarks which will be required to be taken into consideration when planning the traffic control requirements and when scheduling the construction works.

FIGURE 2. LANDMARKS

3.6.1 LOGAN VILLAGE HOTEL

Location: 135 Albert St, Logan Village QLD 4207

Office Hours: Monday – Sunday 10:00am -10:00pm

Phone: 07 5546 3866

There are two access drives into the hotel. One from Logan St & one from Waterford Tamborine Rd.

3.6.2 ALBERT ST MEDICAL

Location: 131-133 Albert St, Logan Village QLD 4207

Times: Monday – Friday 08:00am - 05:00pm

Saturday - 08:00am - 12:00pm

Sunday - Closed.

Phone: 07 5547 0222

3.6.3 MY HEALTH MEDICAL CENTRE

Location: 2/12 North St, Logan Village, QLD, 4207

Times: Monday – Friday 07:30am - 06:00pm

Saturday – 08:30am - 04:00pm

Sunday 08:30am - 02:0pm

Phone: 07 5547 0541

3.6.4 BP SERVICE STATION

Location: 111-113 Albert St, Logan Village, QLD, 4207

Times: Open 24 hours

Phone: 07 5546 3169

3.6.5 WOOLWORTHS

Location: 2 North St, Logan Village, QLD, 4207

Times: Monday – Saturday 07:00am – 09:00pm

Sunday - 09:00am – 06:00pm

Phone: 07 5549 6000

3.6.6 LOGAN VILLAGE PHARMAXY

Location: 131-133 Albert St, Logan Village, QLD, 4207

Times: Monday –Friday 07:30am – 06:30pm

Saturday – 08:00am – 04:00pm

Sunday – 08:30am – 01:30pm

Phone: 07 5546 3596

3.7 SCHEDULE OF CONSTRUCTION

Schedule of construction shall begin late March 2021.

TABLE 1.

PROPOSED WORK SCHEDULE	
	Weeks
Construction Stage 1	6 - 8 Weeks
Construction Stage 2	6 - 8 Weeks
Stage 3 Final	1-2 Weeks

3.8 STAGING OF WORKS

The are 2 proposed section of works which shall require traffic control these shall be split into two Stages. Stage 1 will be the reconstruction of the southbound traffic lane and Stage 2 will be the reconstruction of the northbound traffic lane.

FIGURE 3 – WORK AREA

- Work area 1-Stage 1 shall consist of the construction works on the southbound travel lane between Quinzeh Creek Rd & Anzac Ave.

- Work area 2 – Stage 2 shall consist of the construction work on the northbound travel lane between Anzac Ave & North St.

3.9 SITE DETAILS

3.9.1 SITE DETAILS WATERFORD TAMBORINE RD

- 60km Posted Speed.
- Two Way Road
- Business along the northbound travel lane
- Footpath on the North bound travel lane side of the road
- Bus stops either end of the work area near the signalised intersections.
- Road width averages between 10-20m wide
- 2 Side streets within the work area on the northbound travel lane side.

3.9.2 SITE DETAILS – LOGAN ST

- 50km Posted Speed.
- Two Way Road
- Access to Logan Village Hotel
- Footpath
- No Bus Stop near work area
- Detour road available
- Approx. road width of 8m

3.9.3 SITE DETAILS – WHARF ST

- 50km Posted Speed.
- Two Way Road
- Access to shops
- Footpath
- No Bus Stop near work area
- Detour road available
- Approx. road width of 9m

3.10 EXCAVATION PROTECTION METHOD

As per the MUTCD Part 3 delineation requirements around excavations shall be taken into consideration. Allroads shall ensure that all trenches are protected by the means outlined in table E1 of the MUTCD.

FIGURE 4 EXTRACT FROM MUTCD APPENDIX E

Appendix E – Protection and delineation at excavation works

E1 General

For the purposes of this Appendix, an excavation shall be regarded as a longitudinal depression with the slope of the side adjacent to traffic 1.5 vertical to 1 horizontal or steeper.

E2 Means of protection or delineation

The means of protection or delineation specified in Table E1 shall be provided as follows:

a) Standard delineation – traffic cones or temporary bollards provided in accordance with Clause 3.9.1 and Table 3.7.

b) Close delineation – traffic cones or temporary bollards as for Item E2a) but spaced at 4 m maximum in all cases.

c) Safety barrier – Barriers in accordance with Clause 3.10.3.

Table E1 – Protection / delineation adjacent to excavations

Speed of traffic[1] km/h	Traffic volume[2] vpd	Clearance to excavation[3] m	Depth of excavation, mm		
			50 to 250	>250 to 500	>500
<70	All	<2.5	Standard delineation	Close delineation	Safety barrier
		2.5 to 5.0	Standard delineation	Standard delineation	Close delineation
		>5.0	None	None	None
≥70	≤1500	≤5.0	Standard delineation	Close delineation	Safety barrier
		>5.0	None	None	None
	>1500	≤6.0	Standard delineation	Close delineation	Safety barrier
		>6.0	None	None	None

NOTES:

1. Posted speed limit during roadworks.
2. For multilane roads, one-way volume. For 2-lane, 2-way roads, sum of both directions.
3. Clearance to nearest edge of traffic lane or nominal edge if the edge is not marked.

As per E3 of the MUTCD Part 3 an onsite risk assessment shall be completed for all excavations. The risk assessment shall be based on the consideration of the following-

a) Length of excavation parallel to the roadway
b) Duration of exposure and
c) Road alignment

Where determined through the risk assessment, the recommended treatment in table E1 may be varied accordingly. For the works that the TMP covers excavation depths shall not be deeper then 500mm.

Approved safety barrier systems shall be installed around the excavations depths that are deeper then 500mm. The TGS shall indicate where they shall be installed. Barriers shall be installed as per the manufacture's specs and installation requirements. If this cannot be achieved, they shall be risk assessed and approved by an RPEQ.

The approved safety barrier system to be installed temporarily during the construction period shall be defender steel barriers.

TABLE 2- DEFLECTION TABLE

SAFE BARRIERS

Defender Barrier™ MASH16 Tested Deflection Normalization Table

Defender Barrier - Anchored

Defender 100 HC™ 4-11						
Impact° / Traffic Lanes	100 kph	90 kph	80 kph	70 kph	60 kph	50 kph
25° / 5 lanes	2.3	2.07	1.84	1.61	1.38	1.15
20° / 4 Lanes	1.86	1.67	1.49	1.3	1.11	0.93
15° / 3 Lanes	1.41	1.27	1.13	0.99	0.84	0.7
10° / 2 Lanes	0.95	0.85	0.76	0.66	0.57	0.47
5° / 1 Lane	0.47	0.43	0.38	0.33	0.28	0.24
Deflection Metres (pinned at 48.15m / Every 12th barrier)						

Defender 100 LØS™ 3-11						
Impact° / Traffic Lanes	100 kph	90 kph	80 kph	70 kph	60 kph	50 kph
25° / 5 lanes	0.88	0.79	0.7	0.62	0.53	0.44
20° / 4 Lanes	0.71	0.64	0.57	0.5	0.43	0.36
15° / 3 Lanes	0.54	0.48	0.43	0.38	0.32	0.27
10° / 2 Lanes	0.36	0.33	0.29	0.25	0.22	0.18
5° / 1 Lane	0.18	0.16	0.14	0.13	0.11	0.09
Deflection Metres (pinned at 9.15 metres / Every Second Barrier)						

Defender Barrier - Free Standing (Ballasted)

	Defender 100 FS™ 3-11			Defender 70™ 2-11		
Impact° / Traffic Lanes	100 kph	90 kph	80 kph	70 kph	60 kph	50 kph
25° / 5 lanes	1.9	1.71	1.52	1.3	1.03	0.86
20° / 4 Lanes	1.54	1.38	1.23	0.97	0.83	0.69
15° / 3 Lanes	1.16	1.04	0.93	0.75	0.63	0.53
10° / 2 Lanes	0.78	0.7	0.62	0.49	0.42	0.35
5° / 1 Lane	0.39	0.35	0.31	0.25	0.21	0.18
Deflection Metres (Free Standing / No Anchors)						

Note: Values in red are MASH 16 dynamic test results

all other values are normalized deflections as per the industry standard normalisation formula

For more information contact Safe Barriers E sales@safebarriers.com W www.safebarriers.com

AU 1800 169 799 NZ 09 950 7186

4. INPUT INFORMATION

The following information has been collected from varying stakeholders and site visits to compile a comprehensive and safe traffic movement through, around or past the work area.

4.1 MRTS02.1 NOVEMBER 2019 REQUIREMENTS

1. Nominated traffic officer is be TMD qualified as per TMR requirements.
2. TMP requirements
   - All information requested in Schedule S3 *"Traffic Management Plan Outline"* and any additional information provided with Schedule S3 as part of the tender submission;
   - The method by which delays, and queue lengths will be monitored and the means of communication between Traffic Controller and Site Supervisory Personnel;
   - Detail the communication procedures proposed for the notification of public transport, stakeholders and emergency services affected by the works;

- Advise the DTMR Traffic Management Centre at Nerang of proposed lane closures, detours and all traffic incidents (13 19 40);
- Provision to advise relevant Authorities and Emergency Services (Police, Ambulance, SES, Fire Brigade, etc);
- Details of any temporary pavements determined necessary by the Contractor in order to comply with the requirements of this specification;
- Describe site access and egress points to/from the carriageway including proposed design layout, lighting and signage configuration;
- Provisions for school bus stops;
- Procedure for dealing with abandoned and broken down vehicles within the site. The process shall include:
  o Making the affected area safe immediately.
  o Traffic control shall be accordance with the MUTCD.
  o Immediately notify the TMC providing information on vehicle type, registration, ownership details, if possible and site conditions.
  o Co-ordination with the TMC and any preferred towing contractor to enable the removal of abandoned or broken down vehicles in the shortest possible time
- Nominate placement and details of temporary VMS's and other special signage. Detail an incident management plan to deal with traffic incidents causing major disruption and long queues.

3. Specific Restrictions on work

- From midday the day before through to midday the working day after all Statutory Public Holidays (including Australia Day);
- From 5am through to 8pm the day of Major Events that may be impacted by construction works, as directed by the administrator, including but not limited to:
  o Local Show Holidays
- From midday Friday 2nd October till midday Tuesday 6th October (Queens Birthday Long Weekend).
- From 5am on the 24th December, until 5am on the 2nd January;
- The first and last days of Queensland school holidays from 5am until midnight.

4. ***Traffic Lane Restrictions as per the following minimum requirements***

TABLE 3 – TRAFFIC LANE RESTRICTIONS MRTS02

LOCATIONS	DAYS	TIME PERIOD	NUMBER OF LANES IN EACH DIRECTION	MINIMUM LANE WIDTH (METRES)	MINIMUM CLEARANCE OF OBJECTS (METRES)	MINIMUM POSTED SPEED WHEN SITE ACTIVE (KILOMETRES PER HOUR)	MINIMUM POSTED SPEED WHEN SITE INACTIVE (KILOMETRES PER HOUR)
Waterford Tamborine Rd	7 Days a Week	All	1	3.0	1.0	40	60

All other roads	7 Days a Week	All	1	3.0	1.0	40	40

b. In accordance with the requirements of Table 4.10 of the MUTCD Part 3- NO

c. through an operation assessment as per clause 4.13-1 of the supplement to the MUTCD Part 3- NO

5. Maintain the same number as the pre works situation.
6. Single lane revisable flow approved at all locations on all days with 3 min mad delay time between 10:00am & 2:00pm
7. Stopping traffic in both direction To manoeuvre large plant items with the approval of the Administrator /Spraying bitumen is permitted on working days between 10:00am & 2pm with a 5min max delay period.
8. Travel time survey required weekly on a random weekday during both Pm & Am peaks.
9. Route alterations through the road under construction is permitted with the following condition.
   - All works under the Contract in compliance with the Contract requirements and as approved by the Administrator.
     The Contractor is to monitor traffic flow and adjust lane closures where appropriate to ensure that the maximum additional travel time for a vehicle approaching and travelling through the work areas does not exceed 5 minutes.
     Existing provisions for Cyclists and Pedestrians are to be maintained.
     Existing provisions for school bus stops are to be maintained.
     The Contractor shall notify the Administrator of any proposed changes and modifications 14 days prior to the works commencing on site.
     All parts of the site carrying traffic shall be trafficable at all times, kept in a safe condition, free from any obstructions/loose materials/debris and with clear directions for users as per the Contractors approved Traffic Management Plan.

10. Route alterations by a side-track is permitted.
11. Detours on existing roads is not permitted.
12. Variable message boards are to be installed.
13. TGS require RPEQ sign off when they include the below items
    - All innovative treatments as per Clause 2.2.5 of MUTCD Part 3: Works on Roads
    - Side tracks
    - Traffic modelling
    - Change to road geometry
    - Change to road line marking

They shall also be approved by the administer.

14. PTCD shall be used to effectively advise motorists of safe opportunity to move through the work site.
15. Minimum of 2 PTCD shall be provided.
16. 4 x VMS boards at a minimum
17. Delineation is to conform to the requirements of the MUTCD.
18. RRPM's shall be fixed to the sides of any safety barriers used at 2 5m centres such that the approaching traffic views:
    - 1xRRPM 200 mm above the roadway and
    - 1xRRPM 200 mm below the top of the safety barrier

19. Redundant pavement markings and RRPM's are to be removed in such a manner that leaves a clean, undamaged pavement with a surface texture, reflectivity characteristics and colour comparable to the adjacent pavement surface. Unless approved by the Administrator, the use of black paint on redundant pavement marking, be it temporary or permanent, is not acceptable.
20. Temporary lighting to be installed
21. Traffic management inspections required.

4.3 COMMUNITY REQUIREMENTS

4.3.1 LOCAL BUSINESSES & RESIDENTS

Access to all local business, residential properties within the vicinity of the work area/closures must always be maintained during the construction period. If driveways are to be blocked prior communication between Allroads and the occupants shall occur, and permission granted.

Safe pedestrian movements shall be maintained throughout the works unless shown otherwise or determined.

Variable message signs are to be used to provide advance warning of the upcoming works.

4.3.2 RUBBISH COLLECTION

As these are all commercial properties rubbish collection can not be determined by the Logan City Council website. Rubbish collection will be different per shop/building.

4.4 ROAD USER INFORMATION

4.4.1 TRAFFIC VOLUMES

It is the client requirement that lane availability must comply with the MUTCD Part 3, MRTS02.1 & DTMR Permit.

FIGURE 5- EXTRACT FROM MUTCD PART 3 WORKS ON ROADS

Table 4.10 – Desirable number of lanes for each direction

Mid-block Vehicles per hour, one direction	Within 200 m of an intersection^ (upstream or downstream) Vehicles per hour, one direction	Desirable number of lanes for direction considered
Up to 1000	Up to 500*	1
1001 to 2000	501 to 1000	2
2001 to 3000	1001 to 1500	3
3001 to 4000	1501 to 2000	4

* Right turns out of the single lane may need to be prohibited, depending on the proportion of heavy vehicles and the volume of opposing traffic.

^ This is a controlled intersection where traffic in the directions being considered is controlled (by traffic signals, roundabout, GIVE WAY or STOP signs).

NOTE: Volumes shown in the Table may need to be reduced by the amount shown if the following apply:

a) pavement surface is rough or unsealed – reduce traffic volume by 30%.

b) horizontal geometry through the restriction is reduced to a speed value of less than 40 km/h – reduce volume by 50%.

c) volume of heavy vehicles exceeds 10 percent–

i. downward, level or easy upgrade – reduce traffic volume by 20%, and

ii. sustained upgrades >5% – reduce traffic volume by 40%.

4.5 ADDITIONAL TRAFFIC DATA INFORMATION

4.5.1 CRASH DATA HISTORY

Crash data history for Waterford Tamborine Rd, Logan Village can be collected from

https://www.data.qld.gov.au/dataset/crash-data-from-queensland-roads/resource/e88943c0-5968-4972-a15f-38e120d72ec0/view/423a5e00-018a-4917-8a58-cb91b8a6b213

4.5.2 HEAVY VEHCILE ROUTE

From the Queensland Government website https://qldglobe.information.qld.gov.au/?topic=heavy-vehicle-routes-and-restrictions Waterford Tamborine Rd is classified as a Main Rd with the largest vehicle permitted to travel on the road is a B Double Vehicle up to 25m.

FIGURE 6- HEAVY VEHICLE ROUTE DIAGRAM

4.5.3 EMERGENCY SERVICES ACCESS ROADS/POINTS

Waterford Tamborine Rd is a main road and there for caters for emergency vehicles. There are also medical practices located adjacent to the road always requiring access for patients and emergency vehicles during their operation hours.

4.5.3(A) LOGAN HOSPITAL

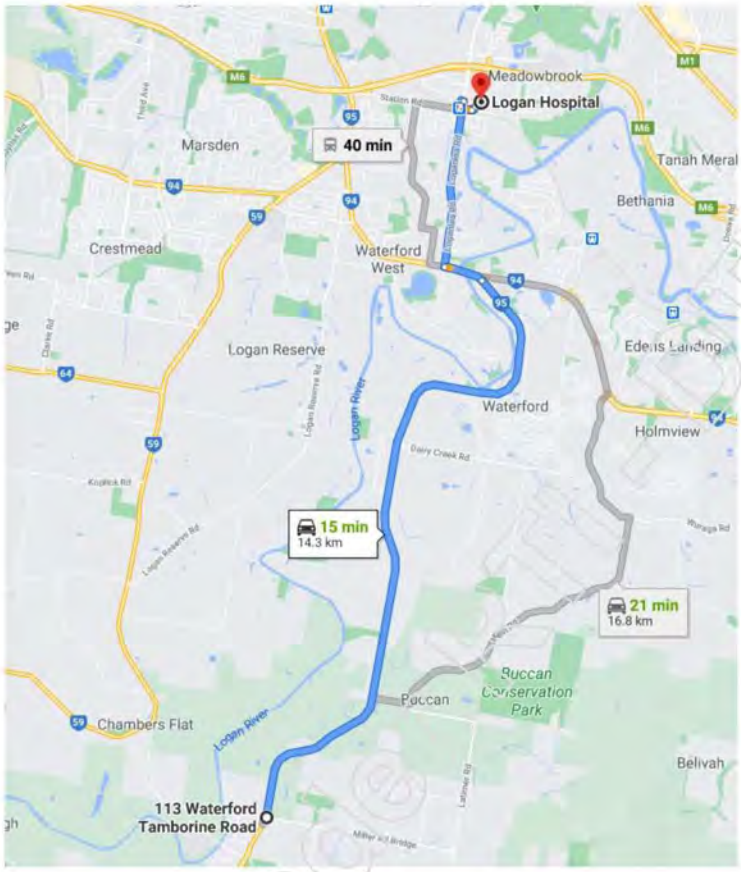
On google it is estimated that the hospital from the work area is approximately 14-17km away. There are 3 possible routes which can be utilised by the emergency vehicles to and from the hospital.

- Logan Hospital

Address: Armstrong Rd & Loganlea Rd, Meadowbrook, QLD, 4131

Phone: 07 33299 8899

FIGURE 7- ROUTE TO LOGAN HOSPITAL



4.5.3(B) LOGAN VILLAGE YARRABILBA POLICE STATION

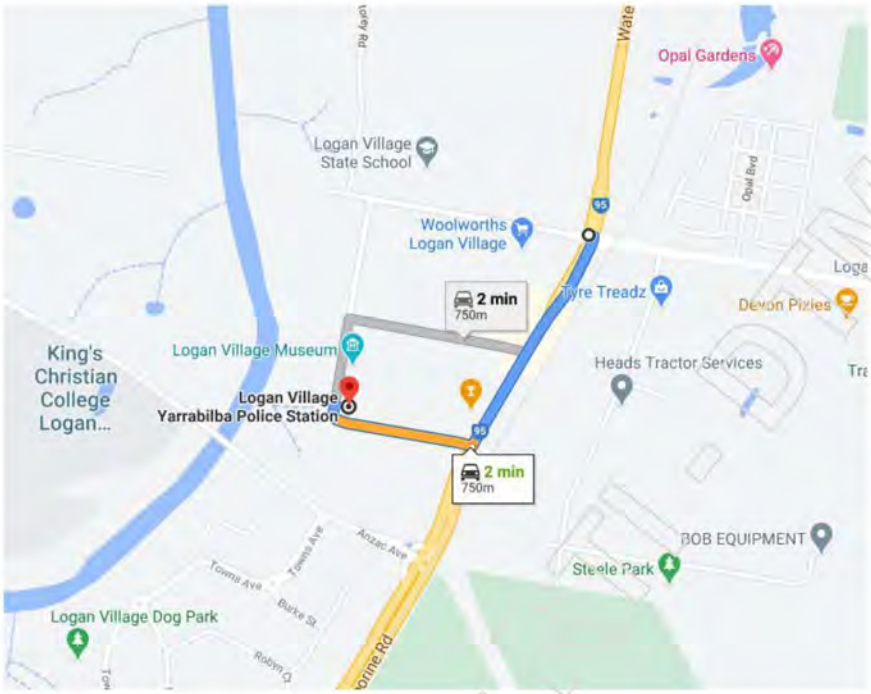
The station is estimate less then 1km from the work area.

- **Logan Village Yarrabilba Police Station**

Address: 1 River St, Logan Village 4207

Phone: 07 3382 9677

FIGURE 8- LOGAN VILLAGE YARRABILBA POLICE STATION ROUTE



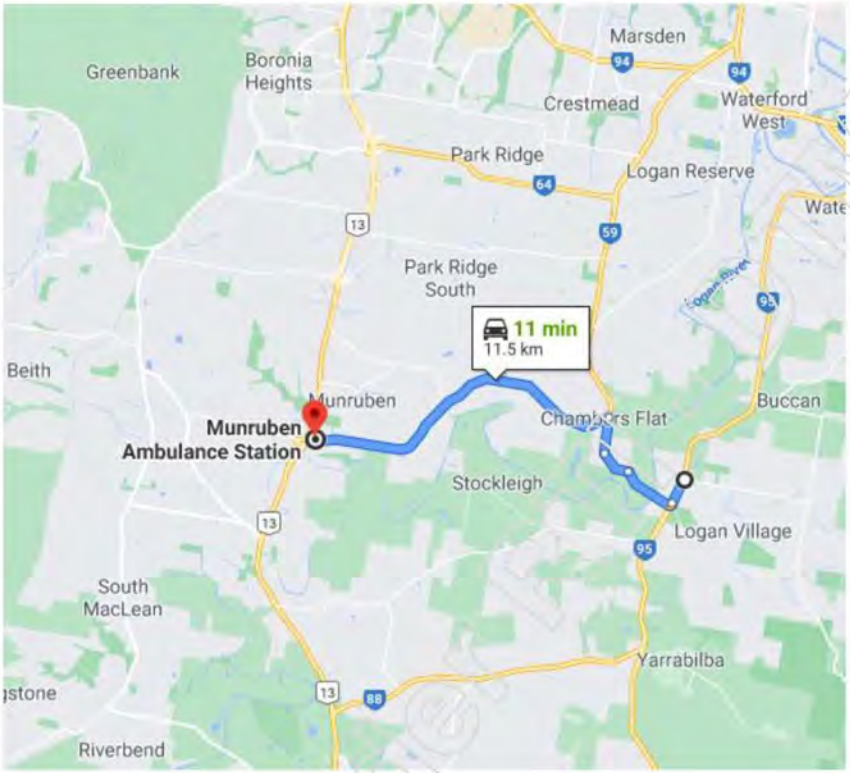
4.5.3 (C) IPSWICH AMBULANCE STATION

The Munruben Ambulance Station is open 24 hours and is location approximately 11km from the work area.

- **Munruben Ambulance Station**

Address: 1973 Chambers Flat Rd, Munruben

FIGURE 9- MUNRUBEN AMBULANCE STATION ROUTE



4.5.3 (D) LOGAN VILLAGE FIRE STATION

The fire station s is approximately 5min from the work area located on the same road.

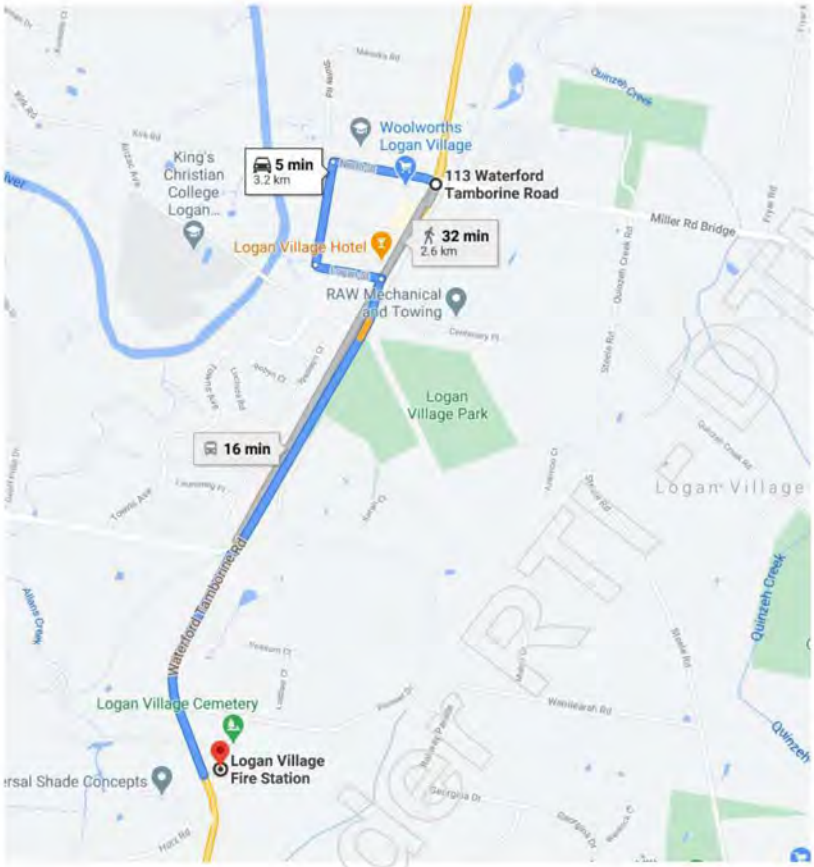
- **Brassall Fire Station**

Address: 1464 Waterford Tamborine Rd, Logan Village

Phone: 1800 583 473

Operation Hours: 24 hours

FIGURE 10- LOGAN VILLAGE STATION ROUTE



4.5.4 BUS SERVICES

There are 4 bus stops close to the works and three of those are with the proposed work area.

4.5.4 (A) BUS STOP 30626 ALBERT ST AT NORTH ST, LOGAN VILLAGE

This bus stop is located on the southbound travel lanes & south of Quinzeh Creek Rd.

TABLE 4- BUS STOP TIMETABLE 30626

BUS STOP 30626 TIMETABLE Monday- Friday	
DEPARTURE TIME	**ROUTE CODE**
06:35am	587

07:35am	587
08:35am	587
09:35am	587
10:35am	587
11:35am	587
01:35pm	587
03:35pm	587
04:35pm	587
05:35pm	587
06:35pm	587
07:35pm	587
SATURDAY TIMETABLE	
10:25am	587
12:25pm	587
02:25pm	587
04:25pm	587
SUNDAY- No Service	

4.5.4 (B) BUS STOP 30625 ALBERT ST AT NORTH ST, LOGAN VILLAGE

This bus stop is located on the northbound travel lanes & south of North St adjacent to the Woolworths Carpark.

TABLE 5- BUS STOP TIMETABLE 30626

BUS STOP 30626 TIMETABLE Monday- Friday	
DEPARTURE TIME	**ROUTE CODE**
05:15am	587
06:15am	587
07:15am	587
08:15am	587
09:15am	587
10:15am	587
12:15pm	587
02:15pm	587
03:15pm	587
04:15pm	587
05:15pm	587
06:15pm	587
SATURDAY TIMETABLE	
09:10am	587
11:10am	587
01:10pm	587
03:10pm	587

SUNDAY- No Service

4.5.4 (C) BUS STOP 30624 WATERFORD TAMBORINE RD AT ANZAC AVE, LOGAN VILLAGE

This bus stop is located on the northbound travel lanes & north of Anzac Ave.

TABLE 6- BUS STOP TIMETABLE 30626

BUS STOP 30626 TIMETABLE Monday- Friday	
DEPARTURE TIME	**ROUTE CODE**
05:14am	587
06:14am	587
07:14am	587
08:14am	587
09:14am	587
10:14am	587
12:14pm	587
02:14pm	587
03:14pm	587
04:14pm	587
05:14pm	587
06:14pm	587
SATURDAY TIMETABLE	

09:09am	587
11:09am	587
01:09pm	587
03:09pm	587
SUNDAY- No Service	

When bus stop access is unable to be maintained during temporary traffic control set ups, approval from Translink shall be required. Pending approval, a temporary bus stop shall be generated, or the bus stop shall be closed if the works are for short term closures. The following table shall be filled out and sent through with the TGS and explanation on the closure required to: temporary.closures@translink.com.au

Start Date:		Start Time:	
Finish Date:		Finish Time:	
Location Street:		Suburb:	
Impacted Stop ID/s:			
Requested Changes:		Method of Control:	
Job Description:		Reoccurring Event?	
Temporary Stop Required?			
Detour Required?			

4.5.5 PEDESTRIANS & CYCLISTS

Pedestrian access shall be maintained where footpaths are located. When pedestrian access can not be maintained the TGS shall detail the control methods. Pedestrian control shall be as per the MUTCD via temporary footpaths, traffic control on site or detour.

4.6 WORK AREA RESTRICTION

4.6.1 TRAFFIC GUIDENCE SCHEMES

As per the client requirements the TGS designs shall address the following:

- Road User Safety
- Lane or road closure
- Shoulder Closures
- All traffic control devices
- Pedestrian and cyclist provisions (if applicable)
- Public transport provisions (if applicable)

- Parking provisions (if applicable)
- Construction site access and egress
- Access provisions for residential, business and customers (if applicable)

4.6.2 CONSTRUCTION TRAFFIC

Construction traffic (plant & vehicles) are only permitted to enter, operate within, or exit from a traffic flow in a manner which does not endanger or restrict other road users. This can be managed on site using traffic controllers where required if traffic volumes are in excess.

All vehicles entering, exiting, and traveling within site shall be fitted and have turned on a flashing warning device on the top of their vehicle. All vehicles entering shall radio through to the traffic controllers/site supervisor or representative on site and ask if it is clear to enter. The traffic controller shall advise the vehicles what they determine.

For oversized/ large plant a traffic controller may be required to hold traffic and remove traffic cones/bollards for a large gap to be made for a safe entrance. This gap shall only be during the entering process and closed soon as the plant has entered the site to avoid other road users entering. The larger gap shall be created when the plant is exiting the site also and replaced immediately back into position.

4.7 PLANT AND ONSITE VEHICLE PARKING

During work operation hours plant & vehicle parking may be required within the closure. However only the plant and vehicles required shall be permitted. All other plant & vehicles shall be parked within the site compound.

4.8 STANDARDS TO BE APPLIED

The Implementation of the Traffic Management Plan is subject to the following:

1. QLD MUTCD Part 3 Works on Roads
2. QLD MUTCD Supplementary Notes
3. TORUM Act 1995
4. QLD WHS Act 2011
5. Traffic Management for Construction or Maintenance Code of Practice 2008
6. Australian Standard AS1742.3.2009
8. AS4801:2001 (OHS), ISO31000:2000 (RMS), ISO9001:2008 (QMS), ISO14001:2004 (EMS)
10. QLD Police Permits
11. Council Permits
12. Client Requirements
13. Traffic Data Analysis
14. Austroads Guide to Traffic Management

5. TRAFFIC MANAGEMENT PLAN OPTIONS CONSIDERED.

From the information provided and researched in the previous sections, they can be analysed to determine the traffic management options for each stage of works.

5.1 STAGE 1- WATERFORD TAMBORINE RD- SOUTHBOUND

The following options were considered for the scope of works on Waterford Tamborine Rd. The works are within the live traffic lane and require deep excavations. The works cannot be completed in one day and will be a long term set up.

5.1.1 ROAD USERS

On Road Traffic: Light Vehicles, Light Vehicles and trailers, motor cyclist, delivery Vans, Trucks, On Road Cyclists, Emergency Vehicles			
Option		**Analysis**	**Decision**
Traffic Detour around the worksite	Detour	• MRTS does not permit a detour.	No Viable
	Side-track	• MRTS does permit side tracks to be utilised however as the works are already on the available land for a side traffic there would not be sufficient space on the other side to create one and would create more costs.	Not Viable
Traffic through the worksite		The scope of works is within the live traffic lane. Clearance to excavation depths and barriers would create an unsafe travel path for road users.	Not Viable
Traffic past the worksite		The current road width is 10-20m this allows for the works to be completed in the southbound lanes. The traffic lanes can be reduced to 3m in either direction. As the excavation depths are deeper then 500m an approved safety barrier shall be implemented between the southbound road users and the work area. A 1m clearance between road users and the barrier system must be maintained. During active work hours the speed limits shall be reduced to 40km.	Viable and maintains two-way traffic.

5.1.2 PEDESTRIANS

There is no pedestrian footpath on this side of the road. Pedestrian delineation/site fence must be installed around work areas to prevent any access for pedestrians into the work area. Recommended no pedestrian access signs to be installed by Allroads on their site fences.

5.1.3 ON ROAD CYCLISTS

There is a bicycle lane leading up to the limit of work areas on both directions of the road. The bicycle lane does end before the works on the southbound approach and just after on the northbound approach.

On Road Cyclists			
Option		**Analysis**	**Decision**
Detour around the worksite	**Detour**	• Detour not permitted	Not Viable
	Side-track	It would not be cost effective to build a side-track for these works	Not viable
Cyclists through the worksite		Cyclists traveling through the work area behind the barriers would be dangerous and cyclists may ride into an excavation or be hit by a site vehicle or plant.	Not Viable unsafe due to machinery, excavations, and work activities.
Cyclists past the worksite		Bicycle lane shall be closed and where there was previously a bicycle lane a 1m width shall be maintained through the closure. Where there was no previous bicycle lane the lane width shall remain at 3m and advance warning signs shall display to road users and cyclists that the bicycle is closed, and they must share the road. Speeds shall be reduced to 40km during active work hours and do not overtake signs to be displayed as road users shall not be permitted to pass the cyclists through the closure.	Viable

5.1.4 PROPERTY ACCESS FOR LOCAL RESIDENTS & BUSINESSES

All access must be maintained. There are no driveways affected by the closure of the southbound lanes.

5.1.5 PUBLIC TRANSPORT

Bus stops are outside the scope of works area and shall be maintained during the long-term closure. All tapers, delineating devices shall be implemented after the bus stops. If they cannot be maintained during short term closure, then Translink shall approve the closure/ temporary re location of bus stop. Each TGS shall display the control method for the bus stop.

5.2 STAGE 2- WATERFORD TAMBORINE RD- NORTHBOUND

The following options were considered for the scope of works on Waterford Tamborine Rd. The works are within the live traffic lane and require deep excavations. The works cannot be completed in one day and will be a long term set up.

5.2.1 ROAD USERS

On Road Traffic: Light Vehicles, Light Vehicles and trailers, motor cyclist, delivery Vans, Trucks, On Road Cyclists, Emergency Vehicles			
Option		**Analysis**	**Decision**
Traffic Detour around the worksite	Detour	• MRTS does not permit a detour.	No Viable
	Side-track	• MRTS does permit side-tracks to be utilised however as the stage 1 works completed road widening of the southbound traffic lanes it would not be cost effective to build a side-track.	Not Viable
Traffic through the worksite		The scope of works is within the live traffic lane. Clearance to excavation depths and barriers would create an unsafe travel path for road users.	Not Viable
Traffic past the worksite		Stage 1 works consisted of the road widening construction of the southbound lanes. By completing these works the road width will allow for two traffic to be maintained through the new southbound traffic lanes. Traffic can be laterally shifted and traffic lanes can be reduced to 3m in either direction. As the excavation depths are deeper then 500m an approved safety barrier shall be implemented between the northbound road users and the work area. A 1m clearance between road users and the barrier system must be maintained. During active work hours the speed limits shall be reduced to 40km.	Viable and maintains two-way traffic.

5.2.2 PEDESTRIANS

The work area shall not encroach on the footpath. Pedestrian delineation shall be installed between the pedestrian and work area.

5.2.3 ON ROAD CYCLISTS

There is a bicycle lane leading up to the limit of work areas on both directions of the road. The bicycle lane does end before the works on the southbound approach and just after on the northbound approach.

On Road Cyclists			
Option		**Analysis**	**Decision**
Detour around the worksite	Detour	• Detour not permitted	Not Viable
	Side-track	It would not be cost effective to build a side-track for these works	Not viable
Cyclists through the worksite		Cyclists traveling through the work area behind the barriers would be dangerous and cyclists may ride into an excavation or be hit by a site vehicle or plant.	Not Viable unsafe due to machinery, excavations, and work activities.
Cyclists past the worksite		Bicycle lane shall be closed and where there was previously a bicycle lane a 1m width shall be maintained through the closure. Where there was no previous bicycle lane the lane width shall remain at 3m and advance warning signs shall display to road users and cyclists that the bicycle is closed, and they must share the road. Speeds shall be reduced to 40km during active work hours and do not overtake signs to be displayed as road users shall not be permitted to pass the cyclists through the closure.	Viable

5.2.4 PROPERTY ACCESS FOR LOCAL RESIDENTS & BUSINESSES

All access must be maintained. There are driveways which require access through the closure. The driveways shall have temporary asphalt or steel plates over the works implemented to allow access.

Driveway reconstruction into the roadway shall be completed outside business hours and if another access point can be utilised then permission shall be granted before closing the driveway.

5.2.5 PUBLIC TRANSPORT

Bus stops are outside the scope of works area and shall be maintained during the long-term closure. All tapers, delineating devices shall be implemented after the bus stops. If they cannot be maintained during short term closure, then Translink shall approve the closure/ temporary re location of bus stop. Each TGS shall display the control method for the bus stop.

6. TRAFFIC GUIDENCE SCHEMES

6.1 TRAFFIC GUIDANCE SCHEMES INFO

Following the traffic management analysis above, Traffic Guidance Schemes (TGS) shall be developed to safely and effectively manage road users for each stage and work area detailed in the TMP. TGSs shall be designed in accordance with following technical publications to ensure risk management controls are considered during the design process.

- AGRD
- TMR Cyclist and pedestrian guidelines
- TMR MUTCD
- TMR RPDM
- TRUM
- Aust Roads Guide
- QLD Aust Roads Guide

6.2 DESIGN CONSIDERATIONS

The TGS design shall detail the short-term traffic arrangements. The TGSs shall include:

- Physical changes to the road -- Posted speed limits.
- Shoulder, lane, or road closure locations, delineation, and signage
- Edge clearances and lane dimension
- Length of work area
- Approach, warning, regulatory guidance, and departure signage as required.
- How to manage work areas through an intersection
- How to manage work sites through an intersection
- Safety buffers required.
- Traffic controller location
- Traffic control vehicle location
- Delineation devices used to separate live traffic and workers.
- Through, around or past travel path for all road user types.
- Author of TGS

- Site address
- Cross Streets
- Revision
- Date created.

6.2.1 DIMENSION D VALUES ADOPTED (TABLE 4.2 OF THE MUTCD PART 3)

6.2.1(A) WATERFORD TAMBORINE RD

Upper limit of D has been utilised where site conditions allow such sign and delineation placement.

- ✓ Waterford Tamborine Rd @ 60km/h D = 15-45m

6.2.1 (B) NORTH ST, LOGAN & WHARF ST

Upper limit of D has been utilised where site conditions allow such sign and delineation placement.

- ✓ North St, Logan & Wharf St @ 50km/h D = 10-15m

6.2.1 (C) QUINZEH CREEK RD

Upper limit of D has been utilised where site conditions allow such sign and delineation placement.

- ✓ Quinzeh Creek Rd @ 60km/h D = 15-45m

6.2.1 (D) ANZAC AVE

Upper limit of D has been utilised where site conditions allow such sign and delineation placement.

- ✓ Anzac Ave @ 60km/h D = 15-45m

Each sign and delineation device have been designed to tie into site specific locations and/or features. Whilst every effort has been made to use the upper limit of D onsite, some site locations may require a lesser value of the D range to be utilised.

6.2.2 TAPER LENGTHS

The following taper lengths shall be considered based on the posted speed limit of the road prior to roadworks. Taper lengths shall be in accordance with Table 4.6 of the MUTCD Part 3.

6.2.2 (A) 50KM POSTED SPEED

Lateral Shift Taper: 15m

Merge Taper: 30m

Taper at Tc Location: 15m

6.2.2 (B) 50KM POSTED SPEED

Lateral Shift Taper: 30m

Merge Taper: 60m

Taper at Tc Location: 30m

6.2.3 CONE SPACINGS

Cone Spacings utilised in the TGS are as follows:

Lateral shift tapers (see Clause 4.8.2)

@ 60km or less is 12m Cone spacing.

@ 50km or less is 4m Cone spacing.

Outer edge of traffic lanes- works on shoulder.

@ 60km or less is 18m Cone spacing.

@ 50km or less is 4m Cone spacing.

Taper at traffic control station is 4m cone spacing.

Closed lane on a Two-Way Road under Shuttle Flow

@ 60km or less is 18m Cone spacing.

@ 50km or less is 4m Cone spacings.

Close Delineation for Excavations (Appendix E) - 4m Cone spacings

6.2.4 ENTRY AND EXIT TO SITE

Entry and exit points shall be considered on the TGS. These are based on the current work arrangements and may be required to be changed pending on site risk assessment. Where required traffic controllers shall assist with entry and exit of work site vehicles.

6.2.5 ACCESS TO DRIVEWAYS

All driveways are to be maintained unless shown otherwise on the TGS. Access to driveways shall be maintained through the closure with temporary asphalt.

6.2.6 TEMPORARY LIGHTING

Where roadway lighting currently exists, lighting is to be maintained to at least the existing standards during the project. There is permanent road lighting onsite in some locations, however temporary lightning maybe required to improve the lighting for pedestrians and road users onsite during night hours. This should be independently assessed by Allroads to determine compliance. Roadway lighting designs are to be assessed for any potential glare, black spot or white-out effects to the road users and adjacent properties.

2 Proposed locations for temporary lights as shown on the TGS shall be either end of the closure highlighting barrier treatments and tapers.

6.2.7 AFTER CARE

After care shall be implemented at the end of each shift. All symbolic signs shall be covered and Road Work Ahead signs to be displayed with Reduce Speed. End of road work signs shall remain implemented during afterhours. There should be no workers symbolic signs implemented out side of operational hours.

6.2.8 OTHER CONSIDERATIONS

- All TGS implementations are subject to the Risk Assessment process and requirements.
- All TGS must be implemented as per the "Optimal Treatment" set out in the MUTCD Part 3, with modifications to "Optimal Treatments" restricted as per clause 4.1.6 Tolerances and Positioning, unless Risk Assessed and signed off by a RPEQ.
- All distances (Table 4.2), Tapers (Table 4.6), traffic cone / bollard spacing (Table 3.7), safety buffer and terminations (Clause 4.1.4), tolerances (Clause 4.1.6), & vehicle mounted warning devices (Clause 3.12.2) have been integrated within the design such that traffic transitions are effortless and compliant.
- Setting of temporary signs shall be in accordance with Clause 4.3.7 / Clause 4.3.3
- Any emergency or unplanned works shall be in accordance with Appendix H of the MUTCD Part 3 Works on Roads
- Residents' access has been maintained.
- Lane/Shoulder Closure times shall be set up in accordance with Authority permissions.
- Traffic Controllers to be positioned according to TCASAP and MUTCD requirements.

Refer to Appendix 3 for the TGS designs.

6.3 TGS ONSITE IMPLEMENTATION

6.3.1 PROJECT TGS LIST

The following table outlines the TGSs created for this TMP Project.

TABLE 7

TGS No.	TGS Closure
21M-100	Stage 1
21M-101	Stage 1A
21M-102	VMS Locations
21M-103	Short Term Stop Slow
21M-104	After Care TGS

21M-105	Stage 2
21M-106	Stage 2A
21M-107	After Care TGS

6.3.2 TRAFFIC GUIDANCE SCHEMES

TGS 21M-100

The TGS shall display the long-term temporary traffic control arrangements for Stage 1. The TGS shall include temporary line marking, Temporary road safety barriers, how two-way traffic is managed through a contraflow and advance warning devices. The TGS shall also include temporary lighting to be installed.

TGS 21M-101

This TGS shall display same as what 21M-100 does however shall include the use the of PTCD end of the work area.

TGS 21M-102

TGS shall be implemented to show the VMS Locations as per the MRTS02.1 requirement. 4 VMS boards shall be installed prior to works commencing to notify local road users of the upcoming works.

TGS 21M-103

A short term Stop Slow Shuttle flow TGS shall be implemented when required. This TGS shall be used for but not limited to

- Line removal
- Temporary line marking
- Barrier installation
- Traffic switches

TGS 21M-104

This TGS shall display the after care that will be implemented outside of operational hours.

TGS 21M-105

This TGS will display the Long-Term Temporary Traffic Management to be implemented for Stage 2. This shall be updated when the TGS has been completed.

TGS 21M-106

This TGS will display the after care requirements for Stage 2/

7. PROCEDURES

7.1 COORDINATION MEETINGS

7.1.2 DAILY PRESTART AND END OF SHIFT MEETINGS

Traffic control personnel, along with a member of the project team shall meet to discuss the day's expectations, TGS to be implemented and Safe Work Method Statement. Lead Traffic controller shall complete JTS Traffic Onsite Toolbox form & Daily Start Card form prior to the commencement of works. All traffic controllers shall sign these documents and the site supervisor.

At the end of shift, expectations for the next day's shift shall be briefly discussed, and all observations, records, reports, and risks and control method used during the shift are documented and signed off.

7.2 COMPANY RESPONSIBILITIES

The Traffic Management company employed to complete these works must be TMR Registered and Approved.

7.2.1 PRIMARY TRAFFIC MANAGEMENT COMPANY

Company Name: JTS Group Australia Pty Ltd
ABN: 16 594 553 165
TMR Registration Certificate Number: 0258
Date of Expiry: 30 June 2022

Please see certificate of registration in the Appendix

7.2.2 TRAFFIC DESIGN & MANAGEMENT COMPANY RESPONSIBILITIES

The Services that will be required from JTS Group Australia Pty Ltd are as follows:

- Be responsible for the management of the traffic during the construction period.
- Supply competent and accredited Traffic controllers to implement the TGS that has been created.
- Ensure that all members of public are catered for. Pedestrians are safe, road users are safe, bicycles are safe.
- Sign checks as required/requested.
- Provide SWMS.
- Attend daily toolbox meetings as required/requested.
- Ensure there is enough signage and equipment per setup requirements.
- Perform pre TGS inspection of site, Risk Assessment and TGS implementation can occur as per TGS.
- Report all incidents.
- Ensure traffic controllers are qualified.

7.2.3 PRINCIPAL CONTRACTOR- ALLROADS

- Ensure the TMP & TGS is provided to all personnel.
- Review and approve Traffic Management Company's SWMS prior to works
- Run Daily Pre Works-Toolboxes
- Ensure Traffic Management Compliance
- Notify local business and residents of scheduled works.

7.3 TRAFFIC MANAGEMENT REPORTING

7.3.1 DAILY ROUTINE TASKS & RECORD KEEPING

Daily routine tasks and record keeping is to be undertaken for each TGS implementation in accordance with MUTCD Part 3 Appendix A. Daily record keeping is to consist of a completed and signed traffic control daily record of the TGS implementation which is to include at a minimum the following information:

- Date
- Site location
- Job/Reference Number
- TGS Number & Revision
- Site inspection times
- Details of any changes made to the site and TMD qualification/approval.

Onsite traffic management controllers shall carry out a minimum of 2 site inspections during the shift noting any traffic control signs out of place or damaged during the shift. All completed traffic control daily records are to be kept by the Principal Contractor and the traffic management company. These documents shall also be retained for a minimum of 7 years after the completion of works in case they are required for any evidence for QPS in prosecuting offenders.

7.4 MONITORING AND MANAGEMENT FOLLOWING IMPLEMENTATION OF TGS

After the TMI has implemented the TGS on site the Traffic Control Supervisor and Site Supervisor shall perform site drive through. They shall be checking the implementation of all traffic control devices and signage. They shall ensure the following:

- The traffic control setup is clear to the road users.
- Devices and signs are correctly spaced.
- Signs and devices are as per the TGS.
- Ensure lane widths conform to the required distance.
- Check all road users have been considered and will be able to travel through, around or past the work area safely.
- The traffic control supervisor shall appoint a TMI to complete sign checks a minimum 2 per shift.

7.5 TRAFFIC CONTROL SIGNS & DEVICES

All traffic control signage and device requirements shall be detailed on the TGSs created. These signs shall display the message which road users shall receive. Traffic control devices and signs shall display to the road users of upcoming workers and roadway change of conditions. Existing signage shall be displayed on the TGS in a black, white format detailed when it is required to be covered up, so it does not conflict with the TGS being implemented. JTS shall be responsible for supplying all traffic control signs and devices.

7.5.1 DEVICE STANDARDS

- Individual signs and devices should be examined before installation to ensure that they are in good condition and their performance is not impaired.
- The traffic control devices that are used on site must conform to the standards outlined in the MUTCD and be incompliance with the Australian Standards.
- Items bent, broken or have surface damage shall not be used.
- Items should be free from accumulated dirt, road grime or other contamination.
- Fluorescent signs whose colour has faded to a point where they have lost their day light impact should be replaced.
- Signs required to be effective at night shall be checked for retro reflectivity as soon as possible after installation. Those whose retro reflectivity is degraded either from long use or surface damage shall be replaced. Night-time effectiveness can best be checked by viewing the signs by vehicle headlights in dark conditions.
- All devices must be securely fixed in the correct position outlined on the TGS.
- They all must be maintained and checked throughout the shift.

7.5.2 ERECTION AND REMOVAL OF REGULATORY TRAFFIC CONTROL DEVICES

The erection and removal of regulatory traffic control devices are to be carried out in accordance with MUTCD Part 3 Appendix B. TGS regulatory traffic control device changes are to be documented on the traffic control daily record and submitted to the Administrator. Regulatory traffic control device changes are to be documented on a Form M994 supported by suitably annotated design drawings and submitted to the Administrator as part of the TGS submission. The regulatory traffic control device documentation is to record at a minimum the following information:

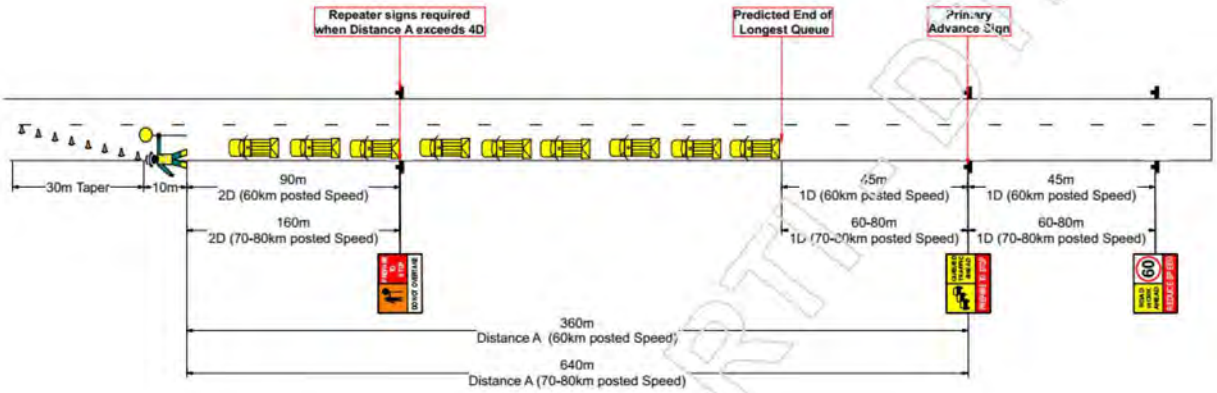
- Regulatory device type and description
- Location (Road, direction, and distance reference if chainage is unknown)
- Implementation date and time
- Removal date and time
- Details of changes made and by whom, including qualification number.
- Name of person authorising the change, including qualification number.

7.6 DELAY MANAGEMENT

Traffic delays shall be assessed during work operations and additional traffic control measures shall be implemented where required.

If queue lengths do occur and continue to develop, they shall be continually assessed, and additional warning signs shall be erected, if deemed necessary to avoid end of queue collisions. Furthermore, if delays persist, closures can be lifted temporary with all works on hold to alleviate the situation. If sight distance to the end of the queue for approaching traffic is likely to be less than D (built-up areas) the following requirements and recommendations shall apply:

FIGURE 11- END OF QUEUE SET UP



During Stop Slow operations if queue lengths begin to become excessive the onsite TMI shall stay in contact with the site supervisor and discuss the potential of opening the lanes back up. Workers shall commence the preparation to re-open the lanes in case the queue lengths do not clear. The TMI shall relay to the Tc's controlling traffic which lanes are to be sent and for how long for to help clear the queues.

7.7 OVERSIZED VEHICLES

The construction works are anticipated to not affect oversized vehicles. The minimum lane widths shall be maintained as per the MRTS02.1. Line marking shall be used to delineate two-way traffic reducing the risk of bollards being knocked over. If Over size vehicles do come through during operation hours and PTCD devices are in operation, then one lane of traffic can be held to allow the safe movement of the oversize vehicles.

The Road Authority is to be notified of hours and locations of works, therefore when a wide load haulage company applies for an access permit, they will be required to notify the Allroads Project Contact prior undertaking haulage works. Wide loads will be communicated to the site crew at the prestart meetings as required.

In the event of a wide load haulage company has failed to notify the Principal Contractor or Road Authority, and a wide load comes through during closures onsite traffic controllers will liaise with the

vehicle and the client. The vehicle shall be held until on site arrangements are made to allow the vehicle to pass.

7.8 COMMUNICATIONS

7.8.1 COMMUNITY AND STAKEHOLDER ENGAGEMENT

Community and stakeholder engagement are to be undertaken prior to the commencement of the works as detailed in the above sections. This engagement is to inform stakeholders of the physical changes, expected delays, traffic impacts and associated mitigation strategies based on the information developed in this TMP.

7.8.2 SITE COMMUNICATIONS

The following communication methods and procedures shall be implemented:

- All issues and problems to be communicated to site supervisor who will escalate as appropriate.
- Traffic Management company/s to address communications in SWMS.
- Allroads shall allocate the UHF channel for the entire site and procedure if the channel needs to be changed.
- Work area access / egress at Allroads Supervisor's approval
- On-road loading zone access / egress to be facilitated by Traffic Control and to work in with traffic flow / gaps in traffic.
- Emergencies to be reported to the Allroads Supervisor or Team Leader onsite.
- Allroads Supervisor or Team Leader onsite to contact emergency services and WHS.

7.9 RISK MANAGEMENT

7.9.1 RISK CONTROLS

The WHS legislation requires person who conduct a business or undertaking (PCBUs) to manage all work health and safety risks, so that the health and safety of workers and other people are not affected by an organisations conduct.

Hazard: A hazard is a situation or thing that has the potential to harm a person

Risk: A risk is the possibility that the harm (i.e., death, an injury, or an illness) might occur when exposed to a hazard

The four-step process for managing risks are:

1. Identify Hazards
2. Assess the Risk
3. Control the Risk

4. Reviewing Risk Controls

FIGURE 12- HIERARCHY OF CONTROL MEASURES

Risk assessment for both the projects mentioned can be found in Appendix 1.

7.10 BROKEN DOWN VEHICLES

As two-way traffic shall be maintained during long term closures, if a car was to break down during working hours then the traffic controller on site shall perform stops slow duties using the PTCD installed either end of the work area. Cones shall be implemented around the vehicle to delineate the road users through shuttle flow arrangement. A local towing company shall be contacted to tow the vehicle out of the live lanes. The TMC centre must be notified immediately of the broken-down vehicle and potential delays it may cause if it can not be moved immediately. TMC may authorise a traffic response vehicle to assist.

At the end of each day, it is recommended that TMC to be notified that there will be no active workers or traffic controllers monitoring the site. Emergency contact details can be left with the TMC Centre to contact if a member of the public does report an abandoned or broken down vehicle. Emergency contacts shall be displayed on site also.

7.11 CONTINGENCY PLANS

Allroads Project Manager & the NTO for the project shall be available 24 hours to facilitate any TGS modifications required for unplanned and/ or emergency responses needed immediately. It shall be noted that if required all traffic management arrangements can/must be re-opened within 30 minutes.

The NTO shall provide TMP/TGS advice for all situations 24/7. Where the NTO cannot be physically present at the site, electronic approval to implement changes suggested. The following process shall be followed.

1. All works shall cease immediately, and the situation assessed for the appropriate controls to be put into action.
2. Emergency services shall be called and provided the details of the accident/incident.
3. Tow Truck shall be contacted.
4. Any open trenches shall be backfilled, road surfaces reinstated and footpaths &/ or lane closures shall be re-opened.

Allroads shall provide the following to all personnel on site:

- Designate the onsite Emergency Contact.
- Ensure a designated emergency response team has been nominated and prepared for any incidents/accidents.
- Create and provide an Emergency Response Plan
- Designate the emergency evacuation assembly point.
- Ensure there is available emergency stockpiles to backfill any trenches (i.e.) gravel, cold mix asphalt or steel plates.
- Ensure onsite evacuation training is completed via drills.

Emergency and unplanned works shall be in accordance with Appendix H of the MUTCD Part 3 Works on Roads.

7.11.1 MINOR PARTIAL ROAD CLOSURE (MUTCD PART 3 APPENDIX H)

For Minor partial road closure where traffic can continue to flow in both directions (two-way road), or at least one lane in each direction is open (divided road), a vehicle with a vehicle-mounted warning device in accordance with Clause 3.12.1 shall be placed to shadow the closure at one or both ends of the incident site, as necessary.

7.11.2 MAJOR PARTIAL ROAD CLOUSRE (MUTCD PART 3 APPENDIX H)

In case of major partial closure where traffic movement is restricted to a single lane, a vehicle mounted warning as above shall be implemented, along with Traffic Controllers in accordance with Clause 4.10 at both ends of the site.

7.11.3 COMPLETE ROAD CLOSURE (MUTCD PART 3 APPENDIX H)

The site shall be barricaded as per Clause 3.8.3 across the entire roadway, and traffic controllers and vehicle mounted warning device shall be in place in accordance with Clauses 4.10, and 3.12.1

7.12 ACCIDENT AND INCIDENT RESPONSE

Once the emergency response team are on scene, they shall be given complete control of the work site.

In an emergency:

- ✓ Cease all onsite operations and make the site safe.
- ✓ The complete work site shall be provided to the emergency services.
- ✓ Allroads to implement emergency response procedure.
- ✓ If safe to do so workers shall evacuate to emergency evacuation point.
- ✓ Radio communications shall be kept a minimum.
- ✓ All site vehicles (if possible, to do safely) to be removed from site.

In the event of a traffic incident within or adjacent to work area:

- ✓ Allroads shall advise emergency services, TMC and the Superintendent.
- ✓ All relevant details shall be recorded and provided to the PCBU.
- ✓ Traffic control devices damaged shall be replace within 24 hours of the incident.
- ✓ Traffic controllers shall continue controlling traffic as required.
- ✓ Allroads shall notify JTS staff members on site when to open or close traffic lanes.
- ✓ Allroads shall communicate with traffic controllers on traffic queues (i.e., how long, how far) and provide feedback if any further controls can be put in place to assist.

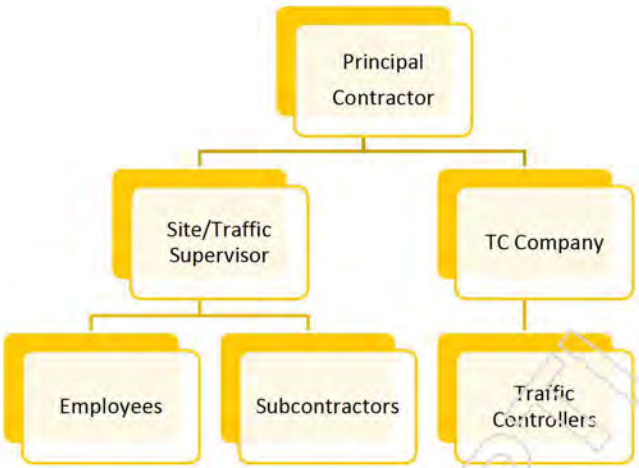
TABLE 8- EMERGENCY CONTACTS

Entity/Individual	Name of contact	PH number
QLD Police		000
QLD Ambulance		000
QLD Fire		000
Allroads Project Manager	PI	NR
Nominated Traffic Officer	PI	NR
JTS Emergency Contact (Operations Manager)	PI	NR
Mr Skids Towing		NR
Logan Village Towing		NR

8. MANAGEMENT PROCESS

8.1 MANAGEMENT HIERARCHY

FIGURE 13



8.2 KEY PERSONNEL (ROLES & RESPONSIBILITIES)

8.2.1 PROJECT MANAGER

The project manager from Allroads is responsible for the overall operation, safety and quality, and targets set out by this document, and the client. The Project Manager shall also ensure that all timelines are met in a timely manner unless given warning or approved by the PCBU.

Key responsibilities of the Project Manager are:

- Overall project accountability including obtaining all necessary resources, insurance and ensuring safe work practices.
- Accountable as the contractor's interface manage as the single point of contact for the project.
- Participate in the interface coordination group meeting.
- Sourcing and communicating all relevant information both internally and externally, I associated with the Interface Coordination Group.
- Developing short-term rolling program outing changes to traffic, including coordination of TGS and signage placement within adjacent packages.

8.2.2TRAFFIC SUPERVISORS

The supervisor shall ensure:

- Managing construction field team for all proposed construction activities relating to traffic management.
- Managing traffic controllers ensuring all traffic controllers hold relevant qualifications.
- Managing police officers whilst performing engaged traffic management services
- Ensuring compliance with the TMP and associated regulatory approvals and permits.
- Monitoring and reporting of road network performance and operation to the Traffic Manager.

8.2.3 NOMINTAED TRAFFIC OFFICER

The NTO shall be:

- Accountable to the Contractor and responsible for the preparation and implementation of the TMP and all TGS and other requirements contained within the project.
- Monitor and review TMP & TGS as required.
- Ensuring all aspects of the TMP is complied with including TGS design management, implementations, inspections, audits, monitoring, and record keeping.
- Overall traffic management ensuring traffic management compliance to the Project contract, management of traffic risks and ensuring general traffic management planning principles are adhered to.
- Development and implementation of all TGSs.

8.2.4 TRAFFIC CONTROLLERS

Traffic Controllers are to:

- Must hold an accredited Traffic Control Licence
- Must hold a construction white card.
- Comply with statutory conditions of their Traffic Control Accreditation
- Traffic controllers must not contravene the ***Traffic Controller Accreditation Scheme Approved Procedure & Heavy Vehicle National Law (QLD)*** details in the Regulation Schedule 1
- Responsible for their own behavior. They shall always be polite and courteous to all road users.
- Must have a 0% Drug and alcohol level when performing traffic control duties.
- Be in full PPE as outlined in the MUTCD and required by the client and employer.
- Not perform traffic control duties while adversely affected by other medication causing impairment.
- Not perform traffic control duties white fatigues
- Not perform traffic control duties unless the person complies with, and continues to comply with, medical fitness and suitability criteria applicable to the Scheme.
- Renew their accreditation by the expiry date after having completed an approved traffic controller refresher training course delivered by a TMR approved training provider.
- Ensure a suitable, unobstructed, escape path is always available and maintained.
- Only control traffic with suitable signs installed (Prepare to Stop Sign Installed)

- Do not stop traffic with their hands unless permitted.

9. NOTIFICATIONS

9.1 AUTHORITIES

All relevant authorities shall be notified of works by applying for relevant approvals. All approvals shall be obtained prior to the commencement of constructions, or prior to the start of each construction stage. Permits required are:

- DTMR Permit
- Logan City Council
- Police Permit

Traffic Management Centre at Nerang required to be contacted as per the MRTS02.1 of proposed lane closure, detours and all traffic incidents on 13 19 40.

9.2 STAKEHOLDER NOTIFICATION

Notification of works to be emailed to relevant Stakeholders. The notification shall be sent to

- QLD Ambulance Station
  Email: qasmetrosouth.lasnbsg@ambulance.qld.gov.au
- QLD Fire Station
  Email: firecombrisbane.data@qfes.qld.gov.au
- Taxi
  Email: info@tcq.org.au
- Translink
  Email: temporary.closures@translink.com.au

The stakeholder notification listed above is to be undertaken as a minimum. The notification should include dates, times, & location of closures.

APPENDIX 1 RISK ASSESSMENT

Potential Hazard	Risk	C x L= Risk Rating	Control Measures	C x L= Risk Rating	Person Responsible
Pre Project-Start	Motorist Confusion regarding works schedule purpose & affects. Local resident misinformation	1 x 4 = 4	Allroads to inform residents of upcoming works and closures through community liaison. VMS board may be utilised to notify road users 1-2 weeks prior to work commencement.	1 x 2 = 2	Allroads
TMP developed incorrectly for the event	Injury to road users, the public, and workers TMP not compliant to MUTCD, confusing and does not contain all information. D in correctly identified and selected. End of Queue Crashes.	4 x 5 = 20	TMP to be developed by a TMD qualified person & RPEQ If required. Prior to developing TMP site visits and research of the site to be conducted and checked by Allroads & TMD Where possible utilise the upper the limit of D to optimize the sign placement. Ensure D dimension is correctly identified from the MUTCD. Ensure end of queue information is prepared in TMP and shown on TGS where required.	4 x 2 = 8	NTO Allroads JTS Management & Traffic controllers
Onsite Pre- Start	WHS, TMP, TGS and planned works		Principal Contractor to ensure Inductor is		Allroads

	information not effectively relayed Traffic controllers not checked and are up to date with work requirements. Traffic Controllers unable to attend due to insufficient time for setups.	4 x 5 = 20	trained and given sufficient time. All workers required to attend, participate, and sign off. Current TGSs to be onsite and available to all personnel. JTS to supply TMI with TGS daily. JTS to ensure they send qualified personnel to site and all traffic controllers have their licenses on them at all times. BMD to allow sufficient time when booking in traffic controllers. They must attend prestart. Recommended Traffic controllers are booked before the permit times.	4 x 2 = 8	JTS Staff & Management Site Supervisor & All Workers
Implementation of TGS	Incorrect Implementation of TGS	5 x 5 = 25	Implementation instructions to be clearly outlined on the TGS. Allroads Supervisors & TMI to check the implementation is completed correctly prior to mobilising work crew to site.	5 x 1 = 5	JTS TMI Allroads Site Supervisor
Implementation of TGS and Removal	Workers at risk of vehicle strike Accident while implementing/ removing	5 x 5 = 25	Utilise C.L.4.4 and 4.6 of the MUTCD Part 3 for short term works in built up area. TC to utilise vehicle equipped with Arrow Boards and Beacons to provide protection and spotter when on road	5 x 1 = 5	Traffic Controllers JTS Allroads

			setting and retrieving signs and cones. Signage and devices placed as per MUTCD and TCASAP. TC to wear Hi Vis TCASAP compliant PPE. Ensure Traffic Controls are not fatigued or under the influence of drugs and alcohol.		Site Supervisor
Work zone	Workers at risk of vehicle strike	5 x 5 = 25	Signage to adequately advise traffic of workers and changed conditions. Installation of traffic control devices to assist with advanced warning and/or protection. Delineation between workers and trafficable lane. Speed reduction and temporary speed zone as per MUTCD Part 3 requirements (e.g. Workers 0-1.2m away from traffic lane = 40km/h temporary speed zone.) Maintain a clearance zone between workers	5 x 1 = 5	Traffic Controllers Site Supervisor Construction Workers

			and delineation where applicable.		
Work zone	Traffic accidently utilising the wrong side of the lane closure causing collision with worksite vehicles or workers.	5 x 5 = 25	Delineation between workers and trafficable lane. Traffic cones where installed speed limit of 50km or less to be 4m max, lateral shifts or merge tapers to be installed at closer intervals for clear delineation of works if gaps seem too large. Traffic Controllers utilised to provide additional directional information and ensure temporary speed zones are being adhered to and direction of traffic is pushed into correct corridor. Illuminated flashing arrow boards used are decision points where possible.	5 x 1 = 5	Lead Traffic Controller NTO Site Supervisor
Signage	Visibility or sight distance obscured by signage installed causing traffic accident	3 x 5 = 15	Install signage 1.0m away from traffic lane. Signage installed at intersections/driveways as not to obscure traffic sight distance entering or exiting.	3 x 1 = 3	Lead Traffic Controller Traffic Controllers Allroads

			Perform drive through to ensure that the setup has not caused or created another hazard at the completion of the setup each shift and recorded.		
Signage	Specular reflection dazzling drivers causing traffic accident.	3 x 3 = 9	Traffic Control signage to have 5-degree kickback away from traffic. Perform drive through to ensure that the setup has not caused or created another hazard at the completion of the setup each shift and recorded.	3 x 1 = 3	Lead Traffic Controller Traffic Controllers
Tapers	Traffic not merging correctly at tapers. Resulting in crashes with public road user or workers/plant.	4 x 4 = 16	Traffic cones installed at lateral shifts or merge tapers to be installed at closer intervals for unambiguous delineation of works. Utilise flashing arrow board to help guide motorists. Ensure taper is obvious in its entirety and is to correct length as per Table 4.6 of MUTCD Part 3.	4 x 1 = 4	Lead Traffic Controller Traffic Controllers Allroads
Car crashes within works	Serious Injury to persons.	5 x 5	Undertake works during the permitted hours by council/police.	5 x 1	Allroads

	Damage to plant and equipment	= 25	Barriers to be installed as per safety requirements and crash barriers.	= 5	Project Manager Traffic controller Site Supervisor
Traffic Congestion	Motorists becoming annoyed/ aggressive. Road Congestion End of queue collisions	3 x 5 = 15	Traffic Volumes to be monitored on site. Closures of lanes and roads only when Permits allow. Ensure the upper limit of D is used where it is safe to do so. Monitor and ensure queuing does not extend on or into intersection and onto the highway. Traffic Controller to prioritise buses & emergency vehicles. When queueing occurs and it can not be shifted and does not ease, TMI to consult Allroads supervisor and try to re-open the road. TMR/ Council may require to be notified to change overhead VMS boards	3 x 1 = 3	Traffic Controller Allroads Site Supervisor

			to display queues ahead expect delays.		
Emergency Vehicle Access due to delays in traffic	Critically injured motorists can die due to the delay times on an emergency vehicle	5 x 5 = 25	The TMP is to inform the Traffic controllers on how to manage an emergency situation. Traffic Controllers to allow access to all emergency vehicles when it is safe to do so. Traffic controllers shall continue to control traffic around the emergency and allow emergency service to take control of the site.	5 x 2 = 10	NTO Allroads JTS Traffic Controllers
Weather- Sun, Wind, Glare & Storms	Damage to plant and equipment, Serious Injury to persons due to out-of-control cars Low visibility through work site.	5 x 5 = 25	Do not undertake works when there is a chance of inclement weather.	5 x 1 = 5	Traffic Controller Allroads Site Supervisor
Onsite Communications	Incorrect UHF channel utilised Radios not charged or going flat. Other works impeding with site UHF channel operations.	1 x 5 = 5	UHF channel to be noted in the site induction. Traffic controller to ensure spare Batteries are onsite. UHF channel with minimal use utilised.	1 x 3 = 3	Traffic Controller Allroads Site Supervisor

			Workers onsite and traffic controllers to keep radio communications short and to the point.		
Vehicle note adhering to speed limit.	Road users speeding through closures and strike other vehicles, workers, and plant.	5 x 5 = 25	Contact the local Queensland Police Service and request for regular patrols and speed radar checks. Ensure speed signs are visible to all road users. Traffic controller to implement PTS sign if not already and show slow on Tc Bat. If PTS is not on TGS, TMD required to approve.	5 x 3 = 15	Traffic Controller Allroads Site Supervisor

APPENDIX 2 OTHER DOCUMENTS

2.1 INSURANCE

Berkley Insurance Australia
a Berkley Company

Certificate of Currency

POLICY NO:	201912-0995 BIA
INSURANCE TYPE:	Public and Products Liability
POLICY WORDING:	Steadfast GL 1 - 2014
THE INSURED:	JTS Group Australia Pty Ltd ATF The Just Traffic Solutions Trust JTS Group Services Pty Ltd ATF The JTS Trust
PRINCIPAL ADDRESS:	Unit 1 & 2 19 Pintu Drive Tanah Merah QLD 4128 AUSTRALIA
BUSINESS:	Traffic control services including traffic management plans.
POLICY PERIOD:	From: 7/12/2019 4pm To: 7/12/2020 4pm Both days inclusive (Local Standard Time)
LIMIT OF INDEMNITY:	
Public Liability	$20,000,000 any one Occurrence
Products Liability	$20,000,000 any one Occurrence and in the aggregate any one Period of Insurance
TERRITORIAL LIMITS:	As per wording
ENDORSEMENTS SUBJECT TO FULL WORDING:	Care Custody Control Endorsement (250k) - Steadfast GL 1 - 2014 Personal Injury to Contractors, Sub Contractors and Labour Hire Excess Endorsement - Steadfast GL 1 - 2014v2

NR

Signed for and on behalf of Berkley Insurance Australia.
Date of issue 11/12/2019

This policy is current at date of issue.
For full details of cover please refer to the policy wording.
This certificate is only valid at the date of issue.

Berkley Insurance Company (trading as Berkley Insurance Australia) ABN 53 126 559 706 AFSL 463129

Sydney: (02) 9275 8500 | sydney@berkleyinaus.com.au
Brisbane: (07) 3220 9900 | brisbane@berkleyinaus.com.au
PO Box Q296 QVB NSW 1230 | www.berkleyinaus.com.au
Facsimile: (02) 9261 2773

Melbourne: (03) 8622 2000 | melbourne@berkleyinaus.com.au
Adelaide: (08) 8470 9020| adelaide@berkleyinaus.com.au
Perth: (08) 6488 0900| perth@berkleyinaus.com.au

Page 1 of 1

Berkley Insurance Australia
| a Berkley Company

Certificate of Currency

POLICY NO:	201501-0407 R5 BIA
INSURANCE TYPE:	Professional Indemnity
POLICY WORDING:	BIA Miscellaneous Professions 2018
THE INSURED:	JTS Group Australia Pty Ltd ATF The Just Traffic Solutions Trust JTS Group Services Pty Ltd ATF The JTS Trust
PRINCIPAL ADDRESS:	Unit 1 & 2 19 Pintu Drive Tanah Merah QLD 4128 AUSTRALIA
BUSINESS:	Traffic Control services including traffic management plans only
POLICY PERIOD:	From: 7/12/2019 4pm To: 7/12/2020 4pm Both days inclusive (Local Standard Time)
LIMIT OF INDEMNITY:	$5,000,000 Any one Claim and $10,000,000 in the aggregate - Cost In Addition
ENDORSEMENTS SUBJECT TO FULL WORDING:	Activities Exclusion 2018
RETROACTIVE DATE:	7/12/2014

NR

Signed for and on behalf of Berkley Insurance Australia
Date of issue 13/12/2019

This policy is current at date of issue.
For full details of cover please refer to the policy wording.
This certificate is only valid at the date of issue.

Berkley Insurance Company (trading as Berkley Insurance Australia) ABN 53 126 559 706 AFSL 463129

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Melbourne: (03) 8622 2000 | melbourne@berkleyinaus.com.au
Adelaide: (08) 8470 9020| adelaide@berkleyinaus.com.au
Perth: (08) 6488 0900| perth@berkleyinaus.com.au

Berkley Insurance Australia
A Berkley Company

Certificate of Currency

POLICY NO:	201912-0995 R1 BIA
INSURANCE TYPE:	Public and Products Liability
POLICY WORDING:	Steadfast GL 1 - 2014
THE INSURED:	JTS Group Australia Pty Ltd ATF The Just Traffic Solutions Trust JTS Group Services Pty Ltd ATF the JTS Trust JTS Investments Company Pty Ltd ATF JTS Investments Trust Vision Traffic Pty Ltd
PRINCIPAL ADDRESS:	Unit 1 & 3 19 Pintu Drive Tanah Merah QLD 4128 AUSTRALIA
BUSINESS:	Traffic control services including traffic management plans; Signwriting; Graphics & Vehicle Wrapping Services
POLICY PERIOD:	From: 7/12/2020 4pm To: 7/12/2021 4pm Both days inclusive (Local Standard Time)

LIMIT OF INDEMNITY:

Public Liability	$20,000,000	any one Occurrence
Products Liability	$20,000,000	any one Occurrence and in the aggregate any one Period of Insurance

TERRITORIAL LIMITS: As per wording

NR

Signed for and on behalf of Berkley Insurance Australia.
Date of issue 13/11/2020

This policy is current at date of issue.
For full details of cover please refer to the policy wording.
This certificate is only valid at the date of issue.

2.2 TMR LICENCE CERTIFICATE

Department of Transport and Main Roads

Certificate of Registration

Traffic Management Registration Scheme

This is to certify that

Just Traffic Solutions Trust

(JTS Group Australia Pty Ltd atf Just Traffic Solutions Trust)

ABN: 16 594 553 165

is registered with the Department of Transport and Main Roads

Traffic Management Registration Scheme

Registration Number: 0258
Issue Date: 24 October 2019
Expiry Date: 30 June 2022

NR

Traffic Management Registration Scheme
Engineering & Technology

To confirm the currency of the registration status please visit
www.tmr.qld.gov.au/business-industry/Accreditations/Traffic-Management-Registration-Scheme.aspx

Great state. Great opportunity.

Queensland Government

2.3 TMD QUALIFICATION

Department of Transport and Main Roads

Traffic Management Design

Certification type: Open

RTO name	Evolution Training & Safety Pty Ltd
Cardholder's name	PI [redacted]
Date of birth	
RTO no.	31733 Card no. 642
Issue date	2 June 2016
Expiry date	Currency of certification to be maintained by card holder

Queensland Government

Department of Transport and Main Roads

The cardholder has met the requirements of the Traffic Management Design Program.

Cardholder's signature

NR [redacted]

3. TRAFFIC GUIDENCE SCHEMES

From: SouthCoast
To: personal
Subject: Transport and Main Roads - Waterford-Tamborine Road progress
Date: Tuesday, 8 June 2021 2:25:00 PM
Attachments: WTR - Construction Notification June 2021.pdf

Dear Mr Buchholz

The Department of Transport and Main Roads (TMR) is providing an update on Waterford Tamborine Road – North Street to Anzac Avenue upgrade.

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. These works will include moving traffic onto the future northbound lanes (western side of Waterford–Tamborine Road), replacing underground services and installing lighting, intersection works and pavement upgrades.

From 14 June 2021, right turn movements into and out of Wharf Street will be removed for a period of up to two weeks to expedite works at this intersection. Left in and left out movements will be maintained at Wharf Street and Logan Street during this time, in addition to U-Turn movements at North Street and Anzac Avenue. TMR and its representatives will notify local businesses and residents of these changes in the coming days, and VMS boards will be displayed to notify motorists of changed traffic conditions.

We trust this information is of assistance

Yours sincerely,
Customer and Stakeholder Management Team

for **Andrew Wheeler**
Deputy Regional Director | South Coast Region | Department of Transport and Main Roads

36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
(07) 5563 6600
southcoast@tmr.qld.gov.au
www.tmr.qld.gov.au

File Reference - 450/01181

Waterford-Tamborine Road Upgrade North Street to Anzac Avenue

June 2021

Project update

The Department of Transport and Main Roads is upgrading Waterford-Tamborine Road from North Street to Anzac Avenue in Logan Village. This upgrade will improve road network capacity, ease congestion and improve safety.

The project includes:

- duplicating Waterford-Tamborine Road from two to four lanes
- providing dedicated right turn lanes into Logan Street and Wharf Street
- drainage and street lighting upgrades
- on-road bike lanes (northbound and southbound)
- road pavement upgrades.

Upcoming works

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. Construction activities during this stage will include:

- establishing a work zone on the northbound (business) side of Waterford-Tamborine Road
- replacing the existing road median south of Logan Street
- drainage upgrades along the northbound road shoulder
- replacement of underground services and installation of street lighting
- excavation works and pavement construction.

All construction activities are expected to be completed by late 2021, weather and construction conditions permitting.

What to expect

Traffic and pedestrian routes, and access to businesses and bus stops will be maintained or alternative access arrangements will be discussed with the community. Some construction impacts will occur including:

- stop/go traffic arrangements during the set-up of the stage two work zone
- temporary movement of all through traffic lanes to the southbound (park) side of Waterford-Tamborine Road
- a reduced speed limit of 40km/h in the work zone
- increased levels of noise, dust and vibration.

Please be aware that there will be left in and left out turns only at Wharf Street temporarily from 14 June 2021 to enable Stage 2 works. This will be in addition to left in and left out arrangements at Logan Street being maintained until project completion to expedite works and provide a safer driving environment. Every effort will be made to minimise construction impacts where possible.

Working hours

Day work hours are 7am to 6pm, Monday to Friday. Some night works from 7pm to 5am Sunday to Thursday are expected during stage two works for drainage installation.

For more information, please contact:

Phone: 1800 316 373
Email: waterfordtamborineroad@tmr.qld.gov.au
Web: www.tmr.qld.gov.au/projects
Post: PO Box 442, Nerang QLD 4211
**Standard call charges may apply*

Stage 2 Works

From: SouthCoast
To: division4@logan.qld.gov.au
Subject: Transport and Main Roads - Waterford-Tamborine Road progress
Date: Tuesday, 8 June 2021 2:24:00 PM
Attachments: WTR - Construction Notification June 2021.pdf

Dear personal i

The Department of Transport and Main Roads (TMR) is providing an update on Waterford–Tamborine Road – North Street to Anzac Avenue upgrade.

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. These works will include moving traffic onto the future northbound lanes (western side of Waterford–Tamborine Road), replacing underground services and installing lighting, intersection works and pavement upgrades.

From 14 June 2021, right turn movements into and out of Wharf Street will be removed for a period of up to two weeks to expedite works at this intersection. Left in and left out movements will be maintained at Wharf Street and Logan Street during this time, in addition to U-Turn movements at North Street and Anzac Avenue. TMR and its representatives will notify local businesses and residents of these changes in the coming days, and VMS boards will be displayed to notify motorists of changed traffic conditions.

We trust this information is of assistance

Yours sincerely,
Customer and Stakeholder Management Team

for **Andrew Wheeler**
Deputy Regional Director | South Coast Region | Department of Transport and Main Roads

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PO Box 442 | Nerang Qld 4211
(07) 5563 6600
southcoast@tmr.qld.gov.au
www.tmr.qld.gov.au

File Reference - 450/01181

Waterford-Tamborine Road Upgrade North Street to Anzac Avenue

June 2021

Project update

The Department of Transport and Main Roads is upgrading Waterford-Tamborine Road from North Street to Anzac Avenue in Logan Village. This upgrade will improve road network capacity, ease congestion and improve safety.

The project includes:

- duplicating Waterford-Tamborine Road from two to four lanes
- providing dedicated right turn lanes into Logan Street and Wharf Street
- drainage and street lighting upgrades
- on-road bike lanes (northbound and southbound)
- road pavement upgrades.

Upcoming works

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. Construction activities during this stage will include:

- establishing a work zone on the northbound (business) side of Waterford-Tamborine Road
- replacing the existing road median south of Logan Street
- drainage upgrades along the northbound road shoulder
- replacement of underground services and installation of street lighting
- excavation works and pavement construction.

All construction activities are expected to be completed by late 2021, weather and construction conditions permitting.

What to expect

Traffic and pedestrian routes, and access to businesses and bus stops will be maintained or alternative access arrangements will be discussed with the community. Some construction impacts will occur including:

- stop/go traffic arrangements during the set-up of the stage two work zone
- temporary movement of all through traffic lanes to the southbound (park) side of Waterford-Tamborine Road
- a reduced speed limit of 40km/h in the work zone
- increased levels of noise, dust and vibration.

Please be aware that there will be left in and left out turns only at Wharf Street temporarily from 14 June 2021 to enable Stage 2 works. This will be in addition to left in and left out arrangements at Logan Street being maintained until project completion to expedite works and provide a safer driving environment. Every effort will be made to minimise construction impacts where possible.

Working hours

Day work hours are 7am to 6pm, Monday to Friday. Some night works from 7pm to 5am Sunday to Thursday are expected during stage two works for drainage installation.

For more information, please contact:

Phone: 1800 316 373
Email: waterfordtamborineroad@tmr.qld.gov.au
Web: www.tmr.qld.gov.au/projects
Post: PO Box 442, Nerang QLD 4211
**Standard call charges may apply*

Stage 2 Works

From: SouthCoast
To: logan@parliament.qld.gov.au
Subject: Transport and Main Roads - Waterford-Tamborine Road progress
Date: Tuesday, 8 June 2021 2:23:00 PM
Attachments: WTR - Construction Notification June 2021.pdf

Dear Mr Power

The Department of Transport and Main Roads (TMR) is providing an update on Waterford–Tamborine Road – North Street to Anzac Avenue upgrade.

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. These works will include moving traffic onto the future northbound lanes (western side of Waterford–Tamborine Road), replacing underground services and installing lighting, intersection works and pavement upgrades.

From 14 June 2021, right turn movements into and out of Wharf Street will be removed for a period of up to two weeks to expedite works at this intersection. Left in and left out movements will be maintained at Wharf Street and Logan Street during this time, in addition to U-Turn movements at North Street and Anzac Avenue. TMR and its representatives will notify local businesses and residents of these changes in the coming days, and VMS boards will be displayed to notify motorists of changed traffic conditions.

We trust this information is of assistance

Yours sincerely,
Customer and Stakeholder Management Team

for **Andrew Wheeler**
Deputy Regional Director | South Coast Region | Department of Transport and Main Roads

36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
(07) 5563 6600
southcoast@tmr.qld.gov.au
www.tmr.qld.gov.au

File Reference - 450/01181

Waterford-Tamborine Road Upgrade North Street to Anzac Avenue

June 2021

Project update

The Department of Transport and Main Roads is upgrading Waterford-Tamborine Road from North Street to Anzac Avenue in Logan Village. This upgrade will improve road network capacity, ease congestion and improve safety.

The project includes:

- duplicating Waterford-Tamborine Road from two to four lanes
- providing dedicated right turn lanes into Logan Street and Wharf Street
- drainage and street lighting upgrades
- on-road bike lanes (northbound and southbound)
- road pavement upgrades.

Upcoming works

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. Construction activities during this stage will include:

- establishing a work zone on the northbound (business) side of Waterford-Tamborine Road
- replacing the existing road median south of Logan Street
- drainage upgrades along the northbound road shoulder
- replacement of underground services and installation of street lighting
- excavation works and pavement construction.

All construction activities are expected to be completed by late 2021, weather and construction conditions permitting.

What to expect

Traffic and pedestrian routes, and access to businesses and bus stops will be maintained or alternative access arrangements will be discussed with the community. Some construction impacts will occur including:

- stop/go traffic arrangements during the set-up of the stage two work zone
- temporary movement of all through traffic lanes to the southbound (park) side of Waterford-Tamborine Road
- a reduced speed limit of 40km/h in the work zone
- increased levels of noise, dust and vibration.

Please be aware that there will be left in and left out turns only at Wharf Street temporarily from 14 June 2021 to enable Stage 2 works. This will be in addition to left in and left out arrangements at Logan Street being maintained until project completion to expedite works and provide a safer driving environment. Every effort will be made to minimise construction impacts where possible.

Working hours

Day work hours are 7am to 6pm, Monday to Friday. Some night works from 7pm to 5am Sunday to Thursday are expected during stage two works for drainage installation.

For more information, please contact:

Phone: 1800 316 373
Email: waterfordtamborineroad@tmr.qld.gov.au
Web: www.tmr.qld.gov.au/projects
Post: PO Box 442, Nerang QLD 4211
**Standard call charges may apply*

Stage 2 Works

From: SouthCoast
To: personal_in logan.qld.gov.au"
Subject: Department of Transport and Main Roads - Waterford Tamborine Road (North Street to Anzac Avenue)
Date: Wednesday, 10 March 2021 4:06:00 PM
Attachments: WTR - Construction Notification March 2021.pdf

Dear personal inf

I am writing to inform you that Allroads Pty Ltd has been awarded the contract to undertake construction works on Waterford–Tamborine Road between North Street to Anzac Avenue. This Queensland Government funded project will widen the road from two to four lanes with dedicated turn right lanes into Wharf Street and Logan Street, upgrade drainage and lighting infrastructure and provide on-road bike lanes.

Allroads will commence works from mid-March 2021. Construction works will include:

- Site clearing and removal of vegetation including several mature gum trees
- Replacement of underground services and street lighting
- Drainage upgrades
- Excavation and pavement construction
- Asphalt resurfacing and line marking
- Landscaping and site restoration

Please see the attached construction notification for further information regarding this important upgrade.

I trust this information is of assistance.

Yours sincerely,
Customer and Stakeholder Management Team

for **Andrew Wheeler**
Deputy Regional Director | South Coast Region | Department of Transport and Main Roads

36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
(07) 5563 6600
southcoast@tmr.qld.gov.au
www.tmr.qld.gov.au

Waterford–Tamborine Road Upgrade North Street to Anzac Avenue

March 2021

The Department of Transport and Main Roads is upgrading Waterford–Tamborine Road from North Street to Anzac Avenue in Logan Village.

The construction contract for this Queensland Government funded road upgrade has been awarded to Allroads Pty Ltd. Project works will include:

- duplicating Waterford–Tamborine Road from two to four lanes
- dedicated right turn lanes into Logan Street and Wharf Street
- drainage and lighting upgrades
- on-road bike lanes (northbound and southbound)
- asphalting works.

This important upgrade will improve road network capacity, ease congestion and improve safety.

Timeframes

Construction will begin in March 2021 and is expected to be completed by late 2021, weather and construction conditions permitting.

Work activities

Upcoming construction works will include:

- Site clearing and removal of vegetation including several mature gum trees
- Replacement of underground services and street lighting
- Drainage upgrades
- Excavation and pavement construction
- Asphalt resurfacing and line marking
- Landscaping and site restoration

Safety First – Please drive with care through roadworks; your safety and our employees' safety is important to us.

Plan ahead – Keep up to date with traffic conditions – call 13 19 40 or visit www.qldtraffic.qld.gov.au for the latest traffic and travel information.

The works will be completed in several stages to minimise disruption to road users, businesses and residents.

What to expect

Traffic and pedestrian routes, and access to businesses and bus stops will be maintained or alternative access arrangements will be provided. Some construction related impacts will occur, including:

- A reduced speed limit of 40km/h in the work zone
- Temporary traffic changes including lane shifts and closures, road shoulder closures and closure of some on-street parking. These changes will be signed and traffic controllers will be present to assist motorists and pedestrians.
- Increased levels of noise, dust and vibration.

Every effort will be made to minimise construction impacts where possible.

The Department of Transport and Main Roads appreciates your patience while these important works are being carried out.

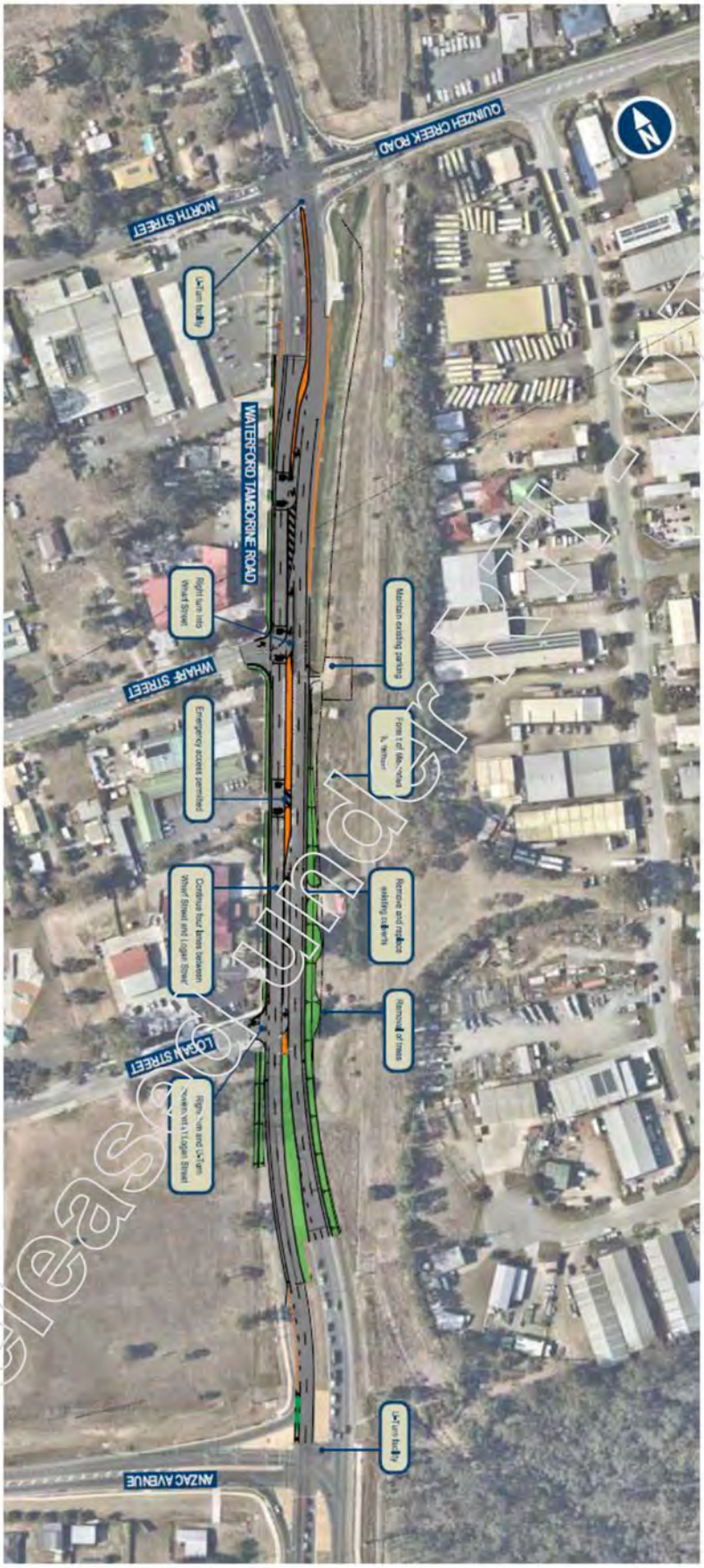
Working hours

Construction work hours will primarily be undertaken from 7am to 6pm, Monday to Friday. However, some night and weekend works will be required during the project.

For more information, please contact:

Phone: 55 636 600
Email: waterfordtamborineroad@tmr.qld.gov.au
Web: www.tmr.qld.gov.au/projects
Post: PO Box 442, Nerang QLD 4211
**Standard call charges may apply*

Waterford-Tamborine Road Upgrade



From: SouthCoast
To: personal inf
Subject: Transport and Main Roads : Waterford Tamborine Road - North Street to Anzac Avenue update
Date: Wednesday, 31 March 2021 12:45:00 PM

Dear personal inf

The Department of Transport and Main Roads is writing to provide an update on Waterford–Tamborine Road – North Street to Anzac Avenue project.

The contractor has undertaken a doorknock of local businesses and residents along the corridor to provide an overview of the construction program. The upcoming program of works includes the removal of roadside vegetation (including several mature trees), installing safety barriers and changed line marking. For the safety of motorists and workers, the construction program also includes the temporary removal of right turn access into Logan Street for a duration of 2-3 months (weather and site conditions permitting). U Turn access at North Street and Anzac Avenue will be maintained at all times during the construction program, in addition to left in and left out access arrangements at Logan Street.

I trust this information is of assistance.

Yours sincerely,
Customer and Stakeholder Management Team

for **Andrew Wheeler**
Deputy Regional Director | South Coast Region | Department of Transport and Main Roads

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PO Box 442 | Nerang Qld 4211
(07) 5563 6600
southcoast@tmr.qld.gov.au
www.tmr.qld.gov.au

From: PI
To: Sarah-Jane Y Bartlem
Subject: FW: Requesting Approval of Long Term VMS locations TGS and Community Communication
Date: Tuesday, 9 March 2021 3:15:15 PM
Attachments: image515350.png
image237611.png
image976683.png
21M-102 - VMS.pdf
image001.png
image002.jpg

Do you think we should be out there doorknocking the same day the VMS go up?
Jamie

From: PI @allroads.net.au>
Sent: Tuesday, 9 March 2021 3:12 PM
To: PI @ghd.com>
Cc: Waterford Tamborine Road Upgrade <Waterford@ghd.com> PI om.au; Jamie Y Hall <Jamie.Y.Hall@tmr.qld.gov.au>; PI @allroads.net.au>
Subject: Requesting Approval of Long Term VMS locations TGS and Community Communication

Hi Petrus,

Please see attached TGS for long term VMS board locations. The VMS boards will be placed 3 metres from the travelled path as per the MUTCD requirements.

We seek approval to install these VMS boards this Thursday 11th March 2021 as per the attached TGS.

We also require Community team approval to display communication on the VMS boards.

Proposed message:

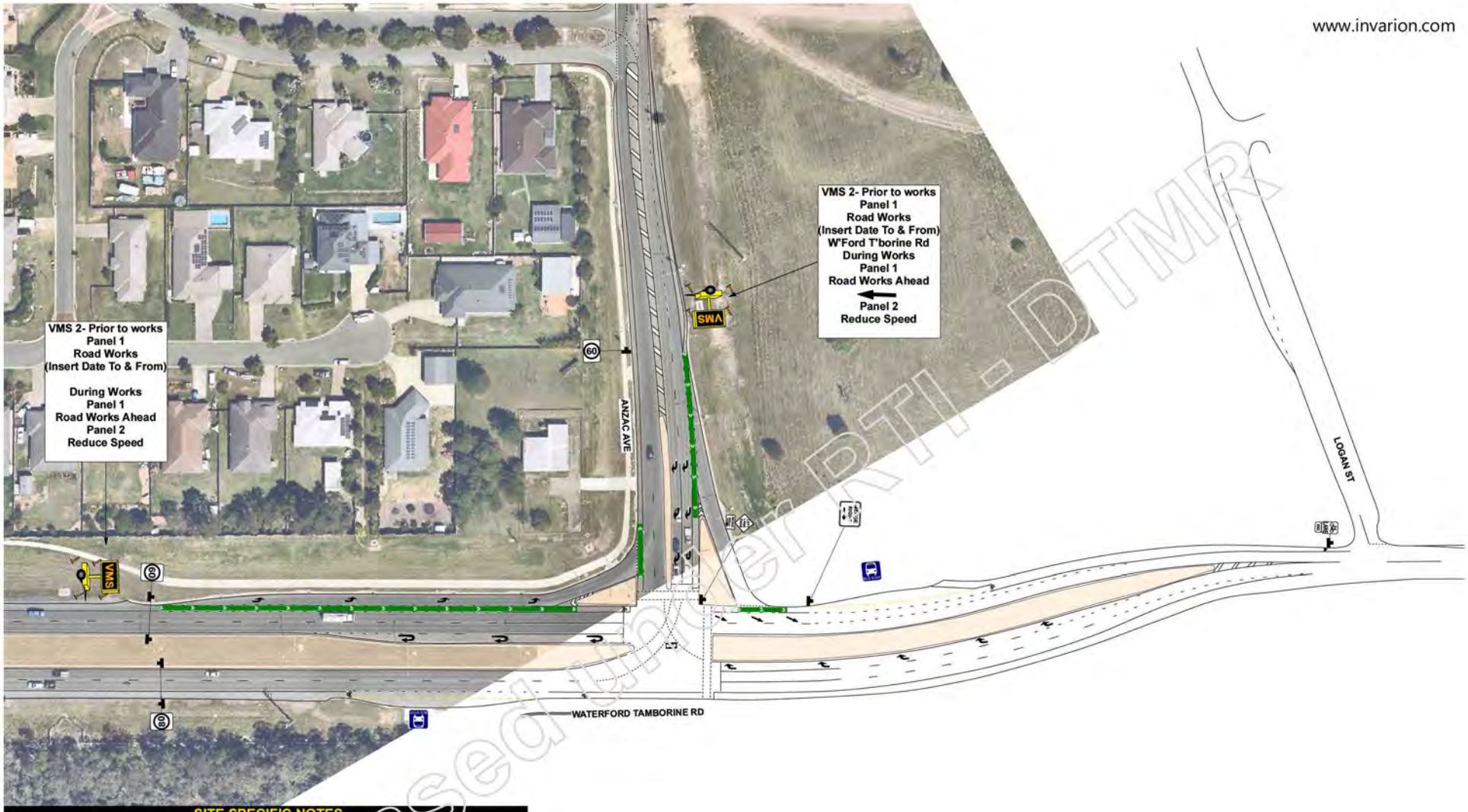
Screen 1: "ROAD WORKS"

Screen 2: "Commencing 18TH MARCH 2021"

Screen 3: "W-FORD T-BORINE RD"

Kind Regards

PI
Project Engineer
M nr P 1300 ALLROADS
E personal info @allroads.net.au
125 Axis Place, Larapinta QLD 4110
PO Box 318, Browns Plains QLD 4118
Disclaimer Provide Feedback
www.allroads.net.au



SITE SPECIFIC NOTES

1. VMS Boards to be installed where they do no obstruct the view of the road users
2. VMS boards to be installed on the verge and not in live lanes
3. VMS board messages to be in accordance with MUTCD Part 3 and TRUM Volume 1 Part 9.
4. VMS boards to be min. 1900mm high and 2400mm wide.
5. VMS Board to be located min. 3m from the travelled path when not protected by a road safety barrier.

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1	**Pedestrian Travel Path:** N/A
TGS Number: 21M-102_1 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: N/A	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** N/A
QDTMR: South Coast	**Traffic Method:** Long Term VMS Locations	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	02.03.21	First Design

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 -12	

PRINT IN A3
NOT TO SCALE

JTS Just Traffic Solutions Trust
Leaders In Traffic Control Solutions
PH: 1300 722 800 FAX: 1300 722 244
EMAIL: info@justtrafficsolutions.com.au
PI
nr
PI

ALLROADS CIVIL CONSTRUCTION + MINING @allroads.net.au

DISCLAIMER

This TGS is drawn to individual client requirements/requests. JTS Group Australia PTY LTD cannot accept responsibility for the integrity and accuracy of such information provided by third parties. No responsibility can be accepted for the use of this drawing on any other project.

Effectiveness and/or suggested improvements and modifications for TGS please Email: megan@justtrafficsolutions.com.au Phone: 0455 113 044

LEGEND

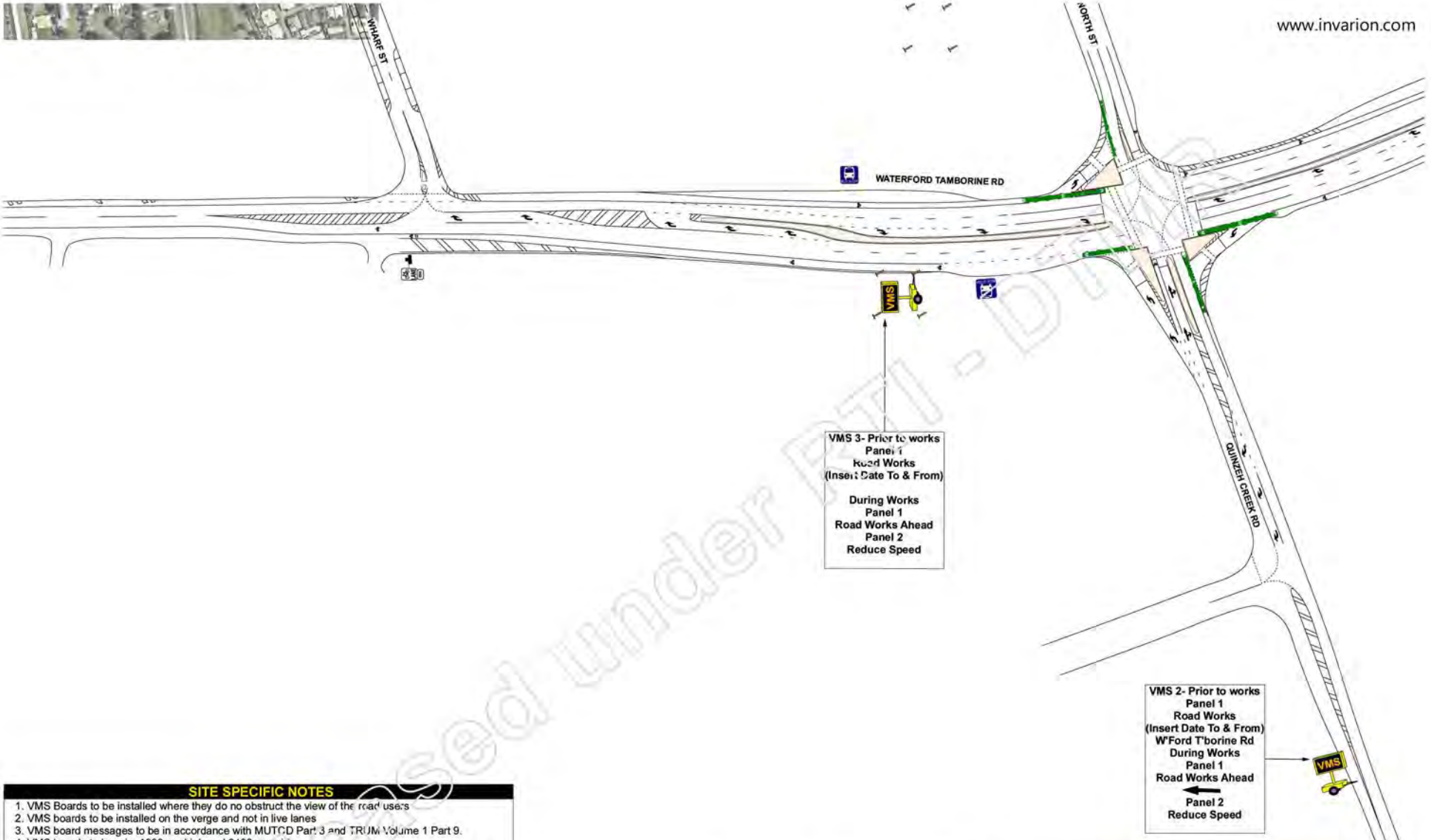
- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Area
- Black & White Signs = Permanent Signs
- Traffic Island
- Temporary Line Marking
- Temporary Road Safety Barrier
- Barrier Buffer Zone
- Plant & Materials Area
- Temporary Hazard Marker
- Temporary Bollards
- Trailer Mounted Traffic Signal
- Light Tower
- VMS Boards
- PTSS- Type 1

RECOMMENDED RESOURCES

Traffic Controllers: N/A
Traffic Control Ute: N/A
VMS: 4
Light Tower: N/A
Traffic Cones/Bollards: 12
Sign Frames & Legs/Poles: N/A

TMD SIGN OFF

DESIG Name: PI
Signature: nr
TMD No: 642 Open
Date: 02.03.21



SITE SPECIFIC NOTES

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2. VMS boards to be installed on the verge and not in live lanes
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5. VMS Board to be located min. 3m from the travelled path when not protected by a road safety barrier.

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1	**Pedestrian Travel Path:** N/A
TGS Number: 21M-102_2 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: N/A	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** N/A
QDTMR: South Coast	**Traffic Method:** Long Term VMS Locations	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	02.03.21	First Design

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 - 12	

PRINT IN A3
NOT TO SCALE

Just Traffic Solutions Trust
Leaders In Traffic Control Solutions
PH: 1300 722 800 FAX: 1300 722 244
EMAIL: info@justtrafficsolutions.com.au

PI
NR
PI

ALLROADS
allroads.net.au

DISCLAIMER

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Effectiveness and/or suggested improvements and modifications for TGS please Email: megan@justtrafficsolutions.com.au Phone: 0455 113 044

LEGEND

- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Area
- Black & White Signs = Permanent Signs
- Traffic Island
- Temporary Line Marking
- Temporary Road Safety Barrier
- Barrier Buffer Zone
- Plant & Materials Area
- Temporary Hazard Marker
- Temporary Bollards
- Trailer Mounted Traffic Signal
- VMS Boards
- Light Tower
- PTSS- Type 1

RECOMMENDED RESOURCES

Traffic Controllers: N/A
Traffic Control Ute: N/A
VMS: 4
Light Tower: N/A
Traffic Cones/Bollards: 12
Sign Frames & Legs/Poles: N/A

TMD SIGN OFF

DESIG
Name: PI
Signatur NR
TMD No: 642 Open
Date: 02.03.21

From: waterfordtamborineroad
To: PI
Subject: RE: Waterford- Tamborine Road/ North Street Intersection proposed upgrade
Date: Tuesday, 29 June 2021 10:18:00 AM
Attachments: WTR North Street to Anzac Avenue - Map.pdf
image003.jpg
image005.png
image006.jpg
image007.jpg

Dear Mr PI

Thank you for your email to the Department of Transport and Main Roads (TMR) on 18 June regarding Waterford–Tamborine Road – North Street to Anzac Avenue upgrade.

During the design process, TMR investigated opportunities to include a dedicated right turn access point for emergency vehicles at Logan Street however the road corridor constraints at this location (four lanes of traffic plus a dedicated right turn pocket into Logan Street, on road cycle lanes) determined that this was not a feasible inclusion for the project. Consideration was also given to ongoing enforcement of this facility should it be included in the project design and the potential for non-emergency vehicles to use the facility to make illegal movements.

Please see the attached map which outlines gaps in the centre median at Logan Street and in front of the medical centre. It is anticipated that these gaps in the median would still provide an opportunity for emergency vehicles to access southbound lanes of Waterford–Tamborine Road when responding to urgent calls for service.

Regards

The Waterford Tamborine Road upgrade project team
Ph: (07) 5563 6600
Email: waterfordtamborineroad@tmr.qld.gov.au
Web: www.tmr.qld.gov.au/projects

From PI @police.qld.gov.au>
Sent: Friday, 18 June 2021 9:08 AM
To: waterfordtamborineroad <waterfordtamborineroad@tmr.qld.gov.au>
Subject: FW: Waterford- Tamborine Road/ North Street Intersection proposed upgrade

Good Morning

I note the Waterford- Tamborine road, Logan Village proposed upgrades have commenced.

I am conducting some follow up on the request of a right-hand turn lane from Logan Street onto Waterford Tamborine Road for emergency services vehicles. As per the below request-

Our request- *Presently, a large volume of our calls for service are in the Southern part of the Logan Village Yarrabilba police division requiring our responding crews to make the right hand turn from Logan street onto Waterford Tamborine Road, we are proposing that the engineers modify the proposed upgrade to incorporate a right hand turn option from Logan Street to Waterford Tamborine Road for emergency services vehicles only.....this will assist our crews in reducing response times, especially when responding to urgent calls for service.*

Can you please advise if this request has been taken into consideration.

Kind Regards

PI
Sergeant
OIC Logan Village Yarrabilba Police Station
PI @Police.Qld.gov.au
PH- PI

From: waterfordtamborineroad <waterfordtamborineroad@tmr.qld.gov.au>
Sent: Friday, 22 November 2019 16:26
To PI @police.qld.gov.au>
Subject: RE: Waterford- Tamborine Road/ North Street Intersection proposed upgrade
Dea PI
Thank you for your feedback on the interim solution to provide four - lanes through the unduplicated section (Anzac Avenue to Wharf Street) which is currently being considered.
TMR are currently in the process of reviewing the feedback received from the community during the recent consultation process. Once the review is complete, TMR plan on releasing the updated information to the community in early 2020 and looks forward to working with the community to achieve the outcomes required.
The Waterford-Tamborine upgrade project team
Ph: 1300 311 253
Email: waterfordtamborineroad@tmr.qld.gov.au
Web: www.tmr.qld.gov.au/projects

From PI @police.qld.gov.au>
Sent: Monday, 23 September 2019 9:53 AM
To: waterfordtamborine <waterfordtamborine@tmr.qld.gov.au>
Subject: Waterford- Tamborine Road/ North Street Intersection proposed upgrade
Good Morning
I had some representatives from TMR attend the Police station last week to discuss the proposed Waterford- Tamborine Road intersection with North street upgrade (Please see attached map).
TMR are requesting feedback on the proposal, in short the plan is to continue the 4 lanes on Waterford-Tamborine Road from North street to Anzac Avenue.
However with this proposal come a few issues, there recommendation is to place a concrete medium down the centre of these lanes restricting access to a number of streets including-

- Logan street will only have a left turn in and left turn out
- No right hand turn out of Wharf street.

Essentially, if this proposed plan is approved, the only way for the police crews to head out to Yarrabilba or areas south of this location will require you to drive down to North street and wait at the traffic lights to make the right-hand turn onto Waterford Tamborine Road.
Further to this, anyone wanting to attend the Logan Village Pub or the medical centre heading south on Waterford Tamborine road may end up turning into Wharf street and doing a loop past the police station, down Logan street and left back onto Waterford Tamborine Road.....this has the potential for increased traffic along river street. There is an option for people to conduct a U-turn at the lights at Anzac Ave however this will also depend on light sequence as to how many vehicles can get through quickly, people tend to find short cuts to reduce time. (FYI, As it stands, parents picking up children from Logan Village State School on North Street/ members of the public are utilising River street as a short cut to cut across vacant land between Logan Street and Anzac Ave heading towards Jimboomba to save time, feedback is the light sequence on the right hand turn from Waterford

Tamborine Road into Anzac Ave doesn't reflect peak times between 2:30-3:30pm, hence the short cut. With this in mind, having no right hand turn from Logan Street will force parents to head back out to Waterford Tamborine Road via North Street is they want to head south which will create further traffic congestion around the school)

Our request- Presently, a large volume of our calls for service are in the Southern part of the Logan Village Yarrabilba police division requiring our responding crews to make the right hand turn from Logan street onto Waterford Tamborine Road, we are proposing that the engineers modify the proposed upgrade to incorporate a right hand turn option from Logan Street to Waterford Tamborine Road for emergency services vehicles only.....this will assist our crews in reducing response times, especially when responding to urgent calls for service.

Please let me know if you require anything further.

Submitted for your consideration,

Regards

PI

Sergeant

OIC Logan Village Yarrabilba Police Station

PI @Police.Qld.gov.au

PH PI

badgecheck

cid:image002.jpg@01D56731.67EDBDF0

waived or destroyed by that mistake.

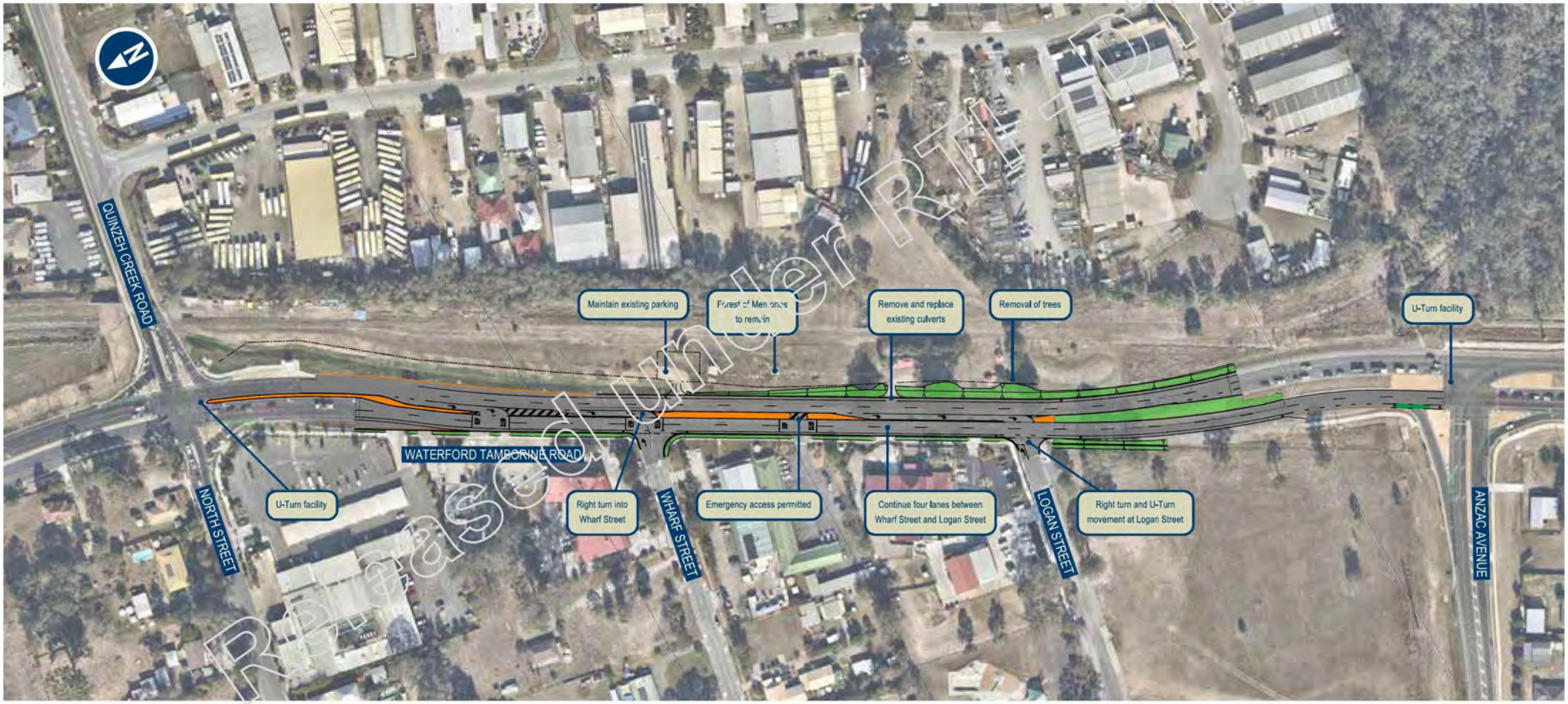
It is your responsibility to ensure that this email does not contain and is not affected by computer viruses, defects or interference by third parties or replication problems (including incompatibility with your computer system).

Opinions contained in this email do not necessarily reflect the opinions of the Department of Transport and Main Roads, or endorsed organisations utilising the same infrastructure.

****

Waterford-Tamborine Road Upgrade

February 2021



Queensland Government

From: SouthCoast
To: personal_i
Subject: Transport and Main Roads - Waterford-Tamborine Road progress
Date: Tuesday, 8 June 2021 2:25:00 PM
Attachments: WTR - Construction Notification June 2021.pdf

Dear personal inf

The Department of Transport and Main Roads (TMR) is providing an update on Waterford Tamborine Road – North Street to Anzac Avenue upgrade.

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. These works will include moving traffic onto the future northbound lanes (western side of Waterford–Tamborine Road), replacing underground services and installing lighting, intersection works and pavement upgrades.

From 14 June 2021, right turn movements into and out of Wharf Street will be removed for a period of up to two weeks to expedite works at this intersection. Left in and left out movements will be maintained at Wharf Street and Logan Street during this time, in addition to U-Turn movements at North Street and Anzac Avenue. TMR and its representatives will notify local businesses and residents of these changes in the coming days, and VMS boards will be displayed to notify motorists of changed traffic conditions.

We trust this information is of assistance

Yours sincerely,
Customer and Stakeholder Management Team

for **Andrew Wheeler**
Deputy Regional Director | South Coast Region | Department of Transport and Main Roads

36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
(07) 5563 6600
southcoast@tmr.qld.gov.au
www.tmr.qld.gov.au

File Reference - 450/01181

Waterford-Tamborine Road Upgrade North Street to Anzac Avenue

June 2021

Project update

The Department of Transport and Main Roads is upgrading Waterford-Tamborine Road from North Street to Anzac Avenue in Logan Village. This upgrade will improve road network capacity, ease congestion and improve safety.

The project includes:

- duplicating Waterford-Tamborine Road from two to four lanes
- providing dedicated right turn lanes into Logan Street and Wharf Street
- drainage and street lighting upgrades
- on-road bike lanes (northbound and southbound)
- road pavement upgrades.

Upcoming works

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. Construction activities during this stage will include:

- establishing a work zone on the northbound (business) side of Waterford-Tamborine Road
- replacing the existing road median south of Logan Street
- drainage upgrades along the northbound road shoulder
- replacement of underground services and installation of street lighting
- excavation works and pavement construction.

All construction activities are expected to be completed by late 2021, weather and construction conditions permitting.

What to expect

Traffic and pedestrian routes, and access to businesses and bus stops will be maintained or alternative access arrangements will be discussed with the community. Some construction impacts will occur including:

- stop/go traffic arrangements during the set-up of the stage two work zone
- temporary movement of all through traffic lanes to the southbound (park) side of Waterford-Tamborine Road
- a reduced speed limit of 40km/h in the work zone
- increased levels of noise, dust and vibration.

Please be aware that there will be left in and left out turns only at Wharf Street temporarily from 14 June 2021 to enable Stage 2 works. This will be in addition to left in and left out arrangements at Logan Street being maintained until project completion to expedite works and provide a safer driving environment. Every effort will be made to minimise construction impacts where possible.

Working hours

Day work hours are 7am to 6pm, Monday to Friday. Some night works from 7pm to 5am Sunday to Thursday are expected during stage two works for drainage installation.

For more information, please contact:

Phone: 1800 316 373
Email: waterfordtamborineroad@tmr.qld.gov.au
Web: www.tmr.qld.gov.au/projects
Post: PO Box 442, Nerang QLD 4211
**Standard call charges may apply*

Stage 2 Works

From: SouthCoast
To: division4@logan.qld.gov.au
Subject: Transport and Main Roads - Waterford-Tamborine Road progress
Date: Tuesday, 8 June 2021 2:24:00 PM
Attachments: WTR - Construction Notification June 2021.pdf

Dear personal inf

The Department of Transport and Main Roads (TMR) is providing an update on Waterford–Tamborine Road – North Street to Anzac Avenue upgrade.

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. These works will include moving traffic onto the future northbound lanes (western side of Waterford–Tamborine Road), replacing underground services and installing lighting, intersection works and pavement upgrades.

From 14 June 2021, right turn movements into and out of Wharf Street will be removed for a period of up to two weeks to expedite works at this intersection. Left in and left out movements will be maintained at Wharf Street and Logan Street during this time, in addition to U-Turn movements at North Street and Anzac Avenue. TMR and its representatives will notify local businesses and residents of these changes in the coming days, and VMS boards will be displayed to notify motorists of changed traffic conditions.

We trust this information is of assistance

Yours sincerely,
Customer and Stakeholder Management Team

for **Andrew Wheeler**
Deputy Regional Director | South Coast Region | Department of Transport and Main Roads

36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
(07) 5563 6600
southcoast@tmr.qld.gov.au
www.tmr.qld.gov.au

File Reference - 450/01181

Waterford-Tamborine Road Upgrade North Street to Anzac Avenue

June 2021

Project update

The Department of Transport and Main Roads is upgrading Waterford-Tamborine Road from North Street to Anzac Avenue in Logan Village. This upgrade will improve road network capacity, ease congestion and improve safety.

The project includes:

- duplicating Waterford-Tamborine Road from two to four lanes
- providing dedicated right turn lanes into Logan Street and Wharf Street
- drainage and street lighting upgrades
- on-road bike lanes (northbound and southbound)
- road pavement upgrades.

Upcoming works

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. Construction activities during this stage will include:

- establishing a work zone on the northbound (business) side of Waterford-Tamborine Road
- replacing the existing road median south of Logan Street
- drainage upgrades along the northbound road shoulder
- replacement of underground services and installation of street lighting
- excavation works and pavement construction.

All construction activities are expected to be completed by late 2021, weather and construction conditions permitting.

What to expect

Traffic and pedestrian routes, and access to businesses and bus stops will be maintained or alternative access arrangements will be discussed with the community. Some construction impacts will occur including:

- stop/go traffic arrangements during the set-up of the stage two work zone
- temporary movement of all through traffic lanes to the southbound (park) side of Waterford-Tamborine Road
- a reduced speed limit of 40km/h in the work zone
- increased levels of noise, dust and vibration.

Please be aware that there will be left in and left out turns only at Wharf Street temporarily from 14 June 2021 to enable Stage 2 works. This will be in addition to left in and left out arrangements at Logan Street being maintained until project completion to expedite works and provide a safer driving environment. Every effort will be made to minimise construction impacts where possible.

Working hours

Day work hours are 7am to 6pm, Monday to Friday. Some night works from 7pm to 5am Sunday to Thursday are expected during stage two works for drainage installation.

For more information, please contact:

Phone: 1800 316 373
Email: waterfordtamborineroad@tmr.qld.gov.au
Web: www.tmr.qld.gov.au/projects
Post: PO Box 442, Nerang QLD 4211
**Standard call charges may apply*

Stage 2 Works

From: SouthCoast
To: logan@parliament.qld.gov.au
Subject: Transport and Main Roads - Waterford-Tamborine Road progress
Date: Tuesday, 8 June 2021 2:23:00 PM
Attachments: WTR - Construction Notification June 2021.pdf

Dear personal

The Department of Transport and Main Roads (TMR) is providing an update on Waterford–Tamborine Road – North Street to Anzac Avenue upgrade.

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. These works will include moving traffic onto the future northbound lanes (western side of Waterford–Tamborine Road), replacing underground services and installing lighting, intersection works and pavement upgrades.

From 14 June 2021, right turn movements into and out of Wharf Street will be removed for a period of up to two weeks to expedite works at this intersection. Left in and left out movements will be maintained at Wharf Street and Logan Street during this time, in addition to U-Turn movements at North Street and Anzac Avenue. TMR and its representatives will notify local businesses and residents of these changes in the coming days, and VMS boards will be displayed to notify motorists of changed traffic conditions.

We trust this information is of assistance

Yours sincerely,
Customer and Stakeholder Management Team

for **Andrew Wheeler**
Deputy Regional Director | South Coast Region | Department of Transport and Main Roads

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PO Box 442 | Nerang Qld 4211
(07) 5563 6600
southcoast@tmr.qld.gov.au
www.tmr.qld.gov.au

File Reference - 450/01181

Waterford-Tamborine Road Upgrade North Street to Anzac Avenue

June 2021

Project update

The Department of Transport and Main Roads is upgrading Waterford-Tamborine Road from North Street to Anzac Avenue in Logan Village. This upgrade will improve road network capacity, ease congestion and improve safety.

The project includes:

- duplicating Waterford-Tamborine Road from two to four lanes
- providing dedicated right turn lanes into Logan Street and Wharf Street
- drainage and street lighting upgrades
- on-road bike lanes (northbound and southbound)
- road pavement upgrades.

Upcoming works

The first stage of roadworks is being finalised, with the second stage to start in mid-June 2021. Construction activities during this stage will include:

- establishing a work zone on the northbound (business) side of Waterford-Tamborine Road
- replacing the existing road median south of Logan Street
- drainage upgrades along the northbound road shoulder
- replacement of underground services and installation of street lighting
- excavation works and pavement construction.

All construction activities are expected to be completed by late 2021, weather and construction conditions permitting.

What to expect

Traffic and pedestrian routes, and access to businesses and bus stops will be maintained or alternative access arrangements will be discussed with the community. Some construction impacts will occur including:

- stop/go traffic arrangements during the set-up of the stage two work zone
- temporary movement of all through traffic lanes to the southbound (park) side of Waterford-Tamborine Road
- a reduced speed limit of 40km/h in the work zone
- increased levels of noise, dust and vibration.

Please be aware that there will be left in and left out turns only at Wharf Street temporarily from 14 June 2021 to enable Stage 2 works. This will be in addition to left in and left out arrangements at Logan Street being maintained until project completion to expedite works and provide a safer driving environment. Every effort will be made to minimise construction impacts where possible.

Working hours

Day work hours are 7am to 6pm, Monday to Friday. Some night works from 7pm to 5am Sunday to Thursday are expected during stage two works for drainage installation.

For more information, please contact:

Phone: 1800 316 373
Email: waterfordtamborineroad@tmr.qld.gov.au
Web: www.tmr.qld.gov.au/projects
Post: PO Box 442, Nerang QLD 4211
**Standard call charges may apply*

Stage 2 Works

From: SouthCoast
To: personal i@logan.qld.gov.au"
Subject: Department of Transport and Main Roads - Waterford Tamborine Road (North Street to Anzac Avenue)
Date: Wednesday, 10 March 2021 4:06:00 PM
Attachments: WTR - Construction Notification March 2021.pdf

Dear personal i

I am writing to inform you that Allroads Pty Ltd has been awarded the contract to undertake construction works on Waterford–Tamborine Road between North Street to Anzac Avenue. This Queensland Government funded project will widen the road from two to four lanes with dedicated turn right lanes into Wharf Street and Logan Street, upgrade drainage and lighting infrastructure and provide on-road bike lanes.

Allroads will commence works from mid-March 2021. Construction works will include:

- Site clearing and removal of vegetation including several mature gum trees
- Replacement of underground services and street lighting
- Drainage upgrades
- Excavation and pavement construction
- Asphalt resurfacing and line marking
- Landscaping and site restoration

Please see the attached construction notification for further information regarding this important upgrade.

I trust this information is of assistance.

Yours sincerely,
Customer and Stakeholder Management Team

for **Andrew Wheeler**
Deputy Regional Director | South Coast Region | Department of Transport and Main Roads

36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
(07) 5563 6600
southcoast@tmr.qld.gov.au
www.tmr.qld.gov.au

Waterford–Tamborine Road Upgrade North Street to Anzac Avenue

March 2021

The Department of Transport and Main Roads is upgrading Waterford–Tamborine Road from North Street to Anzac Avenue in Logan Village.

The construction contract for this Queensland Government funded road upgrade has been awarded to Allroads Pty Ltd. Project works will include:

- duplicating Waterford–Tamborine Road from two to four lanes
- dedicated right turn lanes into Logan Street and Wharf Street
- drainage and lighting upgrades
- on-road bike lanes (northbound and southbound)
- asphalting works.

This important upgrade will improve road network capacity, ease congestion and improve safety.

Timeframes

Construction will begin in March 2021 and is expected to be completed by late 2021, weather and construction conditions permitting.

Work activities

Upcoming construction works will include:

- Site clearing and removal of vegetation including several mature gum trees
- Replacement of underground services and street lighting
- Drainage upgrades
- Excavation and pavement construction
- Asphalt resurfacing and line marking
- Landscaping and site restoration

Safety First – Please drive with care through roadworks; your safety and our employees' safety is important to us.

Plan ahead – Keep up to date with traffic conditions – call 13 19 40 or visit www.qldtraffic.qld.gov.au for the latest traffic and travel information.

The works will be completed in several stages to minimise disruption to road users, businesses and residents.

What to expect

Traffic and pedestrian routes, and access to businesses and bus stops will be maintained or alternative access arrangements will be provided. Some construction related impacts will occur, including:

- A reduced speed limit of 40km/h in the work zone
- Temporary traffic changes including lane shifts and closures, road shoulder closures and closure of some on-street parking. These changes will be signed and traffic controllers will be present to assist motorists and pedestrians.
- Increased levels of noise, dust and vibration.

Every effort will be made to minimise construction impacts where possible.

The Department of Transport and Main Roads appreciates your patience while these important works are being carried out.

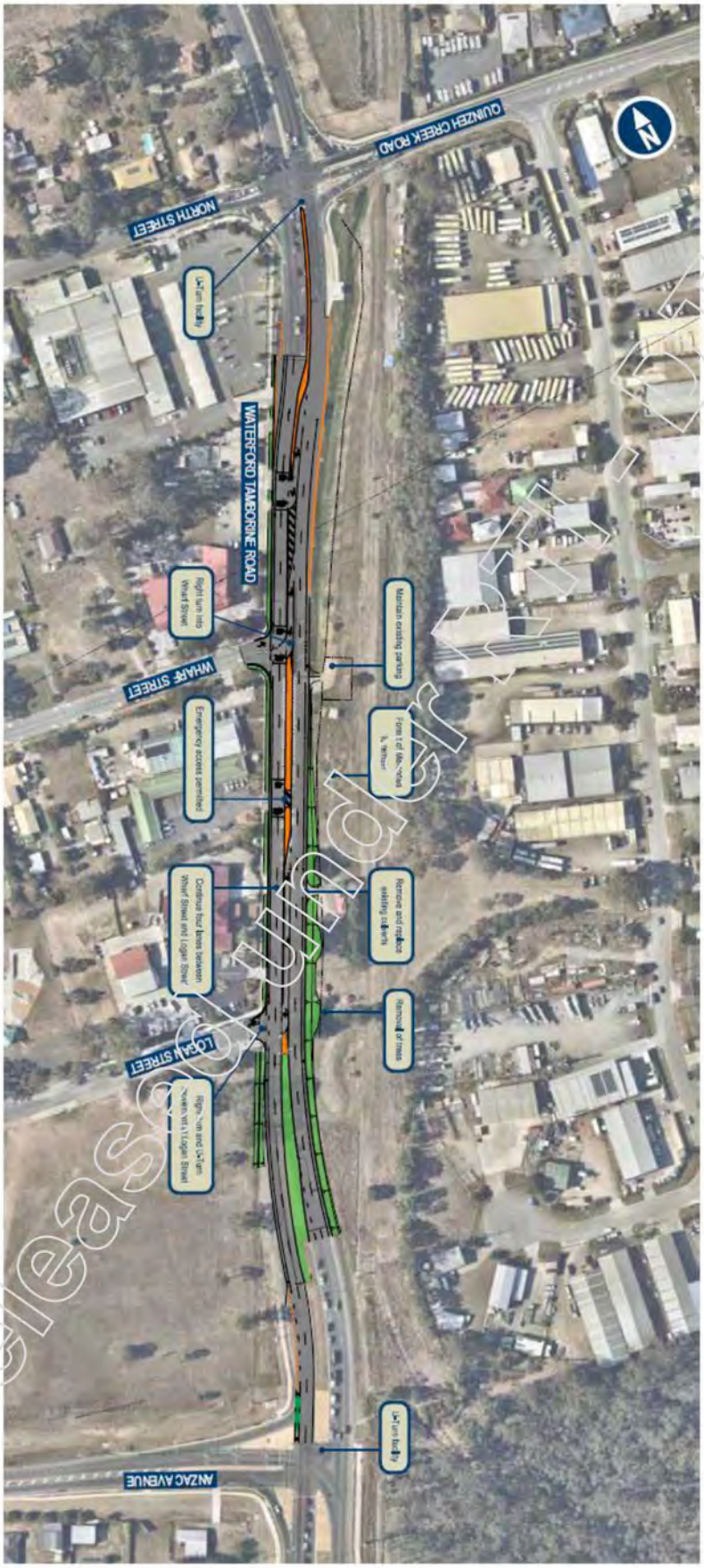
Working hours

Construction work hours will primarily be undertaken from 7am to 6pm, Monday to Friday. However, some night and weekend works will be required during the project.

For more information, please contact:

Phone: 55 636 600
Email: waterfordtamborineroad@tmr.qld.gov.au
Web: www.tmr.qld.gov.au/projects
Post: PO Box 442, Nerang QLD 4211
**Standard call charges may apply*

Waterford-Tamborine Road Upgrade



From: SouthCoast
To: personal inf
Subject: Transport and Main Roads : Waterford Tamborine Road - North Street to Anzac Avenue update
Date: Wednesday, 31 March 2021 12:45:00 PM

Dear personal infor

The Department of Transport and Main Roads is writing to provide an update on Waterford–Tamborine Road – North Street to Anzac Avenue project.

The contractor has undertaken a doorknock of local businesses and residents along the corridor to provide an overview of the construction program. The upcoming program of works includes the removal of roadside vegetation (including several mature trees), installing safety barriers and changed line marking. For the safety of motorists and workers, the construction program also includes the temporary removal of right turn access into Logan Street for a duration of 2-3 months (weather and site conditions permitting). U Turn access at North Street and Anzac Avenue will be maintained at all times during the construction program, in addition to left in and left out access arrangements at Logan Street.

I trust this information is of assistance.

Yours sincerely,
Customer and Stakeholder Management Team

for **Andrew Wheeler**
Deputy Regional Director | South Coast Region | Department of Transport and Main Roads

36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
(07) 5563 6600
southcoast@tmr.qld.gov.au
www.tmr.qld.gov.au

From: Jamie Y Hall
To: Sarah-Jane Y Bartlem
Subject: FW: Requesting Approval of Long Term VMS locations TGS and Community Communication
Date: Tuesday, 9 March 2021 3:15:15 PM
Attachments: image515350.png
image237611.png
image976683.png
21M-102 - VMS.pdf
image001.png
image002.jpg

Do you think we should be out there doorknocking the same day the VMS go up?
Jamie

From PI @allroads.net.au>
Sent: Tuesday, 9 March 2021 3:12 PM
To PI @ghd.com>
Cc: Waterford Tamborine Road Upgrade <Waterford@ghd.com> PI @ PI com.au; Jamie Y Hall <Jamie.Y.Hall@tmr.qld.gov.au>; PI @allroads.net.au>
Subject: Requesting Approval of Long Term VMS locations TGS and Community Communication

Hi Petrus,

Please see attached TGS for long term VMS board locations. The VMS boards will be placed 3 metres from the travelled path as per the MUTCD requirements.

We seek approval to install these VMS boards this Thursday 11th March 2021 as per the attached TGS.

We also require Community team approval to display communication on the VMS boards.

Proposed message:

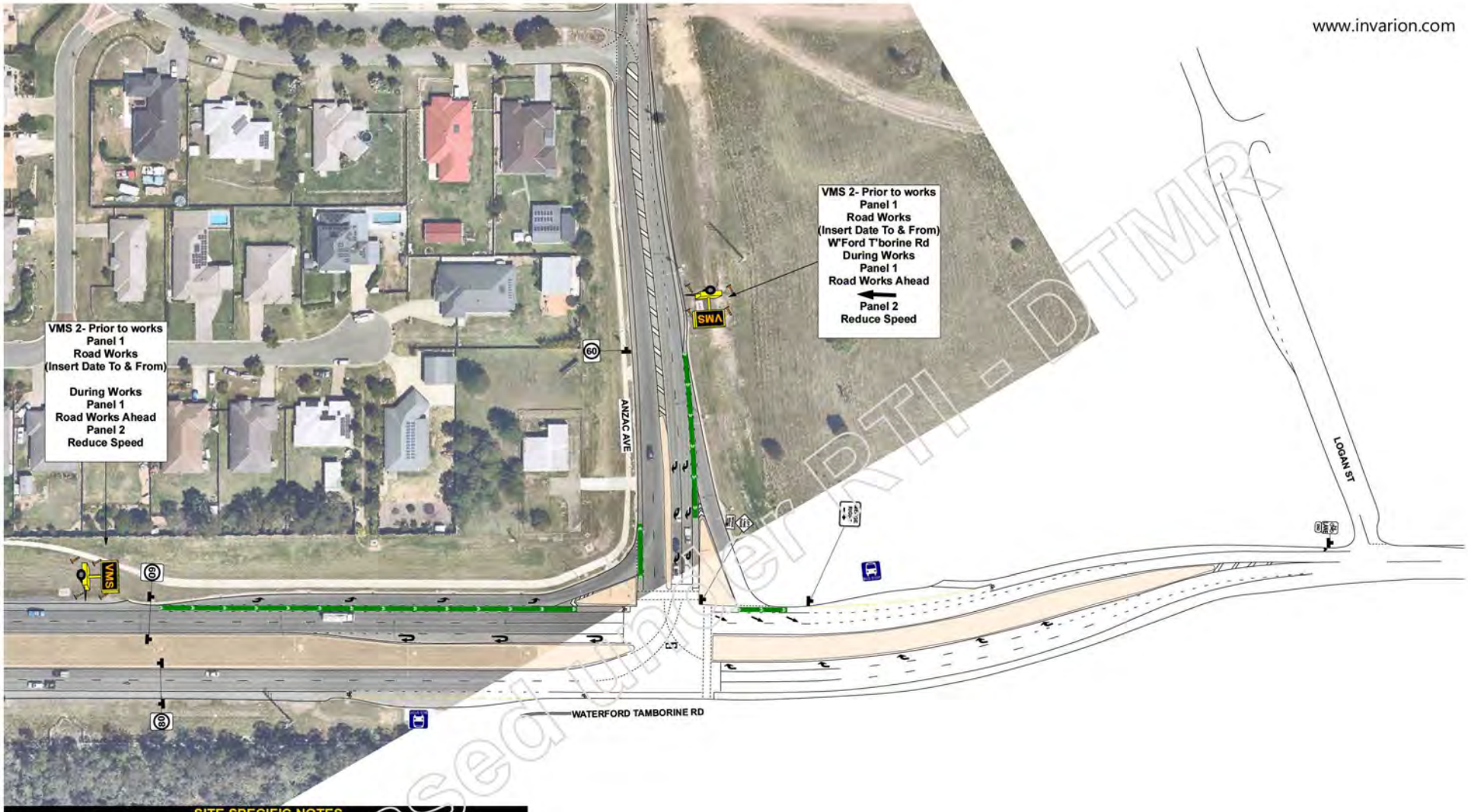
Screen 1: "ROAD WORKS"

Screen 2: "Commencing 18TH MARCH 2021"

Screen 3: "W-FORD T-BORINE RD"

Kind Regards

PI
Project Engineer
M NR P 1300 ALLROADS
E PI @allroads.net.au
125 Axis Place, Larapinta QLD 4110
PO Box 318, Browns Plains QLD 4118
Disclaimer Provide Feedback
www.allroads.net.au



SITE SPECIFIC NOTES

1. VMS Boards to be installed where they do no obstruct the view of the road users
2. VMS boards to be installed on the verge and not in live lanes
3. VMS board messages to be in accordance with MUTCD Part 3 and TRUM Volume 1 Part 9.
4. VMS boards to be min. 1900mm high and 2400mm wide.
5. VMS Board to be located min. 3m from the travelled path when not protected by a road safety barrier.

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1	**Pedestrian Travel Path:** N/A
TGS Number: 21M-102_1 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: N/A	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** N/A
QDTMR: South Coast	**Traffic Method:** Long Term VMS Locations	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	02.03.21	First Design

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 -12	

PRINT IN A3
NOT TO SCALE

JTS Just Traffic Solutions Trust
Leaders in Traffic Control Solutions
PH: 1300 722 800 FAX: 1300 722 244
EMAIL: info@justtrafficsolutions.com.au
PI
PI
@allroads.net.au

ALLROADS CIVIL CONSTRUCTION + MINING

DISCLAIMER

This TGS is drawn to individual client requirements/requests. JTS Group Australia PTY LTD cannot accept responsibility for the integrity and accuracy of such information provided by third parties. No responsibility can be accepted for the use of this drawing on any other project.

Effectiveness and/or suggested improvements and modifications for TGS please Email: megan@justtrafficsolutions.com.au Phone: 0455 113 044

LEGEND

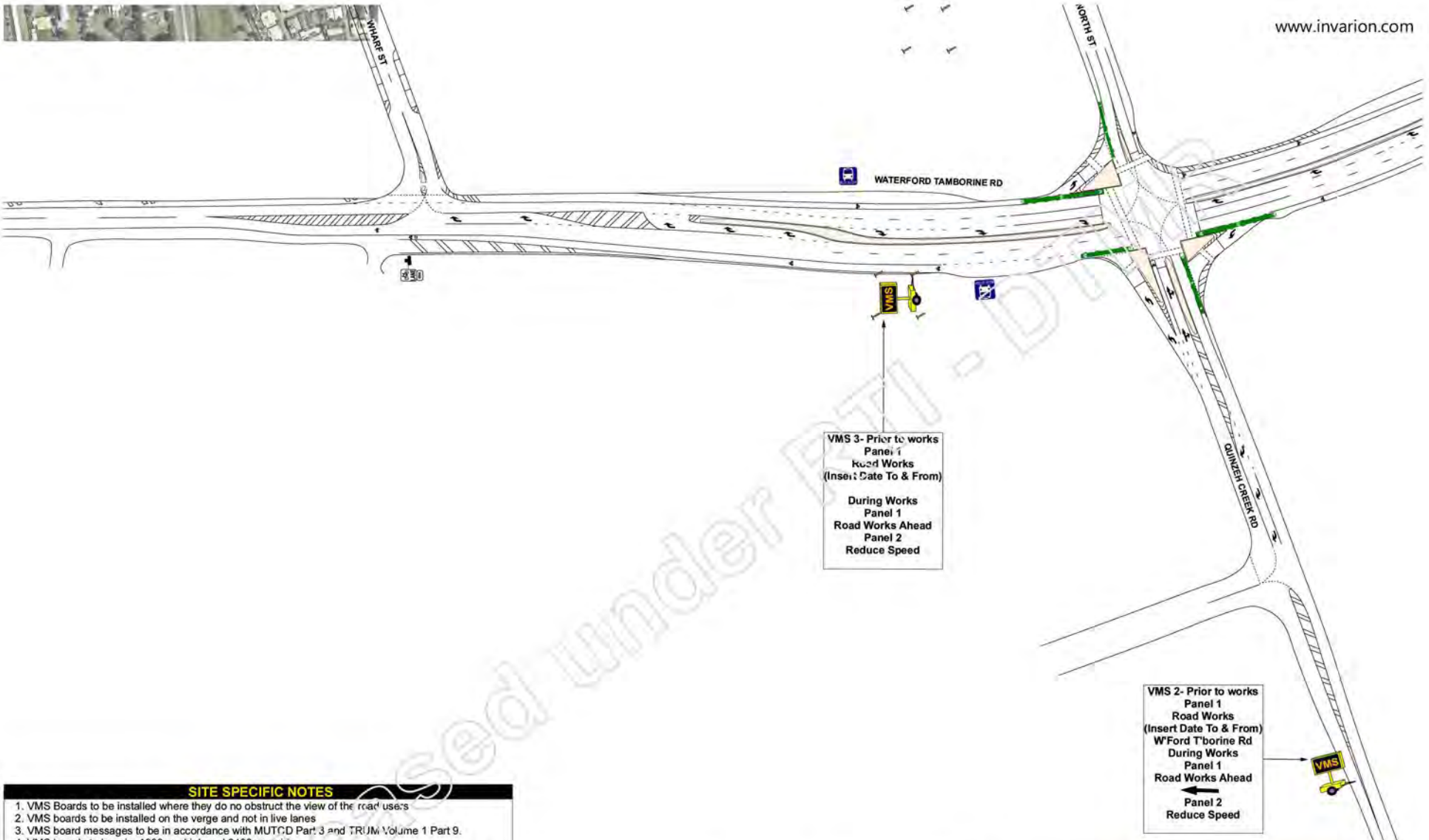
- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Area
- Black & White Signs = Permanent Signs
- Traffic Island
- Temporary Line Marking
- Temporary Road Safety Barrier
- Barrier Buffer Zone
- Plant & Materials Area
- Temporary Hazard Marker
- Temporary Bollards
- Trailer Mounted Traffic Signal
- VMS Boards
- Light Tower
- PTSS- Type 1

RECOMMENDED RESOURCES

Traffic Controllers: N/A
Traffic Control Ute: N/A
VMS: 4
Light Tower: N/A
Traffic Cones/Bollards: 12
Sign Frames & Legs/Poles: N/A

TMD SIGN OFF

DESIGNER:
Name: PI
Signature: NR
TMD No: 642 Open
Date: 02.03.21



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4. VMS boards to be min. 1900mm high and 2400mm wide.
5. VMS Board to be located min. 3m from the travelled path when not protected by a road safety barrier.

Project Reference: Waterford - Tamborine Rd (207)	**Scope of Works:** Construction Stage 1	**Pedestrian Travel Path:** N/A
TGS Number: 21M-102_2 of 2	**Site Address:** Waterford Tamborine Rd	**Vehicle Travel Path:** Past
Long/Short Term: Long	**Suburb:** Logan Village	**Cyclist Travel Path:** Past
Static/ Mobile: Static	**First Cross St:** Stegemann Rd	**Public Transport:** Past
Open/ Built Up Road: Built Up	**Second Cross St:** Pioneer Dr	**Emergency Services:** Past
Workers to Traffic: N/A	**Working Hours:** Mon-Sun All times	**Local Residents/ Business Access:** Past
Local Council: Logan City	**Road Configuration:** Two Way	**Speed Reduction:** N/A
QDTMR: South Coast	**Traffic Method:** Long Term VMS Locations	**Posted Speed:** 60km/h
QPS District: Beenleigh	**Additional Affected Roads:**	**Onsite Communication:** UHF Two Way Radio

REVISION

REV	DATE	DETAILS
A	02.03.21	First Design

TGS shall be reviewed upon any change in relevant legislation, code, standard or specification, or change in TGS intent, layout or operational requirement

FATIGUE MANAGEMENT

Controllers on Stop Slow	Recommended Additional Staff Required to Provide Breaks
2 - 4	
5 - 8	
9 - 12	

PRINT IN A3
NOT TO SCALE

JTS Just Traffic Solutions Trust
Leaders In Traffic Control Solutions
PH: 1300 722 800 FAX: 1300 722 244
EMAIL: info@justtrafficsolutions.com.au

PI NR PI

ALLROADS CIVIL CONSTRUCTION + MINING
allroads.net.au

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Effectiveness and/or suggested improvements and modifications for TGS please Email: megan@justtrafficsolutions.com.au Phone: 0455 113 044

LEGEND

- Traffic Controller
- Traffic Control Ute
- Traffic Cones
- Barrier
- Safety Buffer
- Work Area
- Black & White Signs = Permanent Signs
- Traffic Island
- Temporary Line Marking
- Temporary Road Safety Barrier
- Barrier Buffer Zone
- Plant & Materials Area
- Temporary Hazard Marker
- Temporary Bollards
- Trailer Mounted Traffic Signal
- Light Tower
- VMS Boards
- PTSS- Type 1

RECOMMENDED RESOURCES

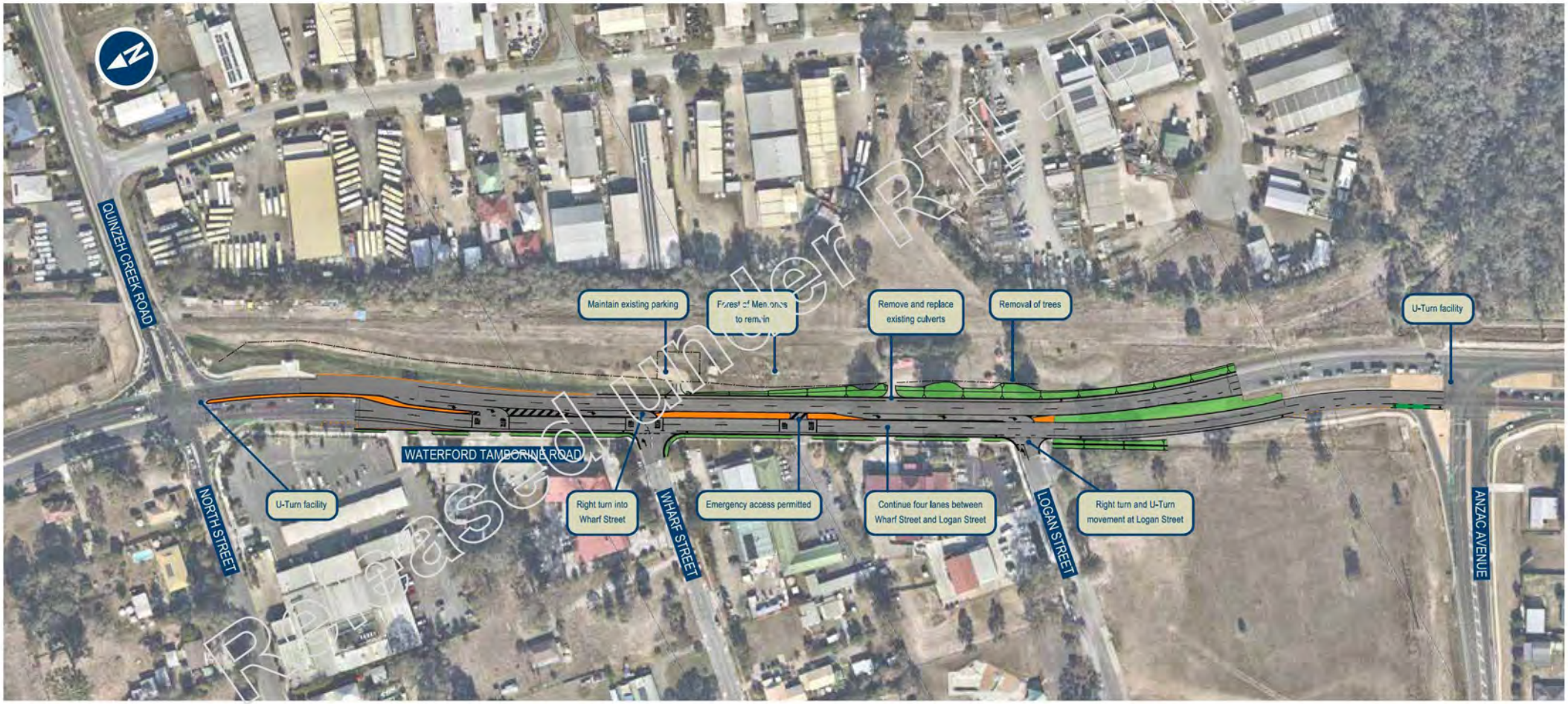
Traffic Controllers: N/A
Traffic Control Ute: N/A
VMS: 4
Light Tower: N/A
Traffic Cones/Bollards: 12
Sign Frames & Legs/Poles: N/A

TMD SIGN OFF

DESIG
Name: PI
Signature: NR
TMD No: 642 Open
Date: 02.03.21

Waterford-Tamborine Road Upgrade

February 2021



Queensland Government

From: Frank A Spinella
To: SCR Property
Subject: Waterford Tamborine Road - Lot 52SP130072
Date: Monday, 19 April 2021 11:44:52 AM
Attachments: image001.png
image002.png

Email to Alan Purvis for action / Kemal Sarac PM
WTR 4 laning Quinzeh Ck to Anzac Ave
Property s/s ?

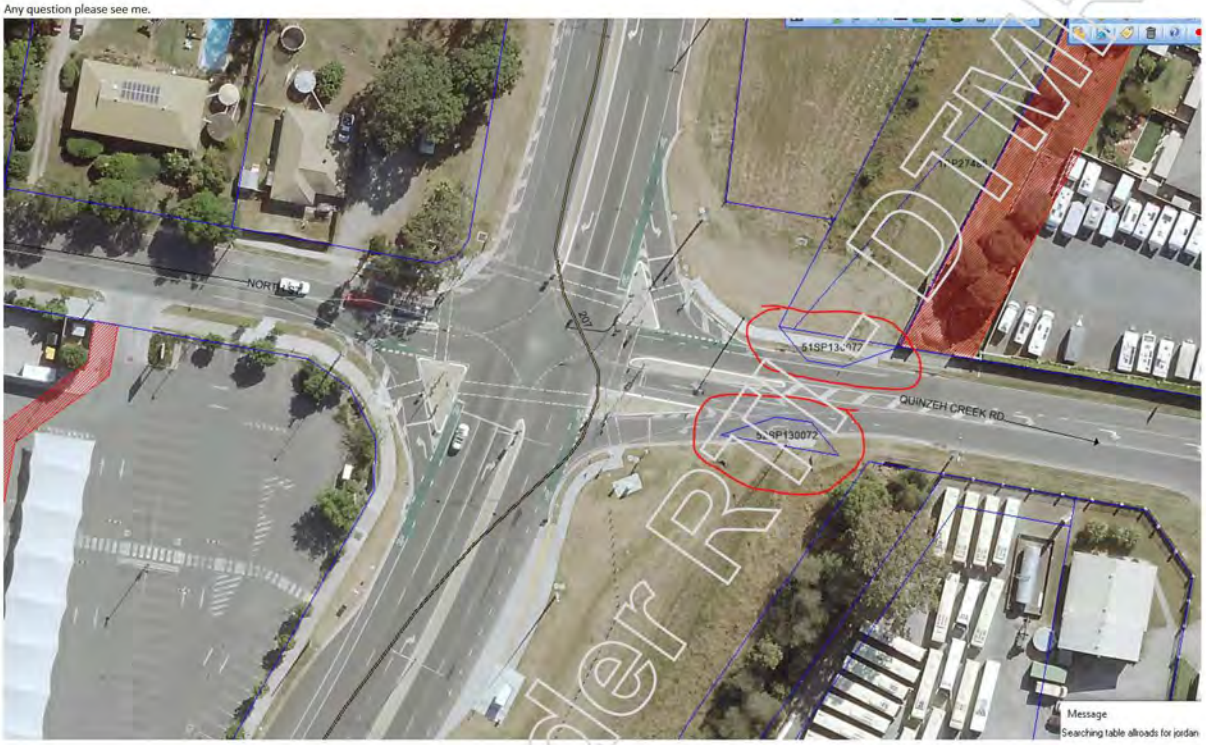
HI Guys

During my review I have noted that there are two lots (part lots I would presume) 52SP130072 and they are on Quinzeh Creek Road.

As you can see the road widening was undertaken by TMR contract and, as such, the allotments must be opened as road as part of the construction contract for Waterford Tamborine Road.

Can you please provide update for this?

Any question please see me.



Regards

F. Spinella

Frank Spinella
Principal Designer (Civil) |
Corridor and Land Management Team | South Coast Region | Gold Coast Office
Program Delivery & Operations | Department of Transport and Main Roads

Ground Floor | Nerang – Gold Coast Office | 36 Cotton Street |Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
P: (07) 556 **36510** | F: (07) 5563 6611
M: NR
E: frank.a.spinella@tmr.qld.gov.au | scr.calm@tmr.qld.gov.au
W: www.tmr.qld.gov.au

From: Mary L Sutton
To: Patrick Leys
Cc: SCR Property
Subject: RE: Encroachments - Waterford Tamborine Road (SCR 207)
Date: Thursday, 22 April 2021 2:25:01 PM
Attachments: image001.png

Hi Patrick

Thanks for your prompt reply, look forward to your response.

Regards

Mary Sutton

Property Coordination Team
South Coast Region / Gold Coast Office
Program Delivery & Operations Branch | Department of Transport and Main Roads
PO Box 442 | Nerang Qld 4211
P: (07) 5563 6640 | F: (07) 5563 6811
E: scr.property@tmr.qld.gov.au
W: www.tmr.qld.gov.au

From: Patrick Leys <Patrick.Leys@tmr.qld.gov.au>
Sent: Thursday, 22 April 2021 2:22 PM
To: Mary L Sutton <mary.l.sutton@tmr.qld.gov.au>
Cc: SCR Property <scr.property@tmr.qld.gov.au>
Subject: RE: Encroachments - Waterford Tamborine Road (SCR 207)

Hi Mary,
These lots are non-rail corridor; part of the old Bethania to Beaudesert line.
We have opened some of this line as road previously, so I don't there will be any issues with it.
I'll pass it on to the relevant members of the team for comment, and if it's all good we will proceed.
There will be fees for the road opening applications – I think it's about $300 per lot.

Kind regards,

Patrick Leys
Principal Advisor | Rail Corridor Management
Strategic Property Management | Department of Transport and Main Roads

Floor 13 | 61 Mary Street | Brisbane Qld 4000
GPO Box 1412 | Brisbane Qld 4001
P: (07) 3066 7430
E: patrick.z.leys@tmr.qld.gov.au
W: www.tmr.qld.gov.au

From: Mary L Sutton <mary.l.sutton@tmr.qld.gov.au>
Sent: Thursday, 22 April 2021 1:50 PM
To: Patrick Leys <Patrick.Leys@tmr.qld.gov.au>
Cc: SCR Property <scr.property@tmr.qld.gov.au>
Subject: Encroachments - Waterford Tamborine Road (SCR 207)

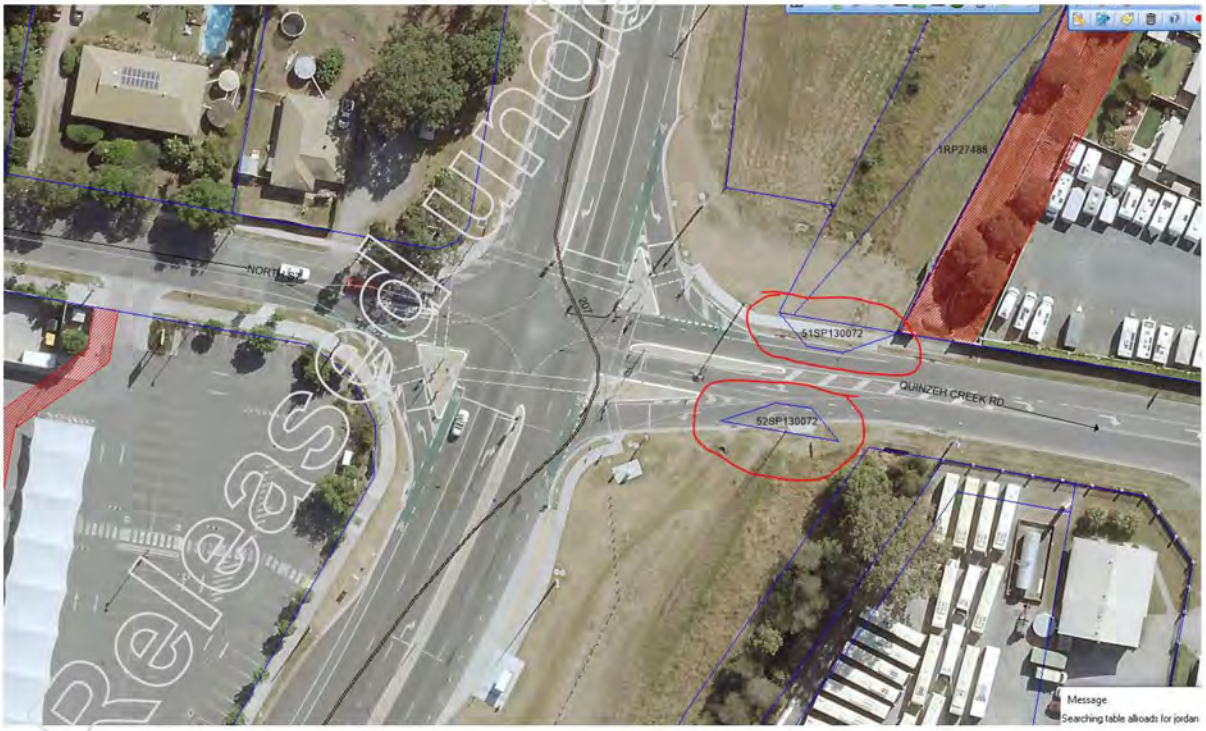
Hi Patrick

We have identified two parcels that encroach on the intersection of Waterford Tamborine Road and Quinzeh Creek Road.

Lot 51SP130072 & Lot 52SP130072.

Are these parcels identified as Rail Corridor? If so can we have these dedicated as road ?

We have a project along Waterford Tamborine Road which I am hoping can provide funding to rectify these encroachments.



Regards

Mary Sutton

Property Coordination Team
South Coast Region / Gold Coast Office
Program Delivery & Operations Branch | Department of Transport and Main Roads
PO Box 442 | Nerang Qld 4211
P: (07) 5563 6640 | F: (07) 5563 6811
E: scr.property@tmr.qld.gov.au
W: www.tmr.qld.gov.au

From: SCR Property
To: SCR Property; Frank A Spinella
Subject: FILE NOTE - R1-1805 / NT1-1874 149/WD4846 - 495/08116
Date: Friday, 23 April 2021 11:00:32 AM
Attachments: NOIR R1-1805 WTR.pdf
FW Native Title drawing Nos 24KA WTR Lot 149 WD4846.msg
RE Road # 207.msg
NT1-1874.pdf
R1-1805.pdf

Waterford Tamborine Upgrade Project
LCC trustee - 149/WD4846

4/2/21 PAD made application to DNRME – excise parcel and dedicate to road.

DNRME Case # 2021/000369 - Contact Ellie Dorman
PAD ref # 495/08116 Contact Anne Allen

Regards

Mary Sutton

Property Coordination Team
South Coast Region / Gold Coast Office
Program Delivery & Operations Branch | Department of Transport and Main Roads
PO Box 442 | Nerang Qld 4211
P: (07) 5563 6640 | F: (07) 5563 6611
E: scr.property@tmr.qld.gov.au
W: www.tmr.qld.gov.au

Locality of Moffatt

SMEC

BM 13K

Lot 1 RP 210244

Lot 2 RP 210244

Lot 3 RP210244

Emt A RP210244

PIONEER DRIVE

117.60

PM 188784

B

5

4

3

2

1

A

63.50

3 Cord truncation = 11.958m

Lot 149
WD 4846
(Reserve)
Area Required abt 2042m²
Area Remaining abt 3.937ha

NEW BOUNDARY POINTS

POINT	CO-ORDINATES		REMARK
	EASTING	NORTHING	
1			On bdy on line A – 2
2	509825.576	6926651.243	
3	509831.483	6926661.641	
4	509842.266	6926666.810	
5			On bdy on line 4 – B

SETOUT POINTS

POINT	CO-ORDINATES	
	EASTING	NORTHING
A	509827.152	6926533.448
B	509920.638	6926675.994

PERMANENT MARKS

NAME	EASTING	NORTHING	COMBINED SCALE FACTOR
PM 188784	509791.801	6926698.882	0.99959024
BM 13K	509779.208	6926751.222	0.99959037

SURVEY STATIONS

STATION	TYPE	CO-ORDINATES		COMBINED SCALE FACTOR
		EASTING	NORTHING	
STN 11	PEG	509834.300	6926576.603	0.99958954

Lot 6 RP 168377

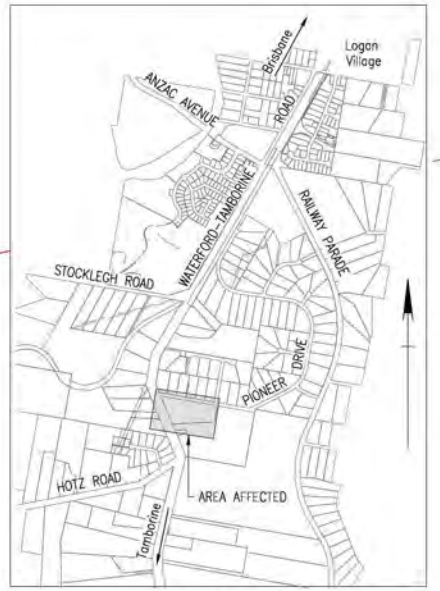
WATERFORD – TAMBORINE ROAD

STN 11

Lot 8 RP 168377

Lot 443 CP 859099

Lot 1 CP 859099



LOCALITY PLAN
N.T.S.

CHECK PRINT

	PRELIM. INITIAL	FINAL DATE
MARKED UP BY		
BACKDRAFTED BY		
DRAFTING SELF CHECK COMPLETED		
DRAFTING CHECK COMPLETED		
ENGINEERING SIGN OFF		

REVISION IN PROGRESS

	Revisions/Descriptions	Ref	Certification	Date	Microfilmed
1	Issued for Review			10.16	
A	Original Issue A3				

File Ref.	Plan No.	Lot No.	Lot Details	Area Affected
	WD 4846	149	RESERVE	abt 2042m2

Areas Of Native Title Rights And Interest Affected — Area Affected Shown Thus

Cadastral Map — Locality of MOFFAT — LGA of WARD

Survey Data	
Datum	MGA 94
Horiz. Datum	Zone 56
Height Datum	AHD Derived
Survey Control	MR94021
Working drawings	

Scales
0 5 10 15 20m

Dimensions in metres except where shown otherwise. Areas in hectares (ha) or square metres (m2).

Drawing	Recmts.	TMR Review
PI	PI	
Checked	Checked	Date:
PI	PI	

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
Auxiliary drawings: TMR Drg No. 682479 (Resumption Plan No. R1-1805)

Native Title Requirements Approved

Queensland Government

Job No.	240/207/5
Native Title Plan No.	NT1–1874
Drawing No.	713156 1
Series Number	NT-01 of 1

MRR_NativeTitle (09/15)

CAD FILES: V:_Vault\Projects\30031535\CAD\DWG\23_NT\30031535-23-NT-0001.dwg

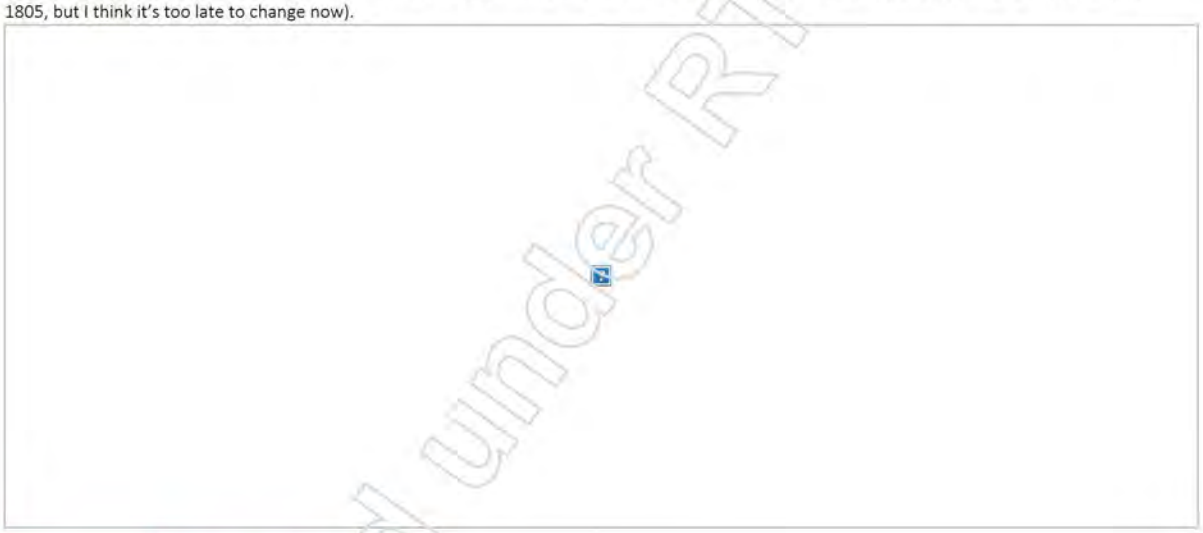
Last Modified: Oct 25, 2016 - 9:46am

From: Bishrul H Mohamed Hafreth
To: Nicole M West
Subject: FW: Native Title drawing No's 24KA WTR Lot 149 WD4846
Date: Tuesday, 25 October 2016 10:30:27 AM
Attachments: image002.jpg
30031535-23-NT-0001 .pdf

HI Nikki,
Can you review and provide comments (if any) or let me know if good for finalisation.
Thank you
Kind regards,

Haafi Mohamed-Hafreth (Umar)
Senior Engineer (Civil) | South Coast Region
Delivery & Operations | Department of Transport and Main Roads
First Floor | Nerang-Gold Coast Office | 36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
P: (07) 5563 6565 | F: (07) 55969511
M NR
E: Bishrul.H.MohamedHafreth@tmr.qld.gov.au
W: www.tmr.qld.gov.au

From: PI [mailto PI @smec.com]
Sent: Tuesday, 25 October 2016 10:00 AM
To: Bishrul H Mohamed Hafreth <Bishrul.H.MohamedHafreth@tmr.qld.gov.au>
Cc: PI @smec.com>; PI @smec.com>
Subject: RE: Native Title drawing No's 24KA WTR Lot 149 WD4846
Hi Umar,
Please find attached the draft Native Title Suppression Plan for review.
Note: We have used the drawing numbers provided below. However, if you refer to the Design Standard Presentation Manual (see excerpt below) then I think the Native Title Plan Number should be NT1-1805 to reference the associated Resumption Plan – let me know if you'd like it amended on the drawing (also note that we didn't know of the Native Title Suppression for the Resumption Plan so it should have probably been R1-1805NT not R1-1805, but I think it's too late to change now).



PI | Regional Manager - Gold Coast
SMEC – Australia & New Zealand Division
T PI M nr

From: Bishrul H Mohamed Hafreth [mailto:Bishrul.H.MohamedHafreth@tmr.qld.gov.au]
Sent: Monday, 24 October 2016 3:58 PM
To: PI
Cc: PI
Subject: RE: Native Title drawing No's 24KA WTR Lot 149 WD4846
HI PI
Sorry had missed out PI and Pi in my previous mail.
Kind regards,

Haafi Mohamed-Hafreth (Umar)
Senior Engineer (Civil) | South Coast Region
Delivery & Operations | Department of Transport and Main Roads
First Floor | Nerang-Gold Coast Office | 36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
P: (07) 5563 6565 | F: (07) 55969511
M NR
E: Bishrul.H.MohamedHafreth@tmr.qld.gov.au
W: www.tmr.qld.gov.au

From: Bishrul H Mohamed Hafreth
Sent: Monday, 24 October 2016 3:48 PM
To: PI @smec.com
Subject: FW: Native Title drawing No's 24KA WTR Lot 149 WD4846
Hi PI
Please see below the Native Title and drawing number for the native title plan.

Cheers
Kind regards,

Haafi Mohamed-Hafreth (Umar)
Senior Engineer (Civil) | South Coast Region
Delivery & Operations | Department of Transport and Main Roads
First Floor | Nerang-Gold Coast Office | 36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
P: (07) 5563 6565 | F: (07) 55969511
M: NR
E: Bishrul.H.MohamedHafreth@tmr.qld.gov.au
W: www.tmr.qld.gov.au

From: Nicole M West
Sent: Monday, 24 October 2016 2:50 PM
To: Bishrul H Mohamed Hafreth <Bishrul.H.MohamedHafreth@tmr.qld.gov.au>
Cc: SCR Property <scr.property@tmr.qld.gov.au>
Subject: Native Title drawing No.s 24KA WTR Lot 149 WD4846

Hi Umar,

Here are the numbers for the Native Title drawing to pass onto Malcolm.

NT1-1874 – drawing no. 713156

Nikki

To assist us with management of requests, please respond to our "SCR Property" email address
Kind regards,

Rosemary McBain & Nicole West
Property Team (Project Planning)
South Coast Region / Gold Coast Office
Program Delivery & Operations Branch | Department of Transport and Main Roads
First Floor | Nerang - Gold Coast Office | 36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
P: (07) 55636 600 | F: (07) 55636 611
E: scr.property@tmr.qld.gov.au
W: www.tmr.qld.gov.au
Please consider the environment before printing this email

B/c:

File No. 495/08116

Manager (Delivery) South Coast Region
Department of Transport and Main Roads
PO Box 442
Nerang Qld 4211

Attention: Bishrul Mohamed Hafreth/Nicole West

Your reference: 240/207/5

A copy of Schedule of Tenure and relevant plan R1-1805 is enclosed.

[redacted]

Des Callaghan
Acting Director (Property Acquisitions and Disposals)

22 April 2016

QUEENSLAND GOVERNMENT

Department of Transport and Main Roads

Our ref 495/08116 czj
Your ref
Enquiries Deanne Wheeler

22 April 2016

Chief Executive Officer
Logan City Council
PO Box 3226
Logan City DC Qld 4114

Dear Sir/Madam

Logan City
Waterford – Tamborine Road

I enclose a copy of Plan No. R1-1805 showing an area of about 2042 square metres required from Lot 149 on Crown Plan WD4846 (reserve for cemetery purposes). The State of Queensland (represented by the Department of Transport and Main Roads) requires this area for road.

Please advise whether your council has any objection to the transfer of this area to road. If there are objections, please advise the conditions under which your council would be prepared to withdraw them.

All costs incurred as a result of such transfer will be met by this department.

For your information the objection hearing relative to the freehold proposals is set down in the offices of Department of Transport and Main Roads at 36 - 38 Cotton Street, Nerang Qld 4211 on 1 June 2016 at 10:00am and your advice before this date would be appreciated.

Yours sincerely

[redacted]

Des Callaghan
Acting Director (Property Acquisitions and Disposals)

Department of Transport and Main Roads
Property Acquisitions and Disposals
Floor 2, Building D, 532 Beams Road Carseldine Qld 4034
GPO Box 1412, Brisbane Qld 4001
ABN 39 407 690 291

Telephone 07 3066 8586
Facsimile 07 3066 8228
Website www.tmr.qld.gov.au
Email deanne.e.wheeler@tmr.qld.gov.au

SCHEDULE OF LAND REQUIRED

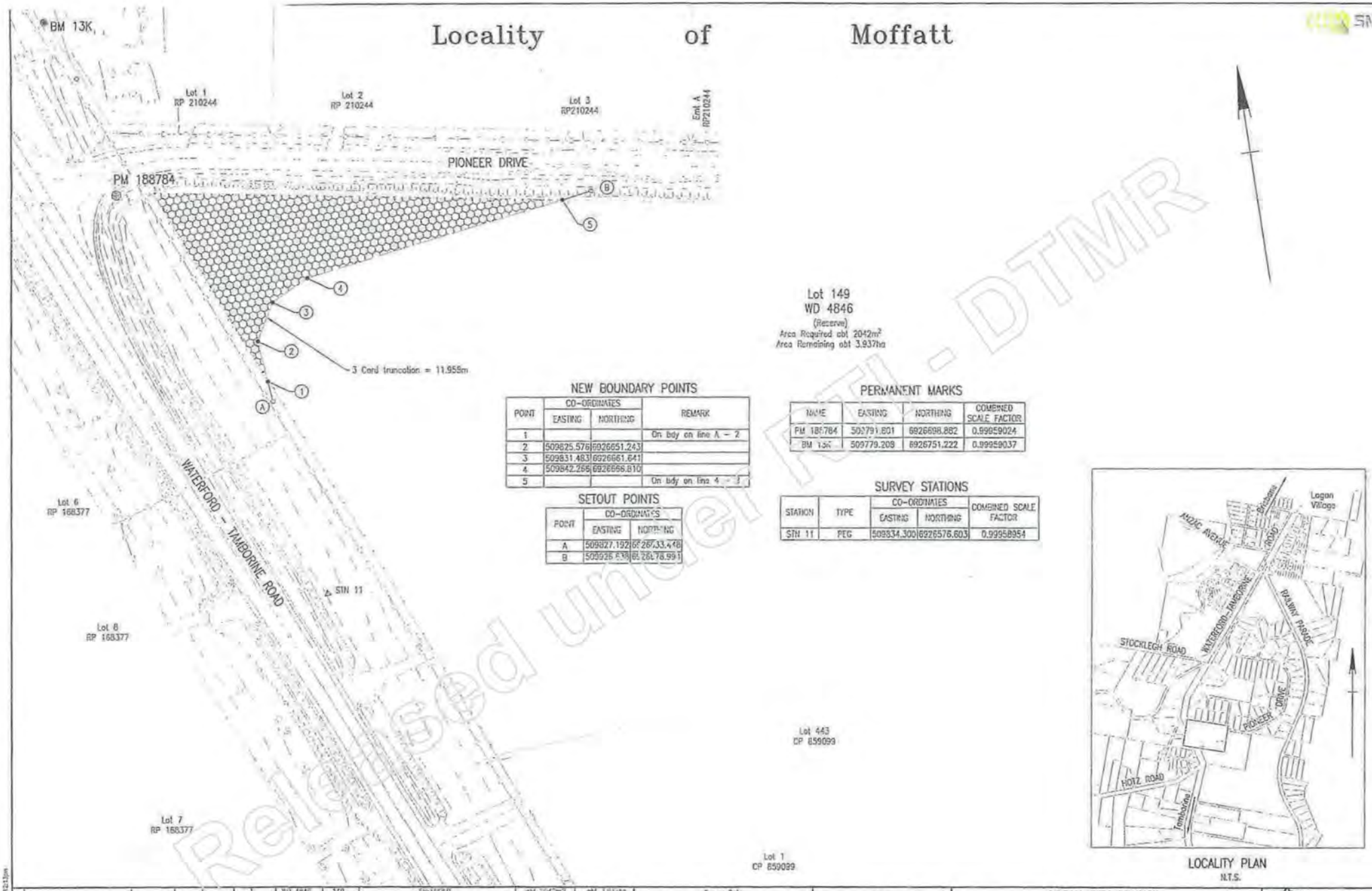
Logan City
Waterford - Tamborine Road

File: 495/04362
Job number: 240/207/5
WBS: 02400207005.D.5.2

File	Plan	Tenure	Property description	Title reference	County	Parish	Total property area	About area required	Owner and encumbrances
495/08116	R1-1805	Council Reserve	Lot 149 on Crown Plan WD4846 (Reserve R226 is for cemetery purposes. Opening Ref: SG 78-13240, Local Name: Logan Cemetery, File Ref: CEM 93)	49004066	Ward	Moffat	4.14 ha	2,042 sqm	Logan City Council gazetted on 04/09/1976 page 30 Reserve trustee: Logan City Council

Locality of Moffatt

SMEC



NEW BOUNDARY POINTS

POINT	CO-ORDINATES EASTING	CO-ORDINATES NORTHING	REMARK
1			On bdy on line A – 2
2	509825.576	6926651.243	
3	509831.483	6926661.641	
4	509842.256	6926666.810	
5			On bdy on line 4 – 3

SETOUT POINTS

POINT	CO-ORDINATES EASTING	CO-ORDINATES NORTHING
A	509827.192	6926733.448
B	509925.438	6926778.991

PERMANENT MARKS

NAME	EASTING	NORTHING	COMBINED SCALE FACTOR
PM 188784	509791.801	6926698.882	0.99959024
BM 13K	509779.209	6926751.222	0.99959037

SURVEY STATIONS

STATION	TYPE	CO-ORDINATES EASTING	CO-ORDINATES NORTHING	COMBINED SCALE FACTOR
STN 11	PEG	509834.300	6926576.603	0.99958954

LOCALITY PLAN
N.T.S.

	1	WD 4846	149	FREEHOLD	abt 2042m²	abt 3.937ha
	File Ref.	Plan No.	Lot No.	Tenure And Purpose Of Requirement	Area Req.	Area Rem.
	File Reference And Resumption Details				Area Required Shown Thus	
	Cadastral Map			Parish of MOFFAT	County of WARD	

Survey Data	
Datum	MGA 94
Horiz. Datum	Zone 56
Height Datum	AHD Derived
Survey Books	MR94021

Scales: 0 5 10 15 20m

Dimensions in metres except where shown otherwise. Areas in hectares (ha), square metres (m²) or acres (ac).

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)

Auxiliary drawings:

Checked [redacted] Checked [redacted]

Date: 11/03/16

Resumption Requirements Approved [redacted]

Queensland Government

Job No.	240/207/5
Resumption Plan No.	R1–1805
Drawing No.	682479 | A
Series Number	RP–01 of 1

MGR_Resumption (05/13)

A Original Issue A3

Revisions/Descriptions	Certification	Date	Microfiche

DGN FILES: V:_Vault\Projects\3033153\5400\DWG\22_RP\3033153-22-R1-0004.dwg

Lot Moffat (– Mar 16, 2016 – 12:13pm

Locality of Moffatt

SMEC

BM 13K

Lot 1 RP 210244

Lot 2 RP 210244

Lot 3 RP210244

Emt A RP210244

PIONEER DRIVE

PM 188784

B

5

4

3

2

1

A

3 Cord truncation = 11.958m

Lot 149
WD 4846
(Reserve)
Area Required abt 2042m²
Area Remaining abt 3.937ha

NEW BOUNDARY POINTS

POINT	CO-ORDINATES		REMARK
	EASTING	NORTHING	
1			On bdy on line A – 2
2	509825.576	6926651.243	
3	509831.483	6926661.641	
4	509842.266	6926666.810	
5			On bdy on line 4 – B

SETOUT POINTS

POINT	CO-ORDINATES	
	EASTING	NORTHING
A	509827.192	6925833.448
B	509876.338	6926078.994

PERMANENT MARKS

NAME	EASTING	NORTHING	COMBINED SCALE FACTOR
PM 188784	509791.801	6926698.882	0.99959024
BM 13K	509779.208	6926751.222	0.99959037

SURVEY STATIONS

STATION	TYPE	CO-ORDINATES		COMBINED SCALE FACTOR
		EASTING	NORTHING	
STN 11	PEG	509834.300	6926576.603	0.99958954

Lot 6 RP 168377

WATERFORD – TAMBORINE ROAD

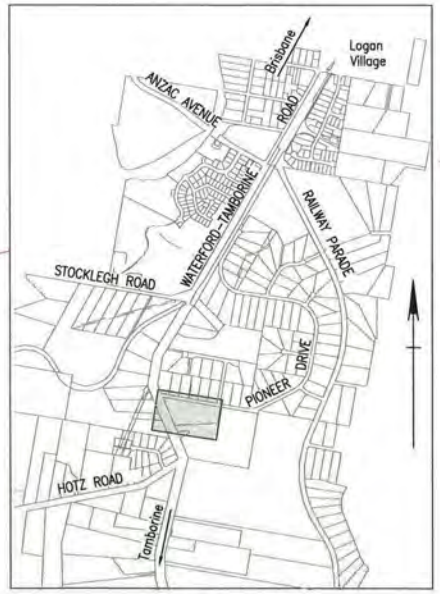
STN 11

Lot 8 RP 168377

Lot 7 RP 168377

Lot 443 CP 859099

Lot 1 CP 859099



LOCALITY PLAN
N.T.S.

A	Original Issue A3					MF	10-16 A
	Revisions/Descriptions	Certification	Date			Microfilm	

1	WD 4846	149	FREEHOLD	abt 2042m2	abt 3.937ha
File Ref.	Plan No.	Lot No.	Tenure And Purpose Of Requirement	Area Reqt.	Area Rem.

File Reference And Resumption Details

Area Required Shown Hatched

Cadastral Map | Parish of MOFFAT | County of WARD

CAD FILES V:_Vault\Projects\30031535\CAD\DWG\22_RP\30031535-22-RP-0004.dwg

Last Modified :- Mar 10, 2016 - 12:13pm

Survey Data	
Datum	MGA 94
Horiz. Datum	Zone 56
Height Datum	AHD Derived
Survey Books	MR94021
Working drawings	

Scales
0 5 10 15 20m

Dimensions in metres except where shown otherwise. Areas in hectares (ha), square metres (m²) or acres (ac).

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)

Auxiliary drawings:

Drawing	Reqmts.
[redacted]	
Checked	Checked
[redacted]	

Date: 11/03/16

Resumption Requirements Approved [redacted]

Queensland Government

Job No.	240/207/5
Resumption Plan No.	R1–1805
Drawing No.	682479 | A
Series Number	RP–01 of 1

MRR_Resumption (06/13)

From: SCR Property
To: Frank A Spinella
Cc: Mark L Taylor; SCR Property
Subject: RE: Road # 207
Date: Tuesday, 18 June 2019 12:08:00 PM
Attachments: NOIR R1-1805 WTR.pdf

Hi Frank,

History to lots/comments in red.

To assist us with management of requests, please respond to our "SCR Property" email address

Kind regards,

Nicole West & Mary Sutton
Property Team (Project Planning)
South Coast Region / Gold Coast Office
Program Delivery & Operations Branch | Department of Transport and Main Roads
First Floor | Nerang - Gold Coast Office | 36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
P: (07) 55636 600 | F: (07) 55636 611
E: scr.property@tmr.qld.gov.au
W: www.tmr.qld.gov.au
Please consider the environment before printing this email
'No Property – No Project'

From: Frank A Spinella
Sent: Wednesday, 12 June 2019 4:19 PM
To: SCR Property <scr.property@tmr.qld.gov.au>
Cc: Mark L Taylor <Mark.L.Taylor@tmr.qld.gov.au>
Subject: RE: Road # 207

HI Guys,

I have been having a look at Road # 207 and have noted that there are 3 location that appears to have land issues.

Do we have it on record and if so what is the history on it please?

1. Land owned by TMR, and it appears to be old railway land. Part of the road is with this allotment. Lot 31 SP130071

No history. Disused railway corridor refer to Rail Corridor Management team for consent/agreement to survey out area of encroachment and dedicate to road?

2. Land owned by TMR, and it appears to be old railway land. Part of the road is with these allotment. Lots 51 & 52 SP130072

No history. Refer to Rail Corridor Management team for consent/agreement to dedicate to road?

3. Land Owned by Natural resources (I think) and it is a cemetery. Road over cemetery land. Lots 149 WD4846

Refer R1-1805 copy attached. Part of current WTR construction project.

Look forward to your comments on anything that you may have on it.

Kind regards,

Frank Spinella
Principal Designer (Civil) | South Coast Region / Gold Coast Office
Program Delivery & Operations | Department of Transport and Main Roads
Floor 1 | Nerang - 36 Cotton Street |Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
P: (07) 556 **36510** | F: (07) 55969511
MNR
E: frank.a.spinella@tmr.qld.gov.au

W: www.tmr.qld.gov.au

From: Kemal Sarac
To: SCR Property
Cc: Suman Joshi; Alan G Purvis
Subject: RE: Encroachments - Waterford Tamborine Road (SCR207) - Lot 51 & 52 SP130072
Date: Wednesday, 28 April 2021 7:30:48 AM

Thanks Mary,

Please charge related cost against WBS 52-00489244.O.DI.5

Regards,

Kemal Sarač
Engineer (Civil) | Delivery
South Coast Region / Gold Coast Office
Program Delivery and Operations | Department of Transport and Main Roads

1st Floor | 36-38 Cotton Street | Nerang Qld 4211
PO Box 442 | Nerang Qld 4211
P: (07) 5563 6600 | M: NR
kemal.z.sarac@tmr.qld.gov.au
www.tmr.qld.gov.au

From: SCR Property <scr.property@tmr.qld.gov.au>
Sent: Tuesday, 27 April 2021 10:45 AM
To: Kemal Sarac <Kemal.Z.Sarac@tmr.qld.gov.au>
Cc: Suman Joshi <Suman.Z.Joshi@tmr.qld.gov.au>; Alan G Purvis <alan.g.purvis@tmr.qld.gov.au>; SCR Property <scr.property@tmr.qld.gov.au>
Subject: Encroachments - Waterford Tamborine Road (SCR207) - Lot 51 & 52 SP130072

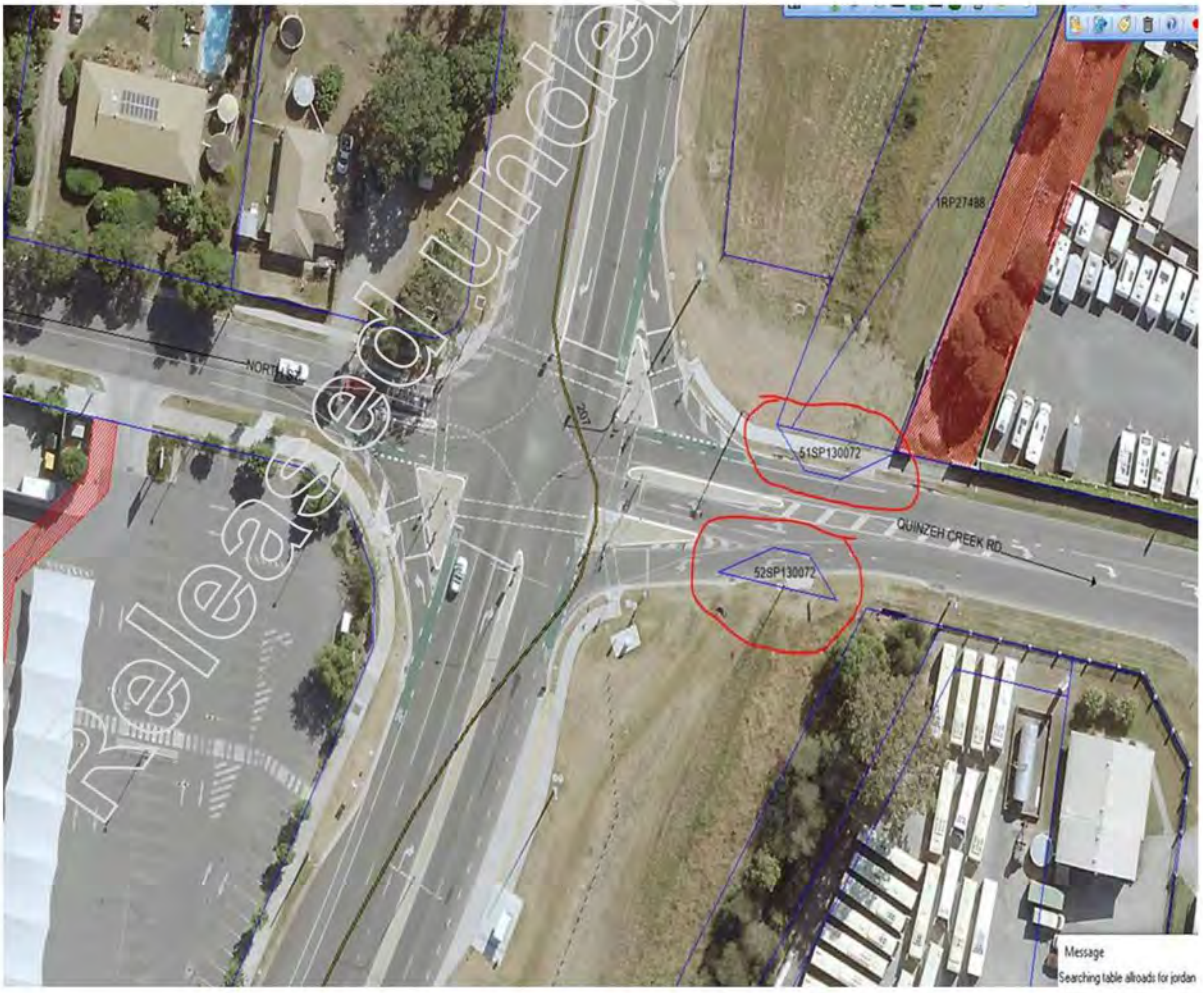
Hi Kemal

It has been identified that there are some encroachments requiring rectification along Waterford Tamborine Road.(see below)

Lot 51 & 52 SP130072 They are non-rail corridor, part of the old Bethania to Beaudesert Line. I have had discussions with the Rail Team to have these parcels dedicated to road, waiting on final approval for action.

We are looking at having these parcels dedicated to road and require funding from your current project to fund the dedication. (approx $300 per parcel plus Resources for CATS purposes)

Please provide the WBS to charge this to.



Regards

Mary Sutton

Property Coordination Team
South Coast Region / Gold Coast Office
Program Delivery & Operations Branch | Department of Transport and Main Roads
PO Box 442 | Nerang Qld 4211
P: (07) 5563 6640 | **F:** (07) 5563 6611
E: scr.property@tmr.qld.gov.au
W: www.tmr.qld.gov.au

Department of Transport and Main Roads

TRAFFIC ALERT

Motorists are advised that changed traffic conditions will be implemented from 7 April 2021.

Installation of concrete barriers and line marking work will be undertaken. Additionally, right turn movements from Waterford-Tamborine Road into Logan Street will be removed for 2-3 months (weather and site conditions permitting). This is to protect the safety of motorists and workers in the area.

U Turn access will be maintained at North Street and Anzac Avenue during construction, in addition to left in and left out access arrangements at Logan Street.

Please allow extra time for travel. Speed restrictions, lane closures and temporary stoppages will be in place. Please drive with care and watch out for roadwork signage.

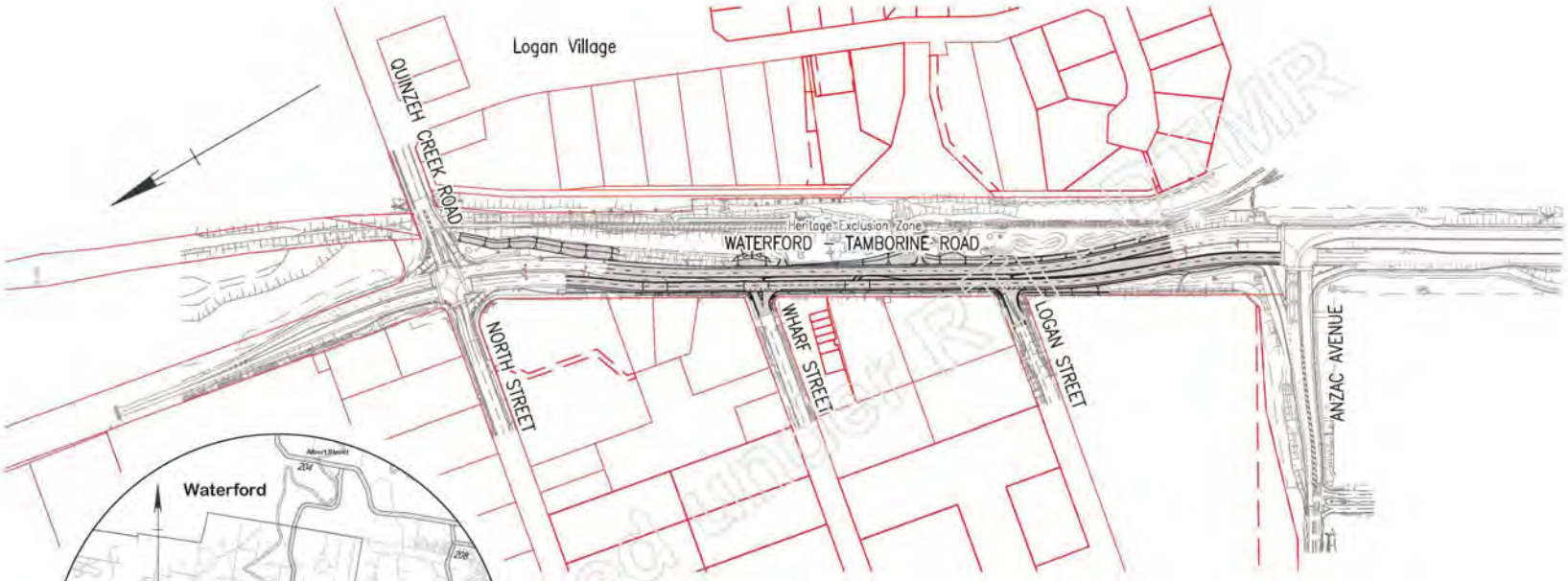
Weather, site and contractor conditions can impact works, delaying start and finish schedules.

When it comes to road safety, we all have a role to play. Get involved and use your Street Smarts to drive down the road toll.

For information on the latest traffic conditions, please contact the Statewide Traffic Management Centre on 13 19 40, or visit www.QLDTraffic.qld.gov.au

Queensland Government

WATERFORD - TAMBORINE ROAD (207)
QUINZEH CREEK ROAD TO ANZAC AVE FOUR LANING



SITE PLAN
Scale A

LOCALITY PLAN
NST

NOTE:
1. Drawings to be read in conjunction with the Extended Design Domain and Design Exception Summary Report (Job No. 489244, Report No. 02 Rev 03)

SCHEME SUBMITTED *(External Consultants or Internal Business Unit):*

This design meets the requirements of all relevant Australian Standards, Austroads Guidelines and Transport and Main Roads – Policies, References, Standards, Planning and Design Instructions, Guidelines and the requirements of the project brief/functional specifications including agreed Extended Design Domain and Design Exceptions.

SIGNED: ORIGINAL SIGNED BY LUKE FRISKE TITLE: PROJECT MANAGER

Organisation: SMEC DATE: 07/08/2020

SCHEME SCOPE AND FINANCIAL APPROVAL: *(Regional Director or Delegate):*

I hereby certify that this scheme complies with the intent of the scope and financial limits of the relevant project on QTRIP and the scheme is approved for release in accordance with that program.

SIGNED: TITLE: DATE:

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_WAR\CAD\DWG\01_LP\30031795-V01-LP-0011.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: A 0 20 40 60 80m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.88	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: L.S

COVER SHEET
LOCALITY AND SITE PLAN

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AME	SIGNATURE:	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857878 | A
Series Number	LP-01 of 1

Drawing Number	Revision	Series Number	Drawing Description
857878	A	LP-01	COVER SHEET LOCALITY AND SITE PLAN
857879	A	DI-01	DRAWING INDEX
857880	A	DK-01	DRAWING SHEET KEY
857881	A	TC-01	TYPICAL CROSS SECTIONS SHEET 1 OF 3
857882	A	TC-02	TYPICAL CROSS SECTIONS SHEET 2 OF 3
857883	A	TC-03	TYPICAL CROSS SECTIONS SHEET 3 OF 3
857884	A	GD-01	GENERAL DETAILS SHEET 1 OF 3
857885	A	GD-02	GENERAL DETAILS SHEET 2 OF 3
857886	A	GD-03	GENERAL DETAILS SHEET 3 OF 3
857887	A	CL-NL01	CONTROL LINE SETOUT NOTES AND LEGEND
857888	A	CL-01	CONTROL LINE SETOUT LAYOUT PLAN SHEET 1 OF 4
857889	A	CL-02	CONTROL LINE SETOUT LAYOUT PLAN SHEET 2 OF 4
857890	A	CL-03	CONTROL LINE SETOUT LAYOUT PLAN SHEET 3 OF 4
857891	A	CL-04	CONTROL LINE SETOUT LAYOUT PLAN SHEET 4 OF 4
857892	A	CL-TA01	CONTROL LINE SETOUT TABLES
857893	A	GA-NL01	GENERAL ARRANGEMENT NOTES AND LEGEND
857894	A	GA-01	GENERAL ARRANGEMENT LAYOUT PLAN SHEET 1 OF 3
857895	A	GA-02	GENERAL ARRANGEMENT LAYOUT PLAN SHEET 2 OF 3
857896	A	GA-03	GENERAL ARRANGEMENT LAYOUT PLAN SHEET 3 OF 3
857897	A	GA-DE01	GENERAL ARRANGEMENT KERB RAMP DETAILS AND SETOUT
857898	A	EF-NL01	EXISTING FEATURES NOTES AND LEGEND
857899	A	EF-1001	EXISTING FEATURES LAYOUT PLAN SHEET 1 OF 3
857900	A	EF-1002	EXISTING FEATURES LAYOUT PLAN SHEET 2 OF 3
857901	A	EF-1003	EXISTING FEATURES LAYOUT PLAN SHEET 3 OF 3
857902	A	PU-NL01	PUBLIC UTILITY PLANT NOTES AND LEGEND AND POTHOLE TABLE
857903	A	PU-01	PUBLIC UTILITY PLANT LAYOUT PLAN SHEET 1 OF 3
857904	A	PU-02	PUBLIC UTILITY PLANT LAYOUT PLAN SHEET 2 OF 3
857905	A	PU-03	PUBLIC UTILITY PLANT LAYOUT PLAN SHEET 3 OF 3
857906	A	PU-TA01	PUBLIC UTILITY PLANT CONFLICTS REGISTER
857907	A	LS-01	LONGITUDINAL SECTION CONTROL LINE MC01
857908	A	LS-02	LONGITUDINAL SECTION CONTROL LINE MC02
857909	A	LS-03	LONGITUDINAL SECTION CONTROL LINE MC10
857910	A	LS-04	LONGITUDINAL SECTION CONTROL LINE MC20
857911	A	DD-NL01	DRAINAGE NOTES AND LEGEND SHEET 1 OF 2
857912	A	DD-NL02	DRAINAGE NOTES AND LEGEND SHEET 2 OF 2
857913	A	DD-DT01	DRAINAGE GENERAL DETAILS SHEET 1 OF 5
857914	A	DD-DT02	DRAINAGE GENERAL DETAILS SHEET 2 OF 5
857915	A	DD-DT03	DRAINAGE GENERAL DETAILS SHEET 3 OF 5
857916	A	DD-DT04	DRAINAGE GENERAL DETAILS SHEET 4 OF 5
857917	A	DD-DT05	DRAINAGE GENERAL DETAILS SHEET 5 OF 5
857918	A	DD-01	DRAINAGE LAYOUT PLAN SHEET 1 OF 3
857919	A	DD-02	DRAINAGE LAYOUT PLAN SHEET 2 OF 3
857920	A	DD-03	DRAINAGE LAYOUT PLAN SHEET 3 OF 3
857921	A	DD-LS01	DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 2
857922	A	DD-LS02	DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 2
857923	A	DD-XS01	DRAINAGE CULVERT SECTIONS
857924	A	DD-ST01	DRAINAGE CULVERT 02 INLET STRUCTURE DETAILS SHEET 1 OF 3
857925	A	DD-ST02	DRAINAGE CULVERT 02 INLET STRUCTURE DETAILS SHEET 2 OF 3
857926	A	DD-ST03	DRAINAGE CULVERT 02 INLET STRUCTURE DETAILS SHEET 3 OF 3
857927	A	PD-NL01	PAVEMENT AND LANDSCAPING NOTES AND LEGEND SHEET 1 OF 2

Drawing Number	Revision	Series Number	Drawing Description
857928	A	PD-NL02	PAVEMENT AND LANDSCAPING NOTES AND LEGEND SHEET 2 OF 2
857929	A	PD-DT01	PAVEMENT AND LANDSCAPING INTERFACE DETAILS SHEET 1 OF 3
857930	A	PD-DT02	PAVEMENT AND LANDSCAPING INTERFACE DETAILS SHEET 2 OF 3
857931	A	PD-DT03	PAVEMENT AND LANDSCAPING INTERFACE DETAILS SHEET 3 OF 3
857932	A	PD-01	PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 1 OF 3
857933	A	PD-02	PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 2 OF 3
857934	A	PD-03	PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 3 OF 3
857935	A	SL-NL01	SIGNS AND PAVEMENT MARKINGS NOTES AND LEGEND
857936	A	SL-01	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 1 OF 4
857937	A	SL-02	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 2 OF 4
857938	A	SL-03	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 3 OF 4
857939	A	SL-04	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 4 OF 4
857940	A	SL-SC01	SIGNS AND PAVEMENT MARKINGS SIGN SCHEDULES SHEET 1 OF 2
857941	A	SL-SC02	SIGNS AND PAVEMENT MARKINGS SIGN SCHEDULES SHEET 2 OF 2
857942	A	RL3-NL01	RATE 3 ROAD LIGHTING NOTES AND LEGEND
857943	A	RL3-01	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 1 OF 4
857944	A	RL3-02	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 2 OF 4
857945	A	RL3-03	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 3 OF 4
857946	A	RL3-04	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 4 OF 4
857947	A	RL3-SC01	RATE 3 ROAD LIGHTING SCHEDULE SHEET 1 OF 2
857948	A	RL3-SC02	RATE 3 ROAD LIGHTING SCHEDULE SHEET 2 OF 2
857949	A	RL3-SL01	RATE 3 ROAD LIGHTING SINGLE LINE DIAGRAMS SHEET 1 OF 2
857950	A	RL3-SL02	RATE 3 ROAD LIGHTING SINGLE LINE DIAGRAMS SHEET 2 OF 2
857951	02	RL2-NL01	ROAD LIGHTING RATE 2 REMOVAL NOTES AND LEGEND
857952	02	RL2-01	ROAD LIGHTING RATE 2 REMOVAL LAYOUT PLAN SHEET 1 OF 2
857953	02	RL2-02	ROAD LIGHTING RATE 2 REMOVAL LAYOUT PLAN SHEET 2 OF 2
857954	02	RL2-SC01	ROAD LIGHTING RATE 2 REMOVAL SCHEDULES
857955	02	RL2-SC02	ROAD LIGHTING RATE 2 REMOVAL SCHEDULES & SCHEMATICS
857956	A	IT-NL01	INTELLIGENT TRANSPORT SYSTEMS GENERAL NOTES SHEET 1 OF 2
857957	A	IT-NL02	INTELLIGENT TRANSPORT SYSTEMS LEGEND SHEET 2 OF 2
857958	A	IT-01	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 1 OF 4
857959	A	IT-02	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 2 OF 4
857960	A	IT-03	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 3 OF 4
857961	A	IT-04	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 4 OF 4
857962	A	IT-SM01	INTELLIGENT TRANSPORT SYSTEMS SYSTEM ARCHITECTURE
857963	A	IT-SM02	INTELLIGENT TRANSPORT SYSTEMS SYSTEM CONNECTION DIAGRAM
857964	A	IT-SM03	INTELLIGENT TRANSPORT SYSTEMS FIBRE OPTIC BACKBONE DETAILS
857965	A	IT-SM04	INTELLIGENT TRANSPORT SYSTEMS FOC TERMINATION SCHEMATIC SHEET 1 OF 2
857966	A	IT-SM05	INTELLIGENT TRANSPORT SYSTEMS FOC TERMINATION SCHEMATIC SHEET 2 OF 2
857967	A	XS-01	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 1
857968	A	XS-02	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 2
857969	A	XS-03	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 3
857970	A	XS-04	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 4
857971	A	XS-05	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 5
857972	A	XS-06	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 6
857973	A	XS-07	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 7
857974	A	XS-08	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 8
857975	A	XS-09	ANNOTATED CROSS SECTIONS CONTROL LINE MC10 SHEET 1
857976	A	XS-10	ANNOTATED CROSS SECTIONS CONTROL LINE MC20 SHEET 1

TOTAL NUMBER OF DRAWINGS = 99

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:\...\out\Projects\378317595\CAD\...\MEV5401\DWG\108_DI_300317595-MEV5-0101.dwg

Associated Job Nos:

Auxiliary Drg Nos:

Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales:

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	1.448	2.958	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.B

Designed: L.S

DRAWING INDEX

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
Civil	P.I	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857879 | A
Series Number	DI-01 of 1

SMEC
Member of the Surbana Jurong Group

A	Issued For Construction				
	Revisions/Descriptions	Name or RPEQ No.	Signature	Date	

CAD FILES | V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\02_DI\30031795-V02-DI-0021.dwg

Last Modified: Aug 07, 2020 - 3:54pm

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
A 0 10 20 30 40m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn P.W
Designed L.S

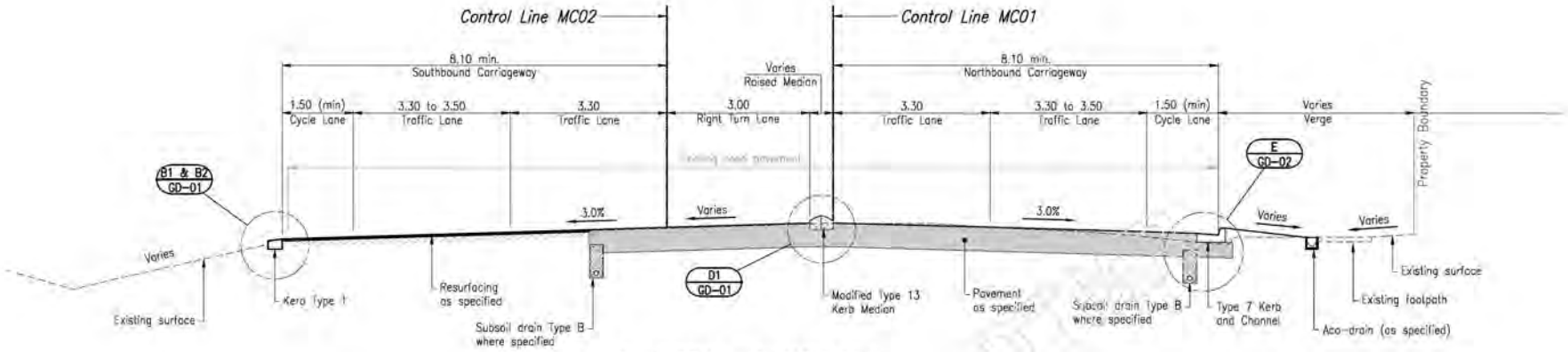
DRAWING SHEET KEY

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA		SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

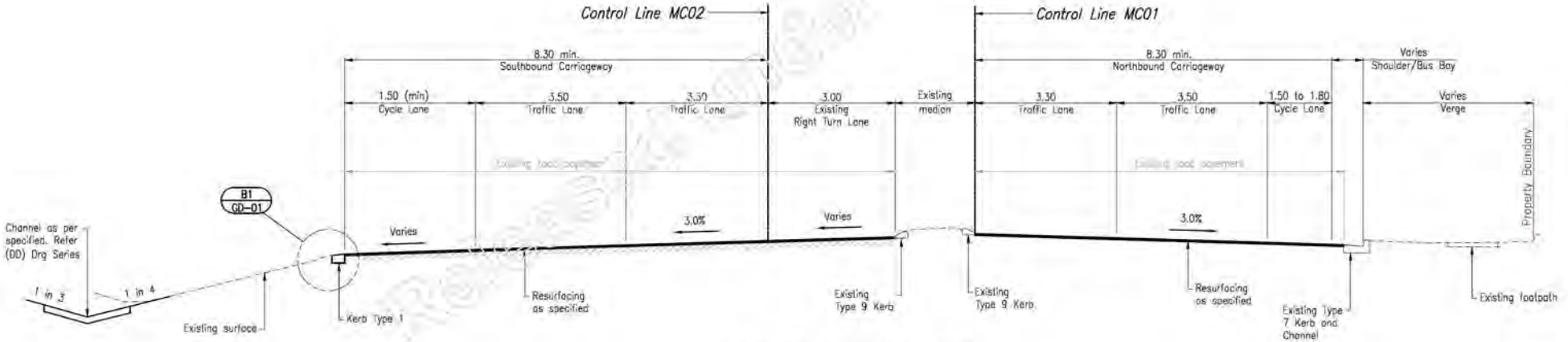
Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857880 | A
Series Number	DK–01 of 1



B: WATERFORD – TAMBORINE ROAD

Chge. 10808 – 10898 (MC01)



A: WATERFORD – TAMBORINE ROAD

Chge. 10779 – 10808 (MC01)

LEGEND

- Design Surface
- Existing Surface
- Control Line
- Existing DCDB Boundary

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\03_TC\30031795-W03-TC-0011.dwg

Last Modified: Aug 07, 2020 - 3:56pm

Associated Job Nos

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: 0 1.0 2.0m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.055	0.558	3.554	5A

Through Chainage from Start of Gazettal: 10.748km – 11.306km

Drawn: MJP

Designed: LS

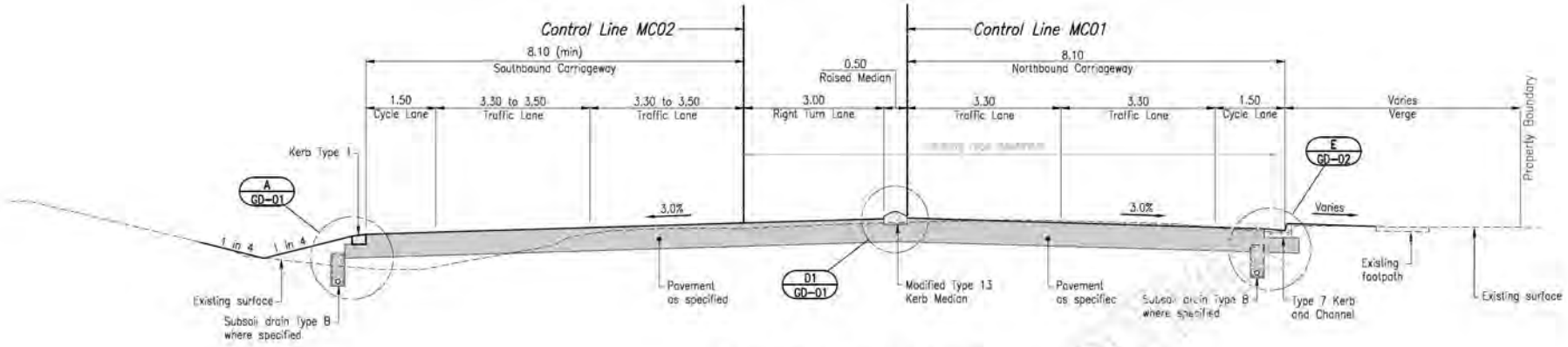
TYPICAL CROSS SECTIONS
SHEET 1 OF 3

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

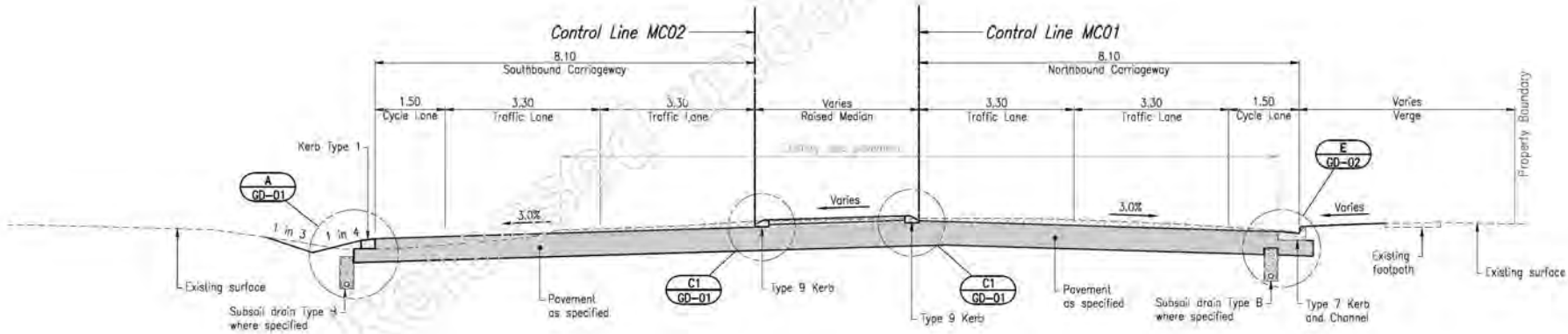
Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857881 A
Series Number	TC–01 of 3



D: WATERFORD – TAMBORINE ROAD

Chge. 11011 – 11095 (MC01)



C: WATERFORD – TAMBORINE ROAD

Chge. 10898 – 11011 (MC01)

LEGEND

- Design Surface
- Existing Surface
- Control Line
- Existing DCDB Boundary

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\03_TC\30031795-W03-TC-0012.dwg

Last Modified – Aug 07, 2020 – 3:56pm

Associated Job Nos	Survey Data	
	Horiz. Datum	MGA94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number D1-01	Height Datum	AHD Derived
	Survey Books	MR101140

Scales: 0 1.0 2.0m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.055	2.558	3.554	5A

Through Chainage from Start of Gazettal: 10.748km – 11.306km

Drawn: MJP

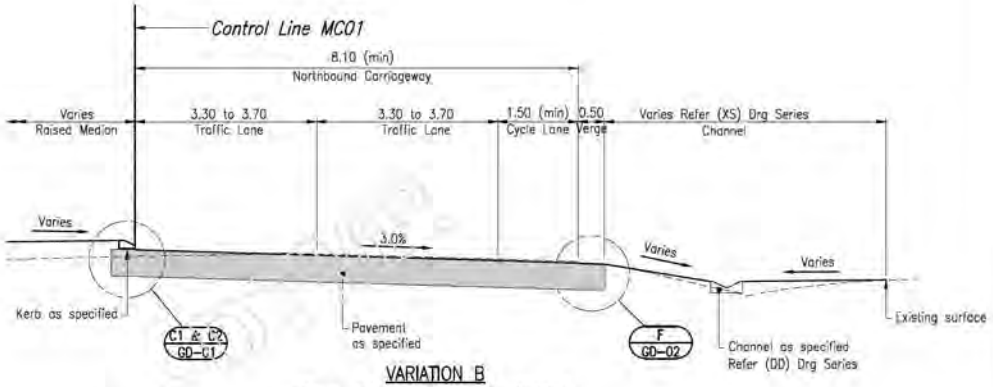
Designed: LS

TYPICAL CROSS SECTIONS
SHEET 2 OF 3

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME	SIGNATURE:	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

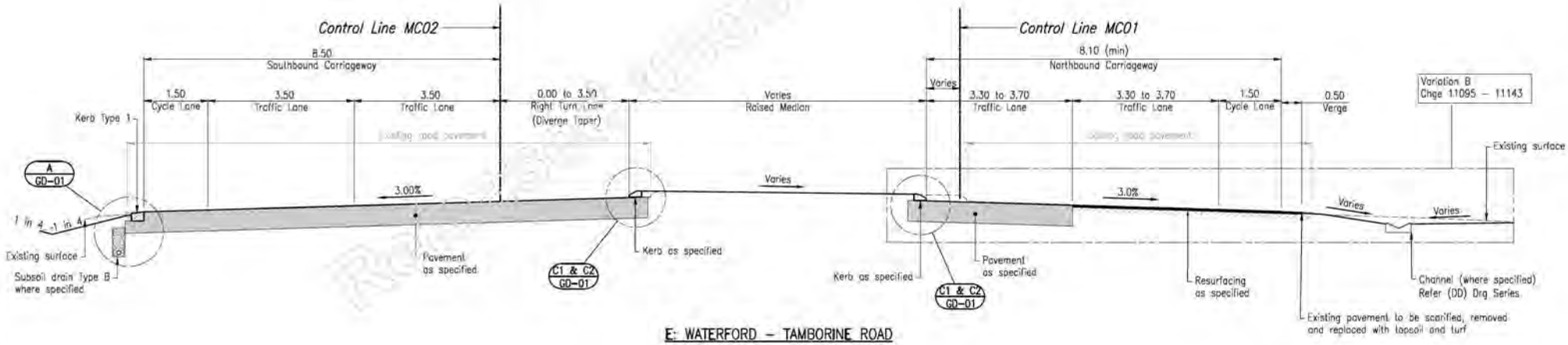
Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857882 A
Series Number	TC–02 of 3



VARIATION B

Chge. 11095 – 11143 (MC01)



E: WATERFORD – TAMBORINE ROAD

Chge. 11095 – 11206 (MC01)

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\03_TC\30031795-W03-TC-0013.dwg

Associated Job Nos

Auxiliary Drg Nos

Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: 0 1.0 2.0m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.055	3.558	3.554	5A

Through Chainage from Start of Gazette: 10.748km – 11.306km

Drawn: MJP

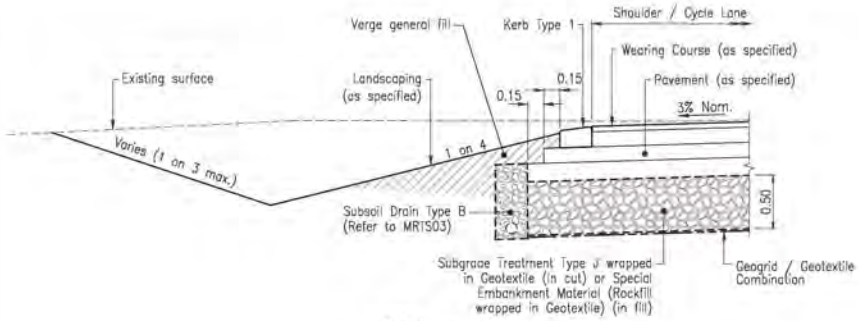
Designed: LS

TYPICAL CROSS SECTIONS
SHEET 3 OF 3

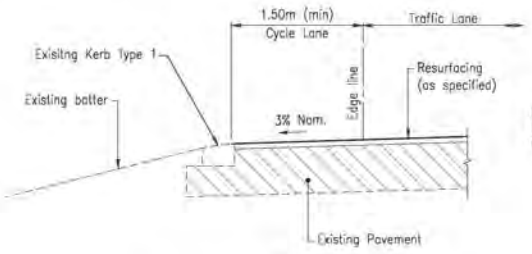
ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME	SIGNATURE: ORIGINAL SIGNED	No. 15348	DATE 07/08/2020
CIVIL PI				

Queensland Government

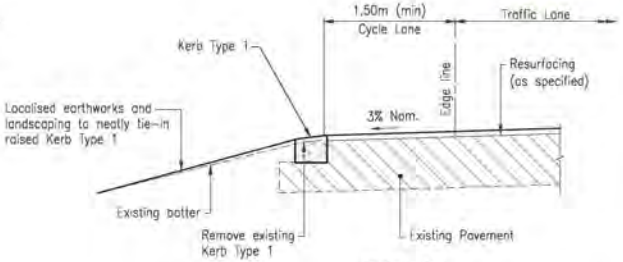
Job No.	489244
Contract No.	CN-14898
Drawing No.	857883 | A
Series Number	TC-03 of 3



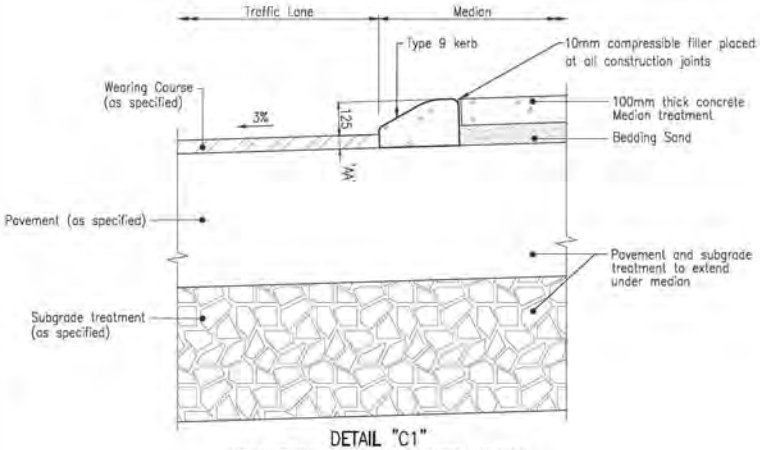
DETAIL A
KERB TYPE 1 TO TURF VERGE
Scale: A



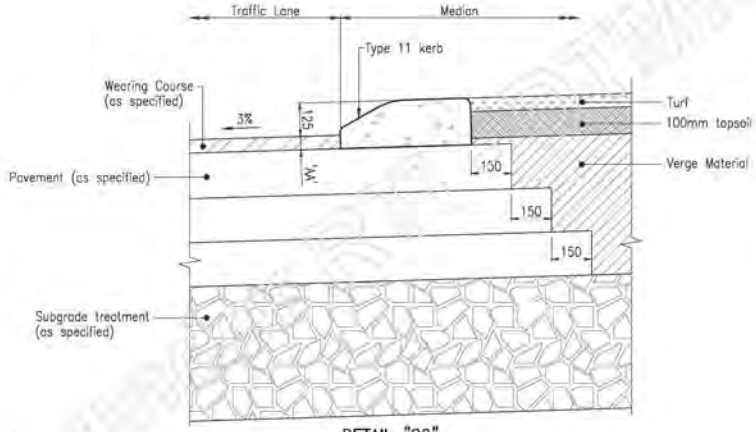
DETAIL B1
EXISTING KERB TYPE 1 TO TURF VERGE
Scale: A



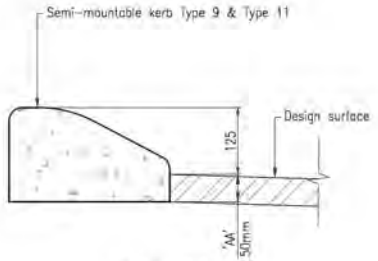
DETAIL B2
RAISED KERB TYPE 1 TO TURF VERGE
Scale: A



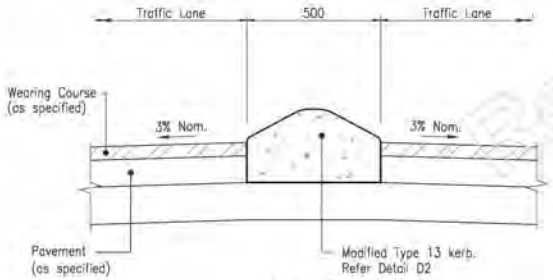
DETAIL "C1"
KERB TYPE 9 TO CONCRETE MEDIAN
Scale: B



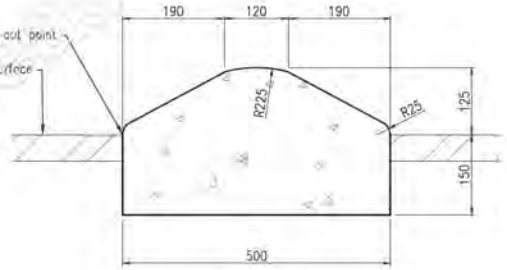
DETAIL "C2"
KERB TYPE 11 TO TURF MEDIAN
Scale: B



DETAIL "C3"
SEMI MOUNTABLE KERB WITH 'AA'
Scale: C



DETAIL D1
MODIFIED TYPE 13 KERB BETWEEN CARRIAGEWAYS
Scale: B



DETAIL D2
MODIFIED TYPE 13 KERB
Scale: C

NOTES:
1. For general notes refer to Drg Series No. GA–NL01.
2. For pavement details, seal details, pavement/subsoil drain details and locations refer to (PD) Series drawings.
3. For road lighting details and locations refer to (RL) Series drawings.
4. For table drain and drainage details refer to (DD) Series drawings.
5. For landscaping details and location refer to (PD) Series drawings.
6. Crossfall varies, refer to (XS) Series drawings for slope.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_MR\CAD\DWG\04_DDI\30031795-V04-GD-0051.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number 01–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
A 0 0.5 1.0m
B 0 100 200 300 400mm
C 0 50 100 150 200mm
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	[redacted]	[redacted]	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: CEG
Designed: LS

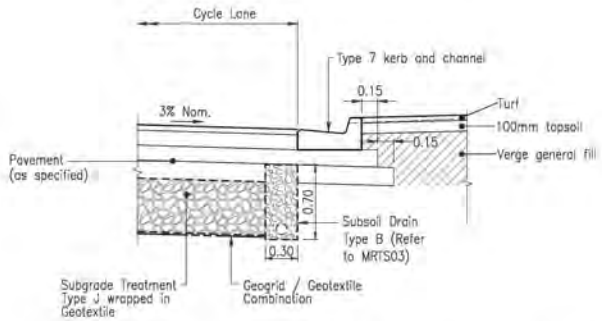
GENERAL DETAILS
SHEET 1 OF 3

ENGINEERING CERTIFICATION (RPEQ)

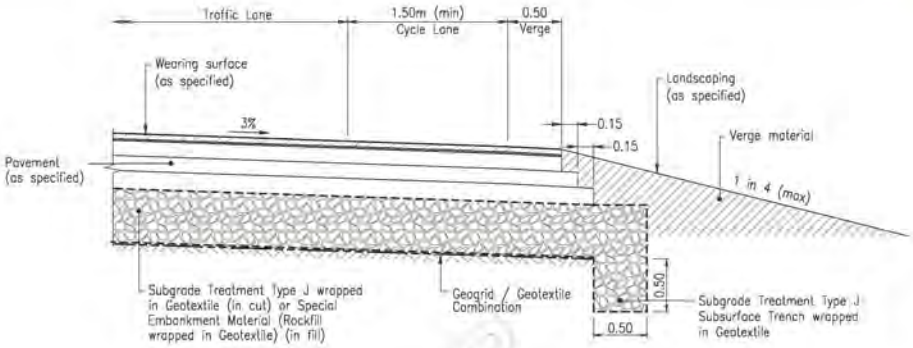
ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857884 | A
Series Number	GD–01 of 3



DETAIL "E"
KERB AND CHANNEL TO TURF VERGE/EXISITNG FOOTPATH
Note: Varies – Refer (XS) Drg Series for slope and offset
Scale: A



DETAIL "F"
LOW SIDE EMBANKMENT

A	Issued For Construction				
Revisions/Descriptions		Name or RPEQ No.	Signature	Date	

CAD FILES: V:_Vault\Projects\30\31795\CADD_WIP\CAD\DWG\04_GD\30\31795-V04-GD-0012.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
A 0 0.5 1.0m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.000	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: CEG
Designed: LS

GENERAL DETAILS
SHEET 2 OF 3

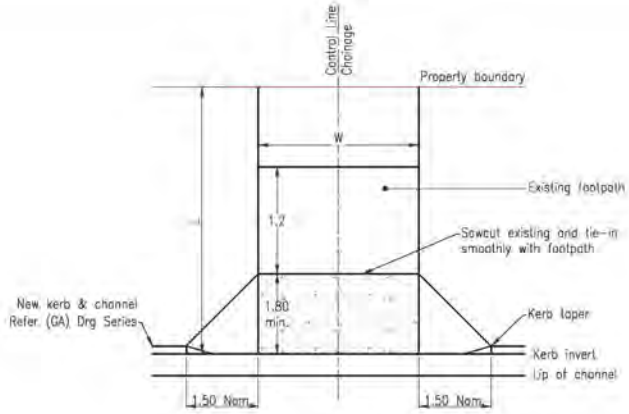
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA		AME	SIGNATURE:	No.	DATE
CIVIL	PI		ORIGINAL SIGNED	15348	07/08/2020

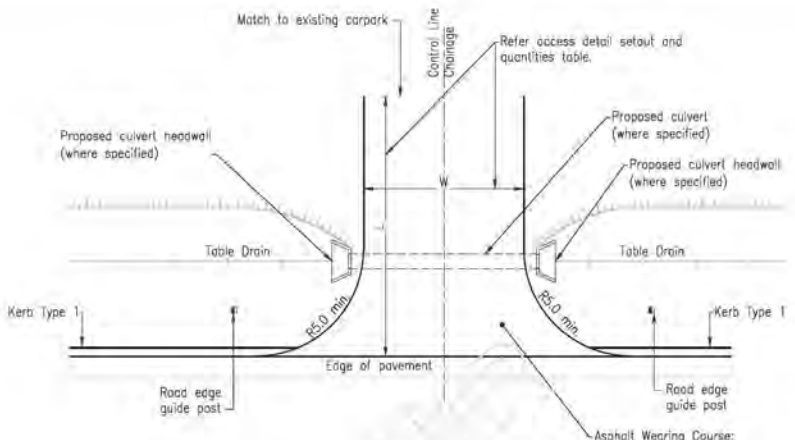
Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857885 | A
Series Number	GD–02 of 3

Last Modified: Aug 07, 2020 – 3:57pm



RAMPED VEHICLE CROSSING
Scale: A

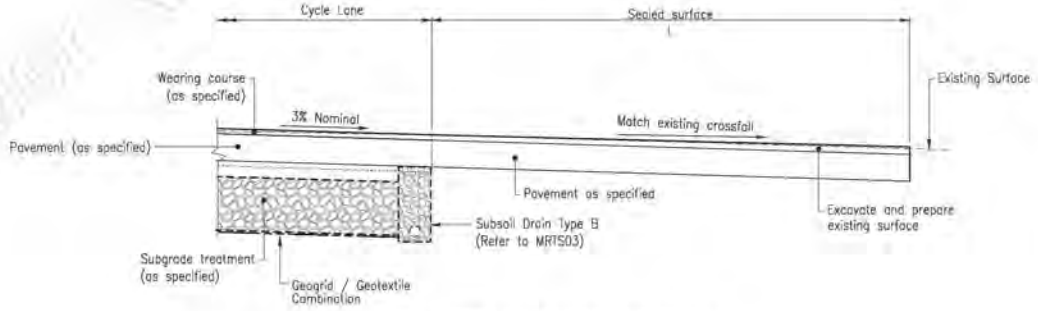


RURAL ACCESS CROSSING
Scale: A

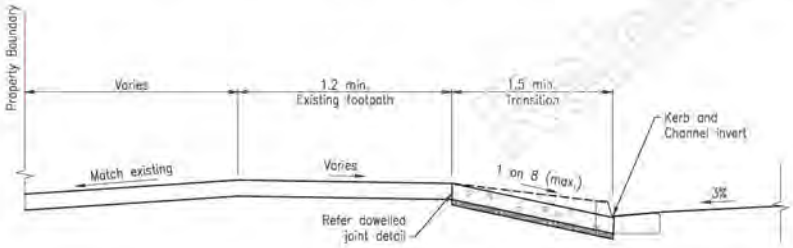
Asphalt Wearing Course:
50 mm AC14M (A15E)
S/S Seal:
C170 Binder @ Nominal Spray Rate = 1L/m2
Size 10mm Precoated Aggregate @ Nominal Spread Rate = 140 m2/m3
Prime:
AMC00 Cutback Bitumen Prime @ Nominal Spray Rate = 0.9L/m2
Base Layer:
250 mm Unbound Type 2.1
Subgrade (Design CBR=3%)

ACCESS DETAIL SETOUT AND QUANTITIES

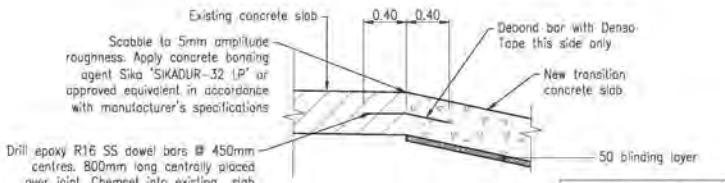
DIRECT ACCESS ID	CONTROL LINE	CHAINAGE	LHS/RHS	LENGTH 'L' (M) Nominal	WIDTH 'W' (M) Nominal	TREATMENT TYPE
MA01	MC01	10770	RHS	–	–	EXISTING RAMPED ACCESS TO REMAIN.
MA02	MC01	10780	RHS	–	–	EXISTING RAMPED ACCESS TO REMAIN.
MA03	MC01	10810	RHS	4	9.3	EXISTING VEHICLE CROSSING TRANSITION TO BE RECONSTRUCTED.
MA04	MC01	10820	RHS	4	4.4	EXISTING VEHICLE CROSSING TRANSITION TO BE RECONSTRUCTED.
MA05	MC02	10910	LHS	6	4	RURAL ACCESS CROSSING
MA06	MC01	10975	RHS	4.7	9.3	EXISTING VEHICLE CROSSING TRANSITION TO BE RECONSTRUCTED.
MA07	MC01	11020	RHS	4.9	9.3	EXISTING VEHICLE CROSSING TRANSITION TO BE RECONSTRUCTED.
MA08	MC02	11025	LHS	6	4	RURAL ACCESS CROSSING
MA09	MC01	11065	RHS	5	6.3	EXISTING VEHICLE CROSSING TRANSITION TO BE RECONSTRUCTED.



TYPICAL RURAL ACCESS SECTION
Scale: B



TYPICAL RAMPED VEHICLE CROSSING SECTION
Scale: B



DOWELLED JOINT DETAIL
Scale: B

Where existing slab is greater than 200 thick, dowels to be SS R20 @450mm centres 800mm long

NOTES

1. For driveway locations refer Drg Series Nos. GA-01 to GA-03.
2. Road edge guide posts to be located as shown and in accordance with AS1742.2, (MUTCD) Clause 4.2.4.4 and TMR Std Drg 1356.
3. For standard vehicle crossing detail refer IPWEAQ Std Drg RS-049, RS-050, RS-051, RS-056 and LCC Std Drg 8-00397.
4. For concrete joints, refer IPWEAQ Std Drg RS-065.
5. Typical access arrangement shown. Administrator to confirm exact configuration/layout on site to suit site conditions.

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Jobs\Projects\378317995\CADD_MAR\DWG\104_GDS\378317995-104-GD-0013.dwg

Associated Job Nos:
Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
A 0 1.0 2.0m
B 0 0.5 1.0m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

GENERAL DETAILS
SHEET 3 OF 3

Drawn: CEO
Designed: LS

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857886 A
Series Number	GD-03 of 3

NOTES:

1. For control line setout tables Refer Drg Series No CL-TA01.
2. All kerb control lines (setout point) coincides with point "C" on TMR Std. Drg. 1033.
3. Height Datum: AHD
4. Horizontal Datum: MGA 94 ZONE 56.

LEGEND:

- Control Line
- 100 — Chainage (Control)
- Property Boundary
- Easement Boundary
- Resumption Boundary
- PFSC — Fixed Survey Marks
- PPMK — Permanent Marks
- PISP — Primary Instrument Stations
- PISO — Other Instruments Stations
- POPP — Offset/Recovery Marks

SURVEY STATIONS TABLES

Fixed Survey Marks : PFSC

Name	Easting	Northing	Height	Combined Scale Factor	Comment
STN03_ORIG	510636.161	6928514.663	17.801	0.99959216	STN03_ORIG SCREW IN KERB (WDE MR100787)
PM172965	510336.411	6928101.122	23.193	0.99959123	PM172965 BRASS PLAQUE (WDE MR94021)

Permanent Marks : PPMK

Name	Easting	Northing	Height	Combined Scale Factor	Comment
PM172965	510336.411	6928101.122	23.193	0.99959123	PM172965 BRASS PLAQUE (WDE MR94021)
PM165582	510901.454	6928689.875	16.561	0.99959242	PM165582 STEEL PIN (WDE MR100787)
PM22796	510646.130	6928533.949	17.787	0.99959216	PM22796 BRASS PLAQUE

Primary Instrument Stations : PISP

Name	Easting	Northing	Height	Combined Scale Factor	Comment
STN03_ORIG	510636.161	6928514.663	17.801	0.99959216	STN03_ORIG SCREW IN KERB (WDE MR100787)
STN100	510894.258	6928439.998	17.886	0.99959213	STN100 SCREW IN CONC
STN101	510501.396	6928359.148	18.262	0.99959206	STN101 O_SCREW IN KERB
STN102	510480.956	6928205.539	18.687	0.99959195	STN102 SCREW IN KERB
STN103	510396.161	6928067.207	19.862	0.99959177	STN103 SCREW IN CONC
STN02_ORIG	510621.448	6928425.385	17.757	0.99959216	STN02_ORIG PIN (WDE MR100787)
STN05_ORIG	510692.544	6928614.118	17.598	0.99959220	STN05_ORIG SCREW IN CONC (WDE MR100787)
STN15_ORIG	510577.989	6928326.665	18.550	0.99959202	STN15_ORIG PIN (WDE MR100787)
STN01_ORIG	510450.612	6928358.734	18.791	0.99959195	STN01_ORIG PIN (WDE MR100787)
STN04_ORIG	510560.937	6928531.623	18.143	0.99959205	STN04_ORIG SCREW IN CONC (WDE MR100787)
STN150	510731.039	6928672.994	16.978	0.99959231	STN150 SCREW IN KERB

Offset/Recovery Marks : POPP

Name	Easting	Northing	Height	Combined Scale Factor	Comment
RM403	510750.673	6928580.039	17.161	0.99959229	RM403 STAR PKT
RM402	510697.491	6928618.768	17.528	0.99959221	RM402 SCREW IN KERB
RM401	510786.905	6928642.773	16.708	0.99959237	RM401 STAR PKT
RM400	510726.716	6928671.330	17.105	0.99959229	RM400 O_SCREW IN CONC
RM405	510684.197	6928488.961	17.929	0.99959215	RM405 STAR PKT
RM404	510627.509	6928519.817	17.886	0.99959214	RM404 O_SCREW IN CONC
RM407	510655.070	6928405.791	17.915	0.99959214	RM407 STAR PKT
RM406	510592.209	6928439.647	17.894	0.99959213	RM406 SCREW IN CONC
RM409	510610.709	6928344.316	17.886	0.99959214	RM409 STAR PKT
RM408	510588.754	6928350.465	17.946	0.99959211	RM408_O_SCREW_IN_CONC_HW_(POSSIBLE_CAD_REF_MARK)
RM411	510539.467	6928180.087	17.374	0.99959220	RM411 STAR PKT
RM410	510475.841	6928208.039	18.994	0.99959193	RM410 SCREW IN CONC
RM413	510438.267	6928042.489	18.555	0.99959199	RM413 STAR PKT
RM412	510367.043	6928073.456	20.284	0.99959170	RM412 SCREW IN CONC

Other Instrument Stations : PISO

Name	Easting	Northing	Height	Combined Scale Factor	Comment
STN151	510758.676	6928663.587	17.251	0.99959228	STN151 SCREW IN KERB
STN152	510732.131	6928622.939	17.271	0.99959227	STN152 SCREW IN KERB
STN154	510673.491	6928574.911	17.829	0.99959219	STN154 SCREW IN KERB
STN155	510692.496	6928564.849	17.491	0.99959222	STN155 SCREW IN KERB
STN153	510727.133	6928637.726	17.770	0.99959219	STN153 SCREW IN CONC
STN156	510666.809	6928522.344	17.665	0.99959219	STN156 SCREW IN KERB
STN157	510649.322	6928494.920	17.756	0.99959217	STN157 STEEL PIN
STN158	510587.417	6928395.423	17.971	0.99959212	STN158 GINAIL IN BITUMEN
STN159	510531.329	6928351.855	18.149	0.99959208	STN159 STEEL PIN
STN160	510542.678	6928310.483	18.225	0.99959207	STN160 GINAIL IN BITUMEN
STN166	510526.485	6928314.992	18.274	0.99959205	STN166 GINAIL IN BITUMEN
STN165	510502.419	6928260.956	18.507	0.99959201	STN165 GINAIL IN BITUMEN
STN161	510530.572	6928253.874	18.485	0.99959202	STN161 GINAIL IN BITUMEN
STN162	510514.118	6928199.332	18.768	0.99959197	STN162 GINAIL IN BITUMEN
STN163	510489.074	6928184.837	19.454	0.99959186	STN163 BUMPY

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Vault\Projects\37031295\CADD\MAR\DAD\DWG\05_CL\30037295-V05-CL-0011.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: CEO

Designed: LS

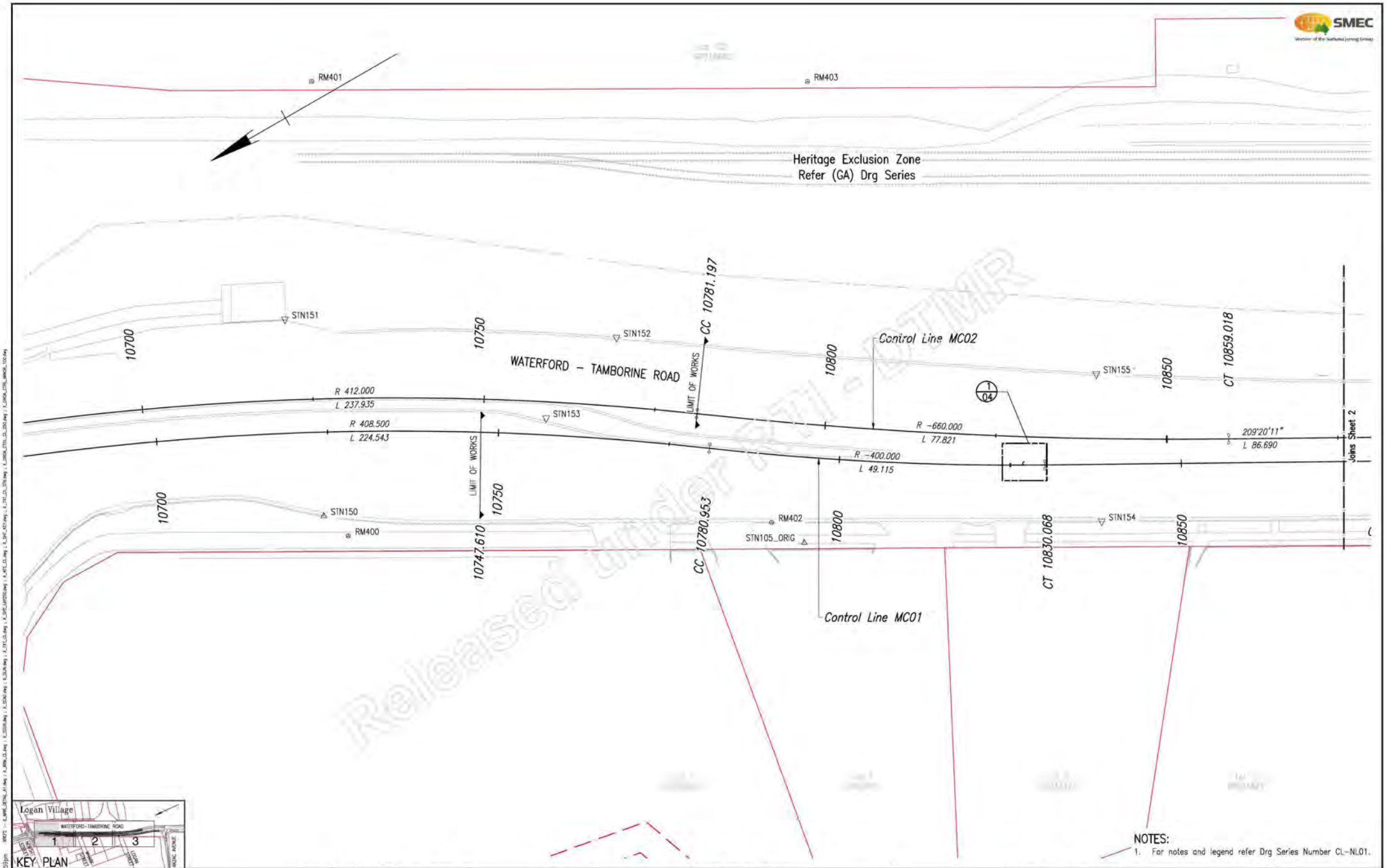
CONTROL LINE SETOUT NOTES AND LEGEND

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AME	SIGNATURE: ORIGINAL SIGNED	No. 15348	DATE 07/08/2020
Civil	PI			

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857887 | A
Series Number	CL-NL01 of 1



Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES | V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\05_CL\30031795-V05-CL-1001.dwg

Last Modified – Aug 07, 2020 – 3:59pm

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
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Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	2.058	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: GEG
Designed: L.S

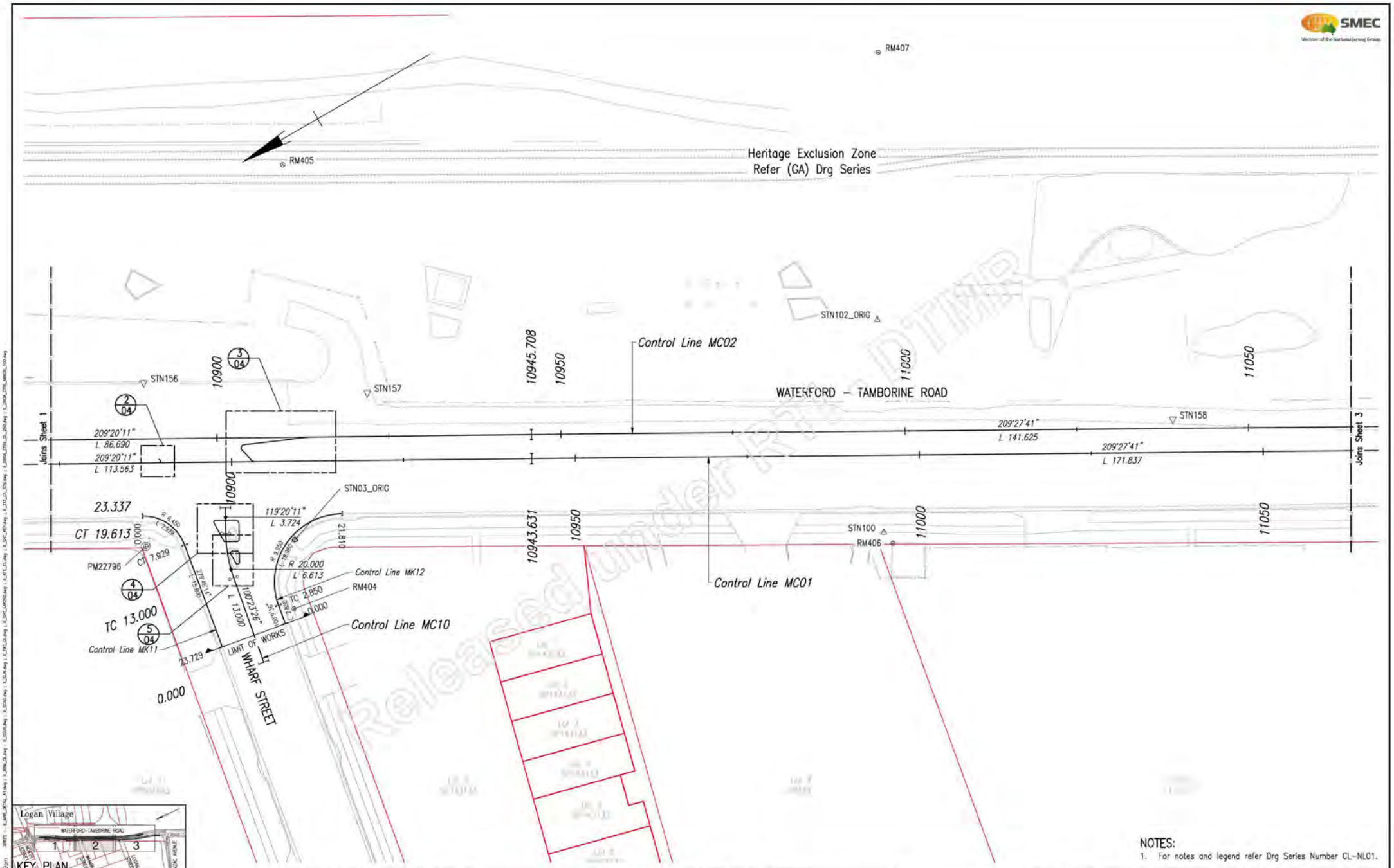
CONTROL LINE SETOUT
LAYOUT PLAN
SHEET 1 OF 4

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857888 | A
Series Number	CL-01 of 4



NOTES:
1. For notes and legend refer Drg Series Number CL-NL01.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

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Last Modified – Aug 07, 2020 – 3:59pm

Associated Job Nos	Survey Data	
	Horiz. Datum	MGA94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number DI-01	Height Datum	AHD Derived
	Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	2.058	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

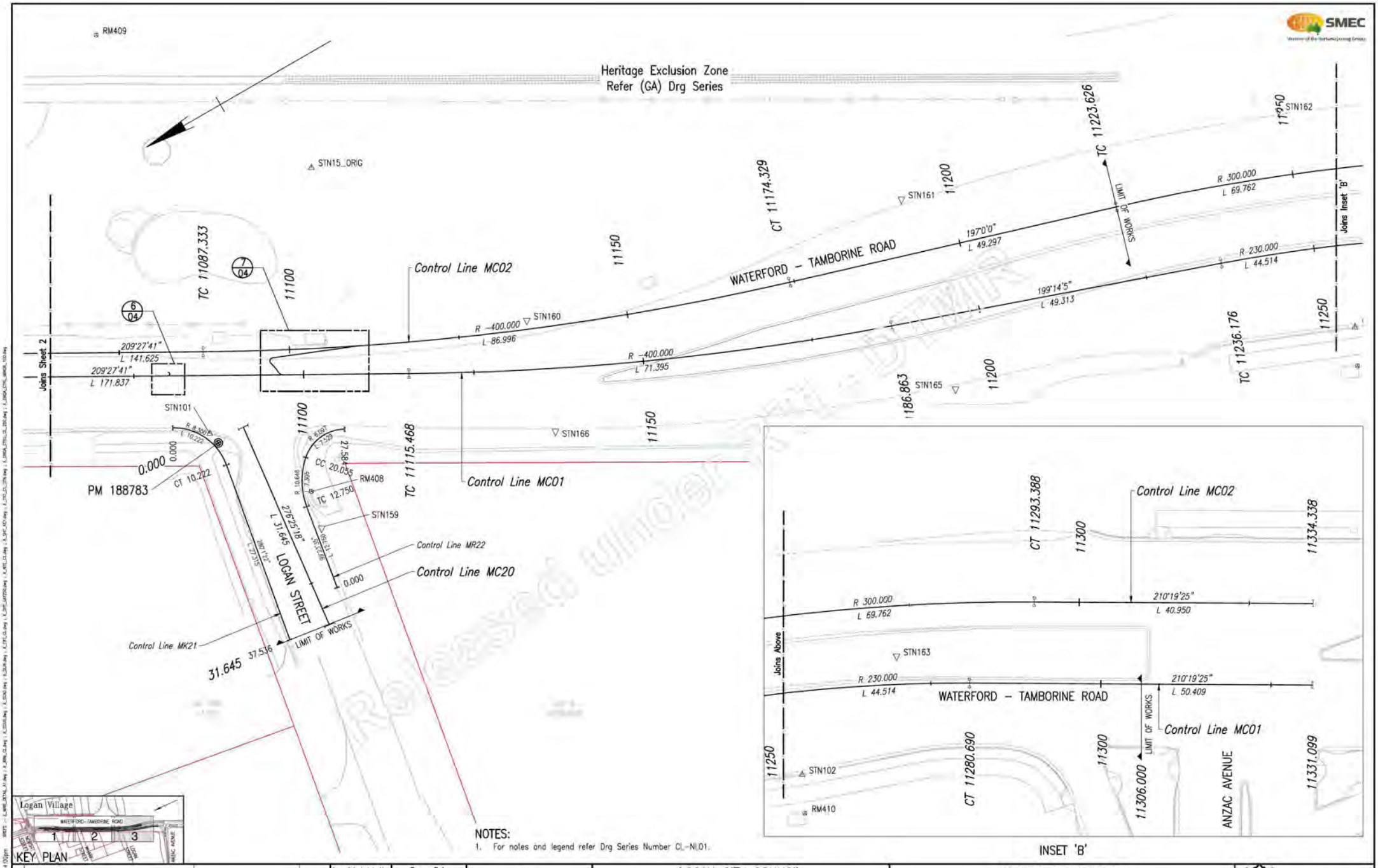
Drawn: GEG
Designed: LS

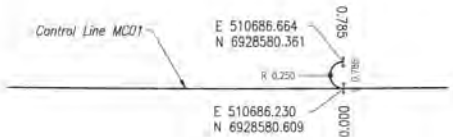
CONTROL LINE SETOUT
LAYOUT PLAN
SHEET 2 OF 4

ENGINEERING CERTIFICATION (RPEQ)					
ENG. AREA	NAME	SIGNATURE	No.	DATE	
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020	

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857889 A
Series Number	CL–02 of 4


RM409
Heritage Exclusion Zone
Refer (GA) Drg Series
STN15_ORIG
STN161
STN162
STN160
STN165
STN166
STN101
STN159
RM408
TC 11087.333
TC 11174.329
TC 11223.626
TC 11236.176
TC 11115.468
CT 10.222
11100
11150
11200
11250
Control Line MC02
Control Line MC01
Control Line MR22
Control Line MC20
Control Line MK21
WATERFORD – TAMBORINE ROAD
LOGAN STREET
LIMIT OF WORKS
Joins Sheet 2
Joins Inset 'B'
R 400.000
L 86.996
R 400.000
L 71.395
R 300.000
L 69.762
R 230.000
L 44.514
197°0"
L 49.297
199°14'5"
L 49.313
209°27'41"
L 141.625
209°27'41"
L 171.837
276°25'18"
L 31.645
CC 20.056
TC 12.750
0.000
PM 188783
31.645
37.536
1186.863
CT 11293.388
CT 11280.690
11300
11334.338
11331.099
11306.000
R 300.000
L 69.762
210°19'25"
L 40.950
R 230.000
L 44.514
210°19'25"
L 50.409
Joins Above
STN163
STN102
RM410
ANZAC AVENUE
INSET 'B'
Logan Village
WATERFORD–TAMBORINE ROAD
KEY PLAN
NOTES:
1. For notes and legend refer Drg Series Number CL–N101.
SMEC
Queensland Government
LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000
CONTROL LINE SETOUT
LAYOUT PLAN
SHEET 3 OF 4
Reference Points
Preceding RP
Dist. to start of job (km)
From start to end of job
From end to Following RP
Following RP
4
3.558
3.554
5A
Through Chainage from Start of Gazettal 10.748km – 11.306km
Survey Data
Horiz. Datum MGA94
Horiz. Grid Zone 56
Height Datum AHD Derived
Survey Books MR101140
Associated Job Nos
Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI–01
Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise
Drawn GEG
Designed LS
ENGINEERING CERTIFICATION (RPEQ)
ENG. AREA CIVIL
NAME
SIGNATURE: ORIGINAL SIGNED
No. 15348
DATE 07/08/2020
Job No. 489244
Contract No. CN–14898
Drawing No. 857890 A
Series Number CL–03 of 4
A Issued For Construction
Revisions/Descriptions
Name or RPEQ No.
Signature
Date
CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\05_CL\30031795–V05–CL–1003.dwg
Last Modified – Aug 07, 2020 – 4:00pm
RTI-4349 Page 239 of 375



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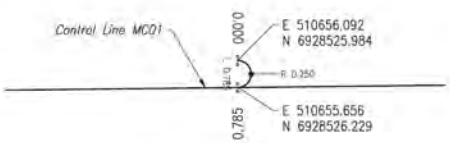
Scale A



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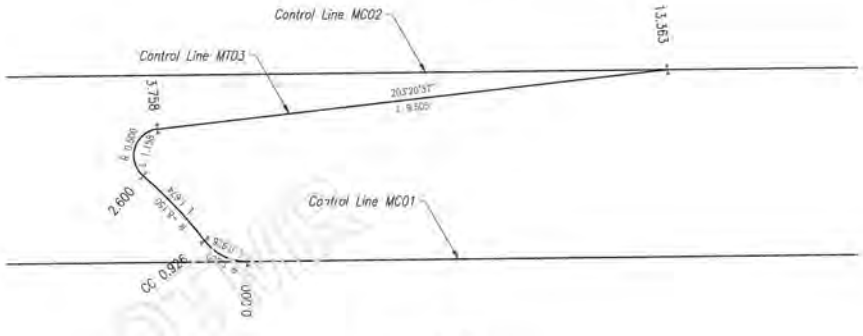

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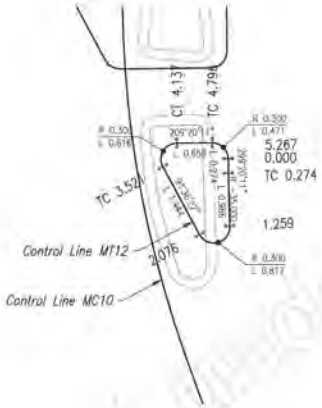
Scale A

DETAIL 4 / 02
Scale A



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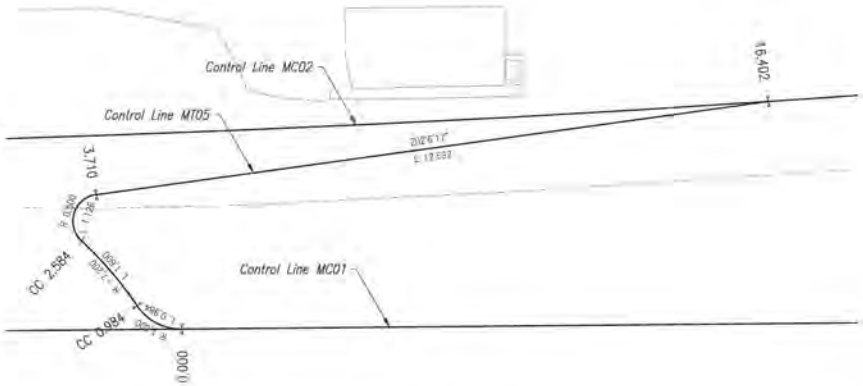

DETAIL 7 / 03
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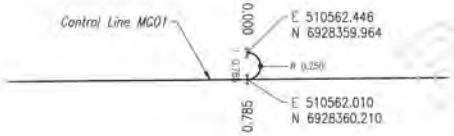

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Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

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Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number 01–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 1.0 2.0m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	[redacted]	[redacted]	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: GEO
Designed: L.S

CONTROL LINE SETOUT
LAYOUT PLAN
SHEET 4 OF 4

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	[redacted]	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857891 A
Series Number	CL–04 of 4

SMEC

MAJOR CONTROL LINES SETOUT TABLES

CONTROL LINE MC01

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
START	10381.609	510811.711	6929000.052		189°05'54.91"	LINE		56.537
TC	10438.146	510802.771	6928944.226		189°05'54.91"	ARC	-1200.000	88.411
CT	10526.558	510792.017	6928856.491		184°52'38.11"	LINE		29.852
TC	10556.409	510789.479	6928826.746		184°52'38.11"	ARC	408.500	224.543
CC	10780.953	510711.378	6928619.231	17.723	216°22'17.28"	ARC	-400.000	49.115
CT	10830.068	510684.750	6928577.997	17.896	209°20'10.54"	LINE		113.563
DIS	10943.631	510629.111	6928478.998	17.925	209°27'40.54"	LINE		171.837
TC	11115.468	510544.596	6928329.381	18.465	209°27'40.54"	ARC	-400.000	71.395
CT	11186.863	510515.200	6928264.422	18.896	199°14'04.84"	LINE		49.313
TC	11236.176	510498.954	6928217.862	19.044	199°14'04.84"	ARC	230.000	44.514
CT	11280.690	510480.327	6928177.510	19.275	210°19'24.77"	LINE		50.409
END	11331.099	510454.877	6928133.998		210°19'24.77"			

CONTROL LINE MC02

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
START	10381.609	510811.711	6929000.052		189°05'56.98"	LINE		41.107
TC	10422.716	510805.210	6928959.463		189°05'56.98"	ARC	-660.000	70.220
CT	10492.935	510797.812	6928889.667		183°00'10.79"	LINE		50.326
TC	10543.262	510795.175	6928839.410		183°00'10.79"	ARC	412.000	237.935
CC	10781.197	510716.667	6928618.291	17.600	216°05'31.38"	ARC	-660.000	77.821
CT	10859.018	510674.633	6928552.892	17.871	209°20'10.56"	LINE		86.690
DIS	10945.708	510632.160	6928477.280	17.820	209°27'40.56"	LINE		141.625
TC	11087.333	510562.504	6928353.968	18.237	209°27'40.56"	ARC	-400.000	86.996
CT	11174.329	510528.258	6928274.183	18.703	196°59'59.81"	LINE		49.297
TC	11223.626	510513.645	6928227.040	18.975	196°59'59.81"	ARC	300.000	69.762
CT	11293.388	510485.910	6928163.286		210°19'24.77"	LINE		40.950
END	11334.338	510465.235	6928127.939		210°19'24.77"			

CONTROL LINE MC10

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
START	0.000	510622.979	6928527.510		100°23'26.25"	LINE		13.000
TC	13.000	510635.766	6928525.165	17.800	100°23'26.25"	ARC	29.000	6.613
CT	19.613	510641.958	6928522.929	17.735	119°20'10.56"	LINE		3.724
END	23.337	510645.204	6928521.104		119°20'10.56"			

CONTROL LINE MC20

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.LEN
START	0.000	510549.953	6928354.419	18.125	276°25'17.67"	LINE	31.645
END	31.645	510518.506	6928357.958		276°25'17.67"		

MINOR CONTROL LINES SETOUT TABLES CONT.

CONTROL LINE MK11

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	510655.198	6928532.133	17.811	279°46'13.97"	ARC	6.450	7.929
CT	7.929	510643.481	6928528.937	17.692	279°46'13.97"	LINE		15.800
E	23.729	510627.910	6928531.618	17.638	279°46'13.97"			

CONTROL LINE MK12

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	510626.256	6928522.005	17.746	100°09'35.65"	LINE		2.850
TC	2.850	510629.061	6928521.503	17.731	100°09'35.65"	ARC	9.950	18.960
E	21.810	510635.980	6928506.834	17.743	209°20'10.56"			

CONTROL LINE MK21

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	510655.045	6928363.434	18.094	280°01'21.73"	ARC	6.300	10.222
CT	10.222	510646.374	6928359.343	18.007	280°01'21.73"	LINE		27.315
E	37.536	510619.476	6928364.097	18.276	280°01'21.73"			

CONTROL LINE MR22

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	510522.651	6928354.225	18.345	99°23'35.10"	LINE		12.750
TC	12.750	510535.231	6928352.144	18.215	99°23'35.10"	ARC	10.646	7.305
CC	20.055	510541.492	6928348.666	18.035	138°42'41.83"	ARC	6.097	7.529
E	27.584	510542.220	6928341.644	18.162	209°27'40.56"			

MINOR CONTROL LINES SETOUT TABLES

CONTROL LINE MT03

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
START	0.000	510648.753	6928513.947	18.009	82°23'17.00"	ARC	1.000	0.926
CC	0.926	510649.492	6928514.449	18.000	82°23'17.00"	ARC	-8.150	1.674
DIS	2.600	510651.117	6928514.859	17.969	70°37'16.37"	ARC	0.500	1.158
CT	3.758	510651.742	6928514.169	17.944	203°20'37.13"	LINE		9.605
END	13.363	510647.936	6928505.360	17.888	203°20'37.13"			

CONTROL LINE MT05

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
START	0.000	510553.643	6928345.397		85°49'08.57"	ARC	1.000	0.984
CC	0.984	510554.440	6928345.902	18.365	85°49'08.57"	ARC	-7.200	1.600
CC	2.584	510556.010	6928346.195	18.333	73°05'06.13"	ARC	0.500	1.126
DIS	3.710	510556.619	6928345.528	18.316	202°06'17.00"	LINE		12.692
END	16.402	510551.843	6928333.769	18.359	202°06'17.00"			

CONTROL LINE MT11

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
START	0.000	510644.061	6928523.642	17.770	91°36'26.78"	ARC	0.300	0.616
CT	0.616	510644.314	6928523.195	17.778	209°20'10.56"	LINE		2.834
TC	3.450	510642.926	6928520.724	17.771	209°20'10.56"	ARC	0.500	0.785
CT	4.235	510642.245	6928520.533	17.760	299°19'34.40"	LINE		2.320
TC	6.555	510640.223	6928521.670	17.727	299°19'34.40"	ARC	0.300	0.471
CT	7.027	510640.108	6928522.076	17.725	29°20'10.56"	LINE		1.709
TC	8.736	510640.946	6928523.568	17.725	29°20'10.56"	ARC	0.300	0.326
CT	9.062	510641.216	6928523.721	17.724	91°36'26.78"	LINE		2.847
END	11.909	510644.061	6928523.642	17.770	91°36'26.78"			

CONTROL LINE MT12

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
START	0.000	510638.479	6928522.650	17.730	299°20'10.56"	LINE		0.274
TC	0.274	510638.241	6928522.784	17.733	299°20'10.56"	ARC	-35.000	0.986
DIS	1.259	510637.375	6928523.255	17.749	295°35'44.40"	ARC	0.300	0.817
DIS	2.076	510637.513	6928523.825	17.749	91°36'26.78"	LINE		1.444
TC	3.521	510638.957	6928523.785	17.730	91°36'26.78"	ARC	0.300	0.616
CT	4.137	510639.210	6928523.338	17.727	209°20'10.56"	LINE		0.658
TC	4.796	510638.887	6928522.764	17.728	209°20'10.56"	ARC	0.300	0.471
END	5.267	510638.479	6928522.649	17.730	299°19'34.40"			

A	Issued For Construction		
Revisions/Descriptions	Name or RPEQ No.	Signature	Date

CAD FILES: V:_Jaxa\Projects\378317295\CADD\MAR\DAD\DWG\05_CL\378317295-M05-CL-2791.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	1.000	3.558	3.554	5A

Through Chainage from Start of Gazette: 10.748km – 11.306km

Drawn: EM

Designed: LS

CONTROL LINE SETOUT TABLES

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AMC	SIGNATURE: ORIGINAL SIGNED	No. 15348	DATE 07/08/2020
CIVIL	PI			

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857892 | A
Series Number	CL-TA01 of 1

NOTES

CONSTRUCTION

1. Dimensions are not to be scaled.
2. Where reference is made to proprietary component names on the drawings, the Contractor may propose alternatives as long as they are equivalent, satisfy the requirements of the specification and are approved by the Administrator.
3. All vegetated areas within the limit of works shall be cleared and grubbed in accordance with Item 1.0 of MRTS04:1.
4. All redundant pavement to be ripped, topsoiled and landscaped. Refer Drg Series Nos. (PD-01 to PD-03).
5. All redundant concrete slabs, kerbs, kerb and channel etc. to be demolished and removed off-site.
6. All existing road furniture in conflict with the works to be removed UNO, and only re-used in the works if specified or approved by the Administrator.
7. All existing fencing and gates to be maintained UNO.
8. For standard kerb, kerb & channel and channel types refer TMR Std Drg 1033.
9. For standard kerb ramp and tactile ground surface indicator (TGSI) installation detail refer to TMR Std Drg No. 1446, 1447, KRG1 and KRG2. Kerb ramps to be 1.5m wide unless specified otherwise.
10. A Heritage Exclusion Zone has been marked on the GA drawings. No construction or ancillary activities are permitted within this zone (except for works shown on the drawings) without approval from the Administrator.
11. Any removal of the rail line to facilitate construction is to be approved by the Administrator with the rail line to be reinstated.

FENCING

12. For fencing schedule refer to Drg Series No. (GA-01).
13. The alignment of all fencing shall be confirmed on-site, to the satisfaction of the Administrator.
14. Final fence location and joins to existing fences to be submitted to and approved by the Administrator.
15. The Contractor shall provide and install temporary fencing to adequately define and secure the works area in accordance with MRTS02.
16. Hardwood Timber Bollards and locking Rails to be installed in accordance with IPWEAQ Std Drg GS-042 and GS-043.

CONCRETE

17. For concrete median treatment refer to Drg Series No. (GD-01).
18. Concrete footpath, median and traffic islands slabs to be 100mm thick and in accordance with IPWEAQ Std Dwg RS-065.
19. Concrete median and traffic islands to be Porchem "Vintage Buff" oxide. Finish with non-slip long life coat to comply with slip resistant classification of AS/NZS 4586.1999, clear coating, minimum design life 10 years.
20. Concrete paths shall be in accordance with Logan City Council Std Drg 8-00398.
21. All concrete works shall comply with MRTS70.
22. Cover to reinforcement shall be 50mm UNO.
23. All concrete joints shall be in accordance with IPWEAQ Std Drg RS-065 UNO.
24. Where concrete abuts kerb, pits, manholes, powerpoles or other structures install 10mm compressible filler 'Ableflex' or approved equivalent.

LEGEND

Design Features

- Control line
- 3500 — Chainage (control)
- Kerb and channel
- Kerb
- Channel
- Hardwood Timber Bollards (Refer fencing note 16)
- 1.2m high chainwire fence with no top rail
- Locking rail (Refer fencing note 16)
- Batter batter cut/fill slope
- Kerb Ramp
- Median/Island Concrete Infill
- Median/Island Grass Infill
- Concrete Footpath/Driveway
- Heritage Exclusion Zone
- FN-1A — Fence ID Tag
  - "A" denotes fence number
  - "1" denotes sheet number
  - "FN" denotes 'Fence'
- ① — Fence setout Tag
- MA01 — Property Access ID Tag
  - "01" denotes 'property number'
  - "MA" denotes 'Property Access'

Proposed Drainage

- Stormwater culvert
- Stormwater pipe – longitudinal
- Channel
- Stormwater grated trench drain
- Stormwater gully
- Sloping headwall
- Headwall, wings and apron
- Headwall and Apron (no wingwalls)
- Scour protection (rock protection)

Existing Drainage

- Existing Culvert
- Existing stormwater pipe
- Existing drain
- Existing stormwater access chamber
- Existing headwall, wings and apron
- Existing Stormwater access chamber
- Existing Stormwater Pit/Gully
- Existing Stormwater gully

Cadastral Boundaries

- Parish boundary
- Easement boundary

Existing Features

- Kerb
- Kerb and channel
- Pavement edge
- Road crown
- Batter
- Guardrail
- Fence
- Wire fence
- Linemarking
- Traffic signs

Existing Services

Aboveground Existing Services

- Electricity
- Stay Pole & Wire

Underground Existing Services

- Electricity
- Telecomms
- Sewer
- Water
- Optic Fibre

Dial Before You Dig

- Electricity
- Telecomms
- Sewer
- Water
- Optic Fibre
- Sewer Rising Main

Public Utilities Services

- Power Pole
- Telephone Box
- Street Light on Pole
- Inspection Box
- Maintenance Hole
- Sewer Maintenance Hole
- Fire Hydrant
- Valve
- Water Meter

FENCE SETOUT TABLE

FENCE ID	FENCE TYPE	TOTAL LENGTH (M)	POINT	EASTING	NORTHING	COMMENT
FN01	HARDWOOD TIMBER BOLLARD (REFER FENCING NOTE 16)	69	1	510659.518	6928494.822	
			2	510662.006	6928499.144	
			3	510666.804	6928505.179	
			4	510678.965	6928498.178	
			5	510668.074	6928479.314	LOCKING RAIL GATE BETWEEN POINT 5 AND 6
			6	510654.952	6928486.889	JOINS TO POINT 1 OF FN02
			7	510657.523	6928491.355	
FN02	HARDWOOD TIMBER BOLLARD (REFER FENCING NOTE 16)	81	1	510654.952	6928486.889	JOINS TO POINT 6 OF FN01
			2	510633.964	6928457.052	
			3	510627.010	6928442.003	
			4	510618.999	6928415.215	
FN03	HARDWOOD TIMBER BOLLARD (REFER FENCING NOTE 16)	82	1	510611.623	6928406.739	
			2	510607.566	6928401.159	LOCKING RAIL GATE BETWEEN POINT 2 AND 3
			3	510605.674	6928397.706	
			4	510580.342	6928356.872	
			5	510568.661	6928336.980	

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\05_GA\30031795-V05-GA-0711.dwg

Associated Job Nos

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.095	3.558	3.554	5A

Through Chainage from Start of Gazettal: 10.748km – 11.306km

Drawn: P.W

Designed: L.S

GENERAL ARRANGEMENT NOTES AND LEGEND

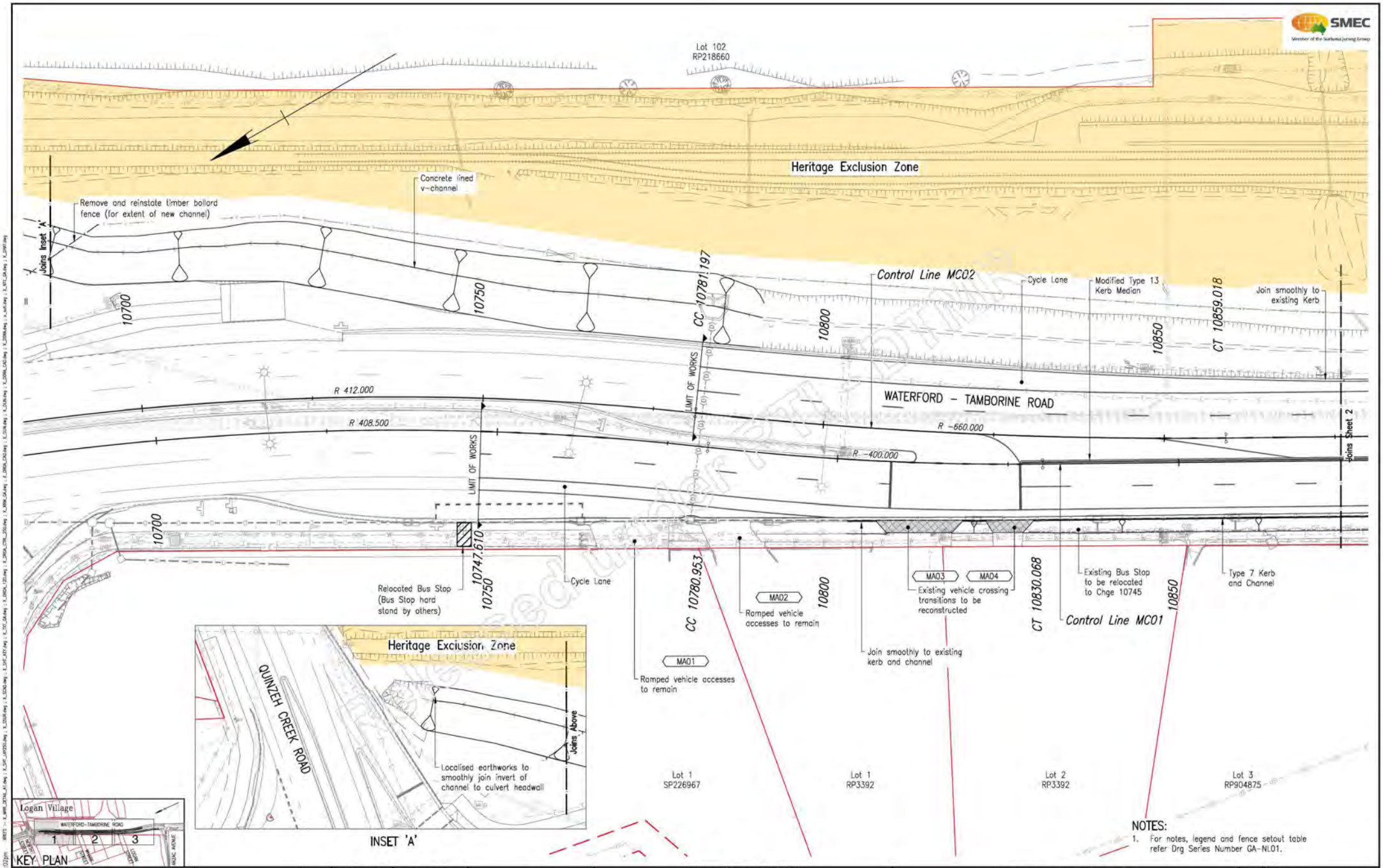
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	-ME	SIGNATURE:	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857893 | A
Series Number	GA-NL01 of 1

Last Modified – Aug 07, 2020 – 4:31pm



Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES | V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\06_GA\30031795-V06-GA-1001.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
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Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn P.W
Designed L.S

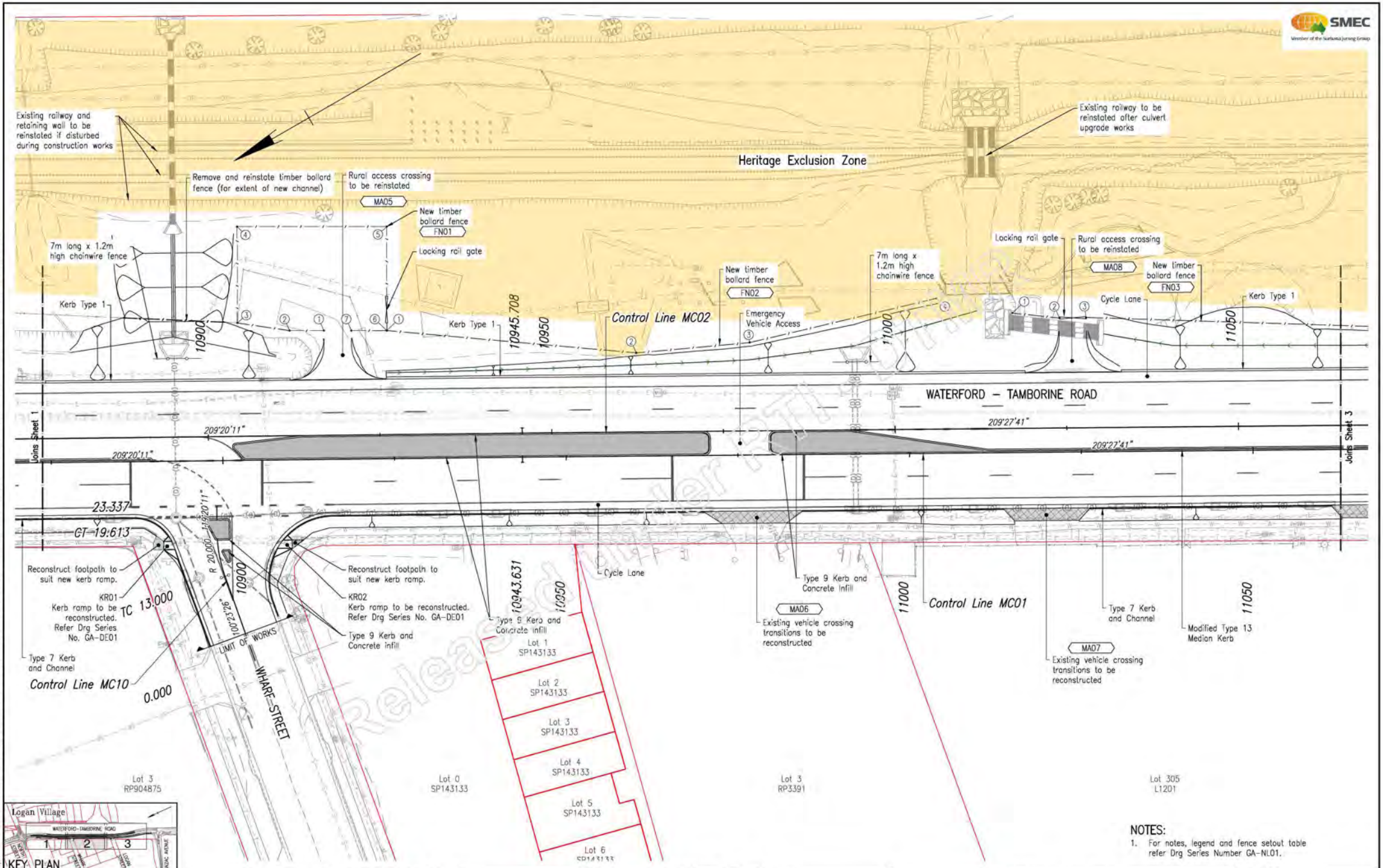
GENERAL ARRANGEMENT
LAYOUT PLAN
SHEET 1 OF 3

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME	SIGNATURE:	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857894 | A
Series Number	GA-01 of 3

Last Modified: Aug 07, 2020 - 4:03pm



NOTES:

1. For notes, legend and fence setout table refer Drg Series Number GA-NL01.

A	Issued For Construction										
	Revisions/Descriptions	Name or RPEQ No.	Signature	Date							

CAD FILES | V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\06_GA\30031795-V06-GA-1002.dwg

Last Modified – Aug 07, 2020 – 4:03pm

Associated Job Nos	Survey Data	
	Horiz. Datum	MGA94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number 01–01	Height Datum	AHD Derived
	Survey Books	MR101140

Scales: 0 2 4 6 8 10m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

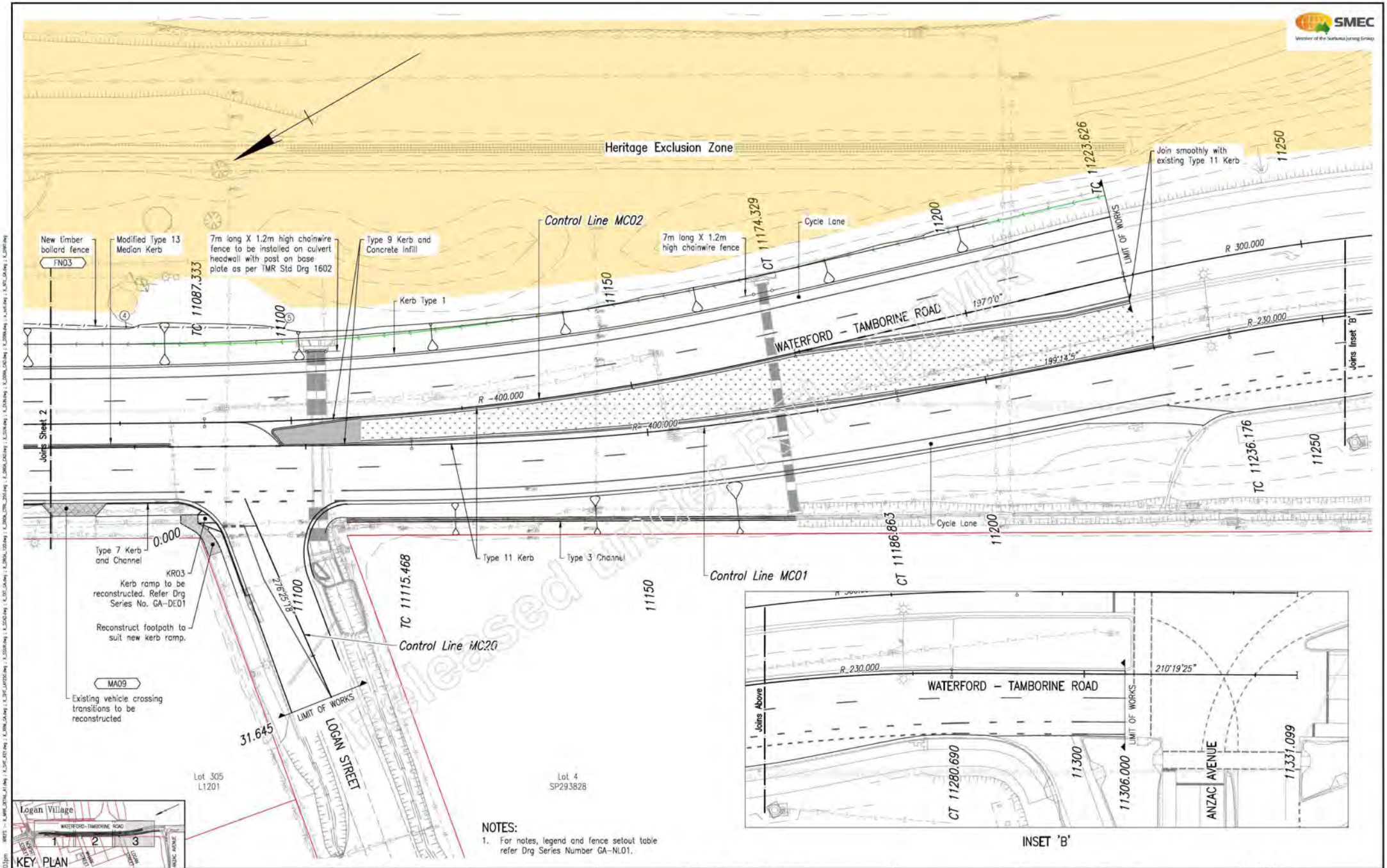
Drawn: P.W
Designed: L.S

GENERAL ARRANGEMENT
LAYOUT PLAN
SHEET 2 OF 3

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL PI		ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857895 | A
Series Number	GA–02 of 3



NOTES:

1. For notes, legend and fence setout table refer Drg Series Number GA–NL01.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\06_GA\30031795-V06-GA-1003.dwg

Last Modified: Aug 07, 2020 - 4:03pm

Associated Job Nos

Auxiliary Drg Nos

Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales

0 2 4 6 8 10m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	2.058	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn P.W

Designed L.S

GENERAL ARRANGEMENT

LAYOUT PLAN

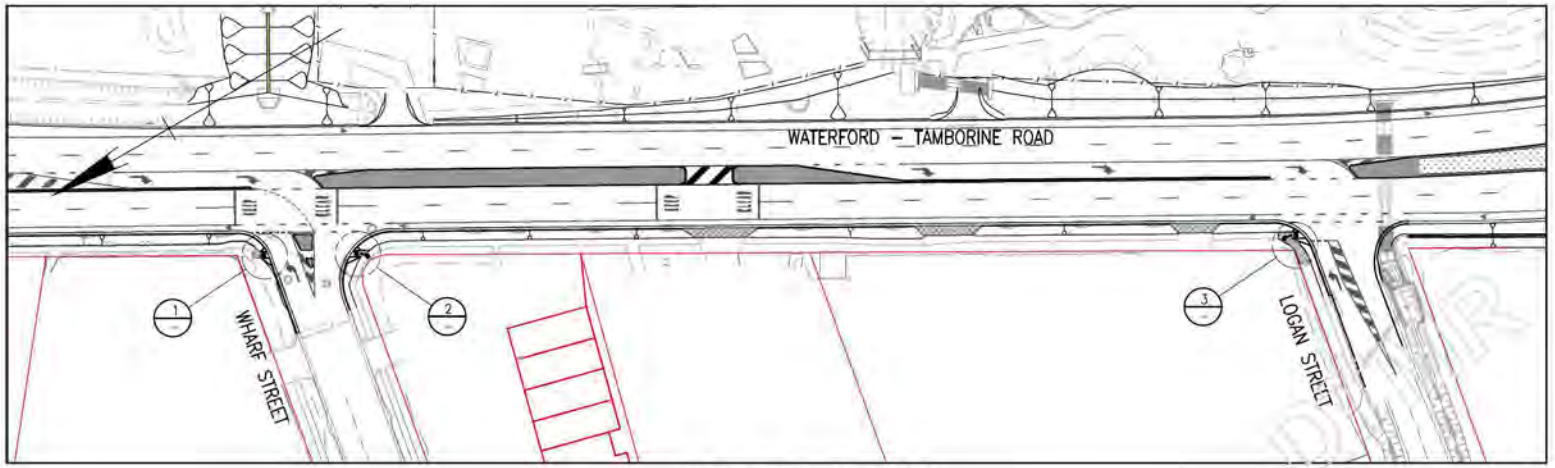
SHEET 3 OF 3

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	ME	SIGNATURE:	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

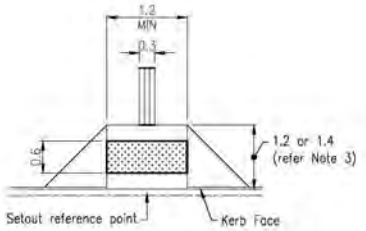
Job No.	489244
Contract No.	CN–14898
Drawing No.	857896 | A
Series Number	GA–03 of 3



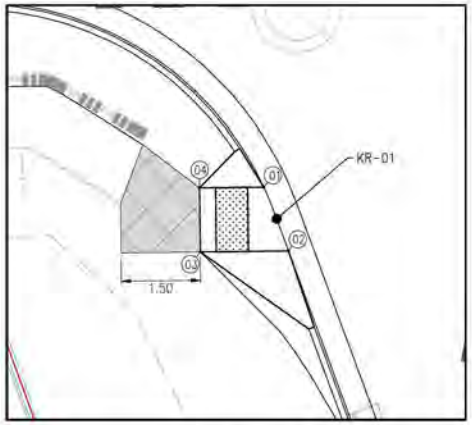
PLAN – WATERFORD TAMBORINE ROAD
Scale A

KERB RAMP SETOUT

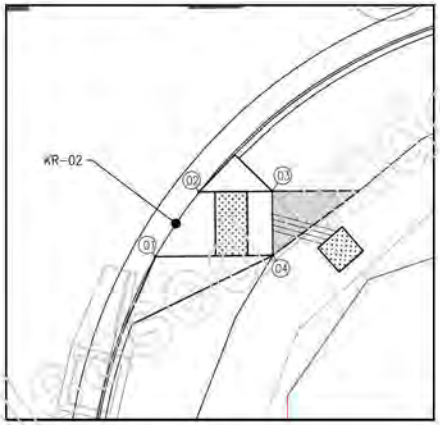
Kerb Ramp ID	Easting	Northing
KR–01	510643.426	6928529.403
KR–02	510635.841	6928515.881
KR–03	510549.842	6928359.932



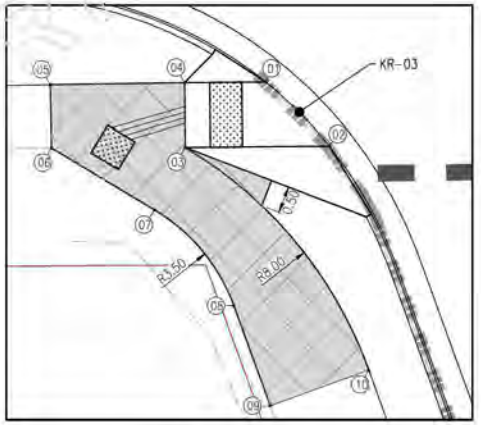
TYPICAL KERB RAMP DETAIL
NTS



DETAIL 1 / – Scale B



DETAIL 2 / – Scale B



DETAIL 3 / – Scale B

LEGEND

Warning TGSI (600mm wide)

Directional TGSI (300mm wide)

KR–03 – SETOUT POINTS TABLE

Point	Easting	Northing	Level	Comment
01	510550.642	6928360.191	18.014	BOTTOM EDGE OF RAMP
02	510549.019	6928359.759	17.985	BOTTOM EDGE OF RAMP
03	510550.344	6928362.105	18.204	TOP EDGE OF RAMP
04	510551.389	6928361.515	18.204	TOP EDGE OF RAMP
05	510552.612	6928363.707	18.197	EDGE OF FOOTPATH
06	510551.585	6928364.275	18.146	EDGE OF FOOTPATH
07	510549.617	6928363.185	18.240	EDGE OF FOOTPATH
08	510547.327	6928362.797	18.333	EDGE OF FOOTPATH
09	510545.373	6928363.141	18.414	EDGE OF FOOTPATH
10	510545.025	6928361.212	18.376	EDGE OF FOOTPATH

KR–01 – SETOUT POINTS TABLE

Point	Easting	Northing	Level	Comment
01	510644.061	6928529.315	17.663	BOTTOM EDGE OF RAMP
02	510642.794	6928529.512	17.631	BOTTOM EDGE OF RAMP
03	510643.602	6928530.949	17.806	TOP EDGE OF RAMP
04	510644.649	6928530.361	17.807	TOP EDGE OF RAMP

KR–02 – SETOUT POINTS TABLE

Point	Easting	Northing	Level	Comment
01	510635.495	6928516.523	17.641	BOTTOM EDGE OF RAMP
02	510636.136	6928515.214	17.657	BOTTOM EDGE OF RAMP
03	510635.464	6928514.020	17.827	TOP EDGE OF RAMP
04	510634.418	6928514.608	17.826	TOP EDGE OF RAMP

NOTES

1. For GA notes and legend refer Drg Series Number (GA–NL01).
2. For ramped kerb crossing details refer TMR Std Drg 1446, 1447, for guidelines for the installation of tactile ground surface indicators on ramped kerb crossings refer TMR Std Drg KRG1, KRG2.
3. For Type 7 Kerb and Channel, 1.2m. For Type 13 Kerb (AA=50), 1.4m.

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\05_GA\30031795-V05-GA-J2001.dwg

Associated Job Nos:
Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI–01

Survey Data

Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
A 0 5 10 15 20m
B 0 1.0 2.0m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.095	0.458	3.554	5A

Through Chainage from Start of Gazettal: 10.748km – 11.306km

Drawn: P.W
Designed: L.S

GENERAL ARRANGEMENT
KERB RAMP DETAILS AND SETOUT

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	ME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857897 | A
Series Number	GA–DE01 of 1

NOTES

Construction

1. Dimensions are not to be scaled.
2. Where reference is made to proprietary component names on the drawings, the Contractor may propose alternatives as long as they are equivalent, satisfy the requirements of the specification and are approved by the Administrator.
3. All vegetated areas within the limit of works shall be cleared and grubbed in accordance with Item 1 of MRTS04.1.
4. All redundant pavement to be scarified, topsoiled and landscaped.
5. For Control Lines, setout details refer to (CL) Drg Series.
6. For Longitudinal Sections refer to (LS) Drg Series.
7. For Pavement and Landscaping details refer to (PD) Drg Series.
8. For Signage and Pavement Marking details refer to (SL) Drg Series.
9. For Drainage details refer to (DD) Drg Series.
10. For Road Lighting details refer to (RL) Drg Series.
11. For Intelligent Transport System details refer to (IT) Drg Series.
12. For kerb, kerb and channel, kerb ramp, barrier and island set out details refer to Typical Cross Sections, Detailed Setout Plans and electronic design model.
13. For Existing Services refer to Public Utility Plant drawings (PU) Drg Series.
14. Removal of existing permanent survey markers are to be approved by the Administrator and the Contractor is to coordinate with the Administrator for their reinstatement by the Principal.

LEGEND

Design Features

- Control line
- 3500 — Chainage (control)
- Extent of works

Cadastral Boundaries

- Property boundary
- Easment boundary

Existing Features

- Kerb
- Kerb and channel
- Road crown
- Pavement edge
- Linemarking
- Guardrail
- Batter line
- Fence line
- Fence line (poles located)
- Fence line (Chainwire)
- Gate
- Sign (single and multiple support)
- Structure
- Drainage culvert and headwall
- Drainage stormwater pipe
- Drain line
- Stream
- Tree
- Vegetation
- Existing stormwater access chamber
- Existing headwall, wings and apron
- Existing Stormwater access chamber
- Existing Stormwater Pit/Gully
- Existing Stormwater gully

Existing Services

Aboveground Existing Services

- Electricity
- Stay Pole & Wire

Underground Existing Services

- Electricity
- Telecomms
- Sewer
- Water
- Optic Fibre

Dial Before You Dig

- Electricity
- Telecomms
- Sewer
- Water
- Optic Fibre
- Sewer Rising Main

Public Utilities Services

- Power Pole
- Telephone Box
- Street Light on Pole
- Inspection Box
- Maintenance Hole
- Sewer Maintenance Hole
- Fire Hydrant
- Valve
- Water Meter

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\08_EF\30031795-W08-EF-0011.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	3.558	3.554	5A	

Through Chainage from Start of Gazettal: 10.748km – 11.306km

Drawn: D.M

Designed: Z.W

EXISTING FEATURES NOTES AND LEGEND

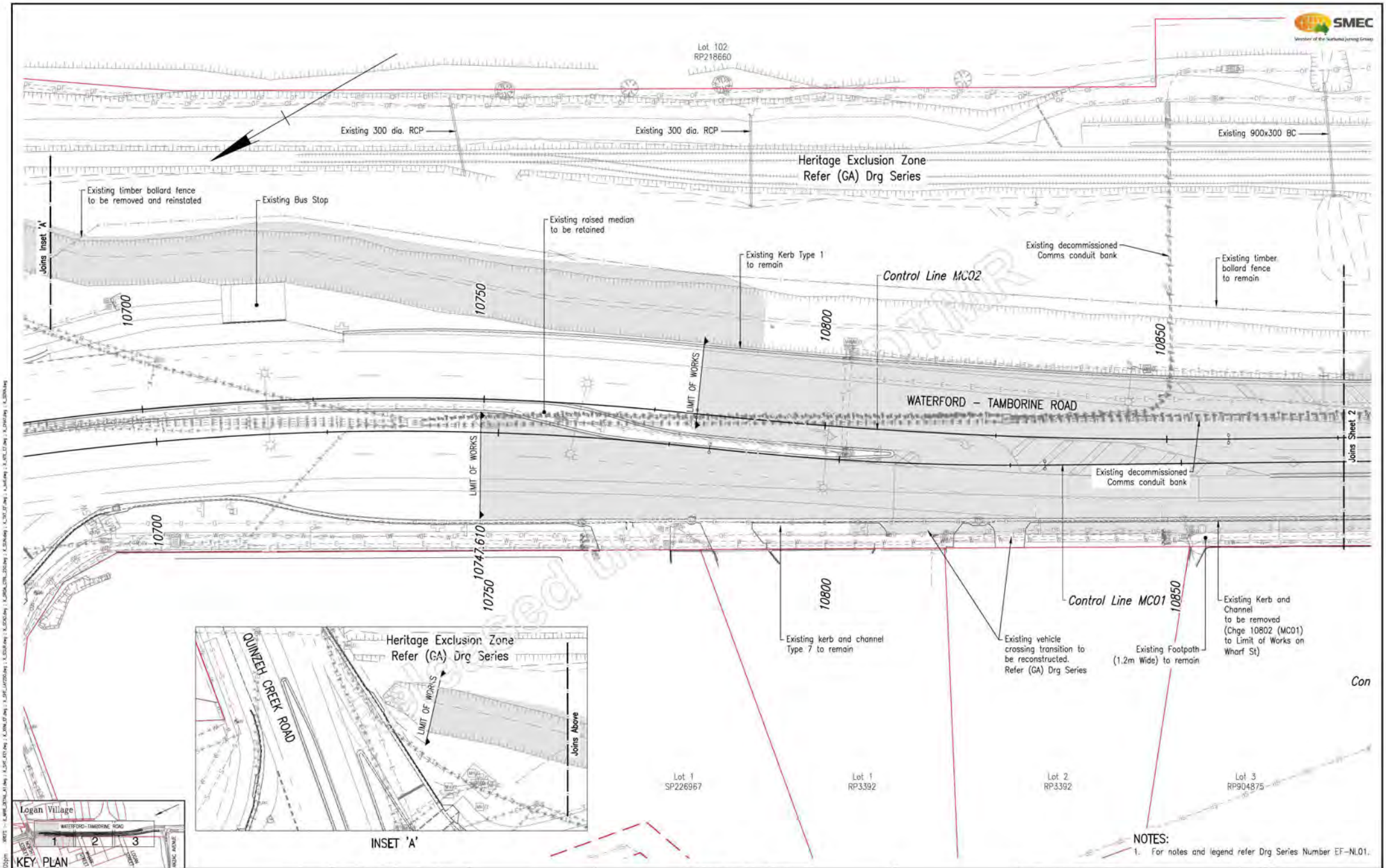
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AMC	SIGNATURE: ORIGINAL SIGNED	No.	DATE
CIVIL	PI		15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857898 | A
Series Number	EF–NL01 of 1

Last Modified – Aug 07, 2020 – 4:04pm



Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\09_EF\30031795–V09–EF–1001.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	9.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn D.M
Designed Z.W

EXISTING FEATURES LAYOUT PLAN SHEET 1 OF 3

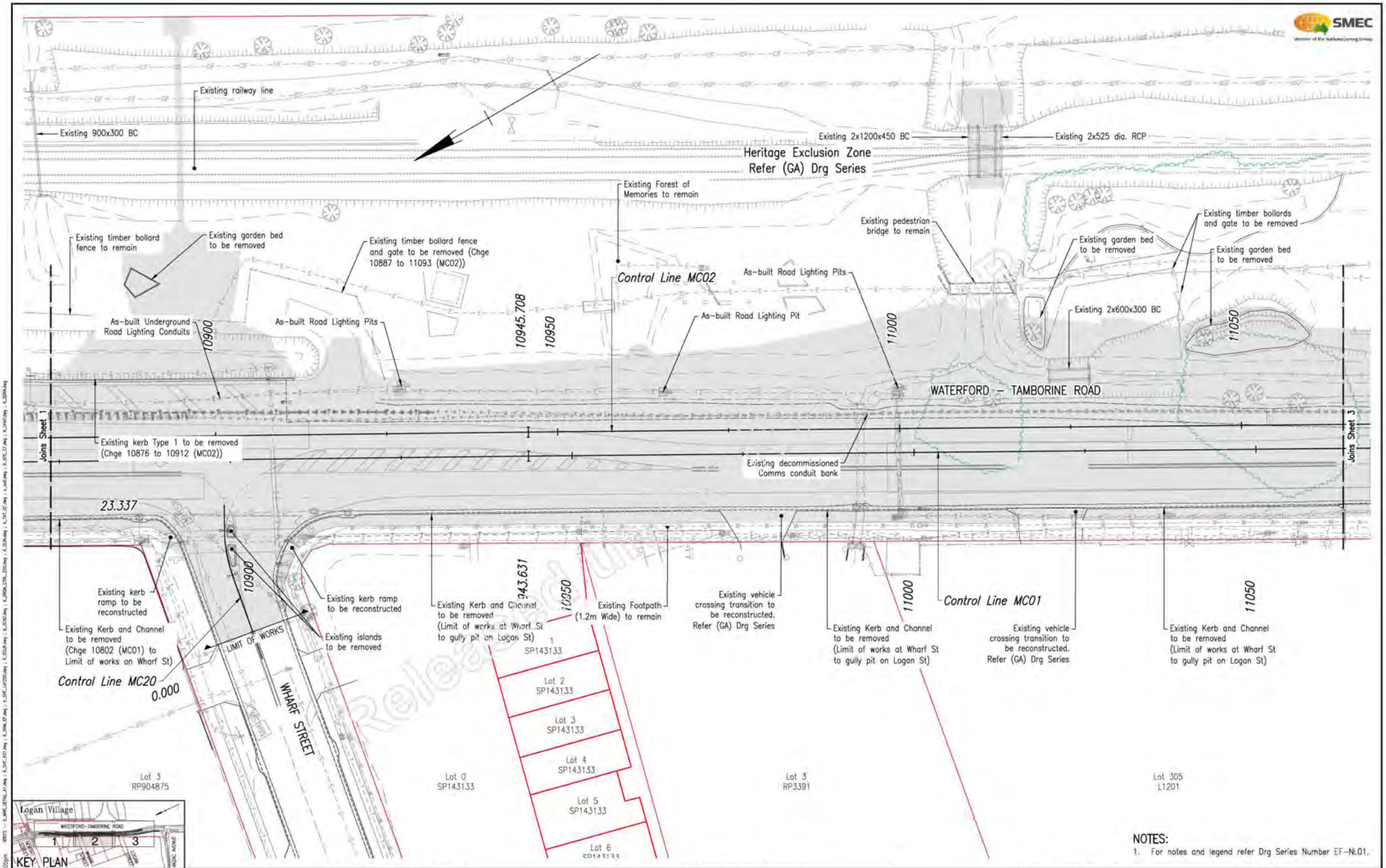
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	ME	SIGNATURE	No.	DATE
CIVIL PI		ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857899 | A
Series Number	EF–1001 of 3

Last Modified – Aug 07, 2020 – 4:05pm



NOTES:
1. For notes and legend refer Drg Series Number EF–NL01.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\09_EF\30031795–V09–EF–1002.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	2.058	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

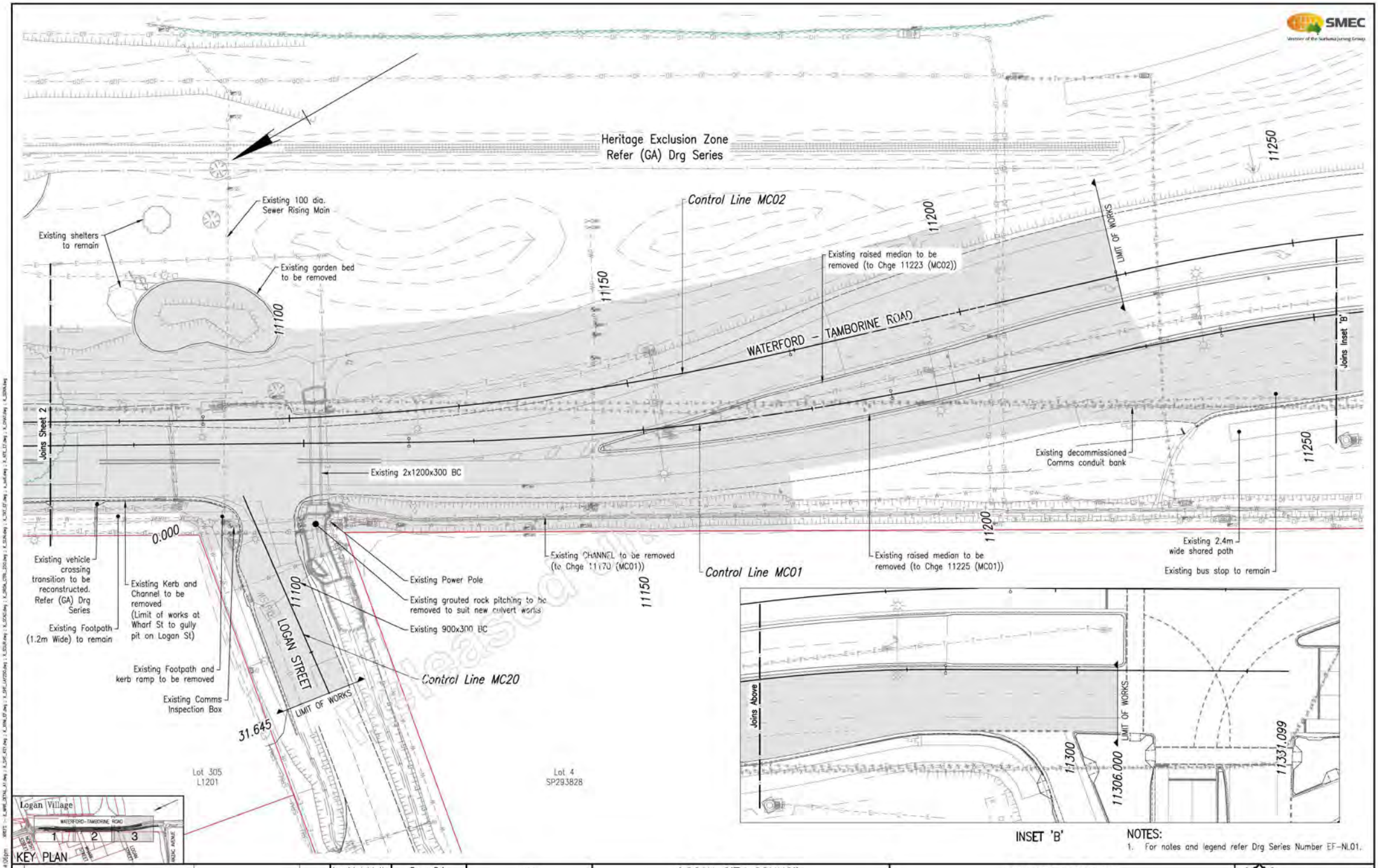
Drawn D.M
Designed Z.W

EXISTING FEATURES
LAYOUT PLAN
SHEET 2 OF 3

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	ME	SIGNATURE:	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857900 | A
Series Number	EF–1002 of 3



NOTES:
1. For notes and legend refer Drg Series Number EF–NL01.

Associated Job Nos	Survey Data		
	Horiz. Datum	MGA94	
Auxiliary Drg Nos	Horiz. Grid	Zone 56	
Refer Drawing Index Drg. Series Number DI–01	Height Datum	AHD Derived	
	Survey Books	MR101140	

Scales: 0 2 4 6 8 10m

Dimensions shown in metres except where shown otherwise

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES | V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\09_EF\30031795–V09–EF–1003.dwg

Last Modified – Aug 07, 2020 – 4:08pm

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: D.M
Designed: Z.W

EXISTING FEATURES LAYOUT PLAN SHEET 3 OF 3

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857901 | A
Series Number	EF–1003 of 3

PUBLIC UTILITY PLANT NOTES:

1. These drawings shall be read in conjunction with Supplementary Specification SCRSS905.
2. The Public Utility Plant shown is provided for information and coordination purposes only.
3. The existing services information shown on the drawings have been compiled from survey information and information supplied by the various service authorities (Compiled in June 2020).
4. The contractor shall obtain the latest 'Dial Before You Dig' (DBYD) drawings, locate services and pothole all utilities prior to any excavation.
5. The location of public utilities/services shown on these drawings have been approximated from known positions of valves, inspection/access chambers, and potholing information supplied by service authorities. All relevant authorities are to be contacted to verify the size, type, location and level of existing public utilities prior to any excavation.
6. The existing and/or proposed positions of public utilities/services, fittings, pipes, poles, maintenance holes, etc. may be indicated on the drawings, however the drawings may not be accurate representation of their presence or omission thereof.
7. Not all public utility/service conflicts have necessarily been identified and shown on the drawings.
8. All necessary measures shall be undertaken to protect public utilities/services during construction.
9. No work is to be carried out over or within 3 metres of public utilities/services corridors without prior notification of the relevant utility authority.
10. Where 'NON-MECHANICAL' protection is nominated, assets should be protected via construction methodology, low vibration works and appropriate selection of machinery and controls.
11. The contractor will be solely responsible for any damage incurred to existing services as a result of work under the contract.
12. Decommissioned services shall be removed where practical. Where it is not practical to remove, decommissioned services shall be grout filled UNO.

POTHOLE SETOUT TABLE

PH NO.	SERVICE TYPE	EASTING	NORTHING	LEVEL	COMMENTS
PH01-01	TELECOMMS	510548.212	6928358.784	17.516	PH800 1X100PVC POTHOLE 1
PH01-02	SEWER	510548.068	6928358.896	16.960	PH1300 CONCRETE ENCASEMENT POTHOLE 1
PH02	TELECOMMS	510542.931	6928348.923	16.703	PH1300 1X100PVC POTHOLE 2
PH03	ELECTRICAL	510546.165	6928358.903	17.099	PH1100 ELECTRICY HARD COVER POTHOLE 3
PH04	ELECTRICAL	510541.262	6928349.602	17.101	PH900 ELECTICTY HARD COVER POTHOLE 4
PH05	WATER	510523.229	6928310.630	16.893	PH1100 1X300DICL POTHOLE 5
PH06-A	WATER	510541.856	6928299.730	17.656	PH200 CONCRETE ENCASEMENT POTHOLE 6-A
PH06-B	WATER	510544.709	6928297.793	17.585	PH200 CONCRETE ENCASEMENT POTHOLE 6-B
PH06-C	WATER	510545.830	6928296.860	17.499	PH200 CONCRETE ENCASEMENT POTHOLE 6-C
PH07	UNKNOWN	510547.125	6928358.184	17.518	PH800 1x50PVC UNKNOWN POTHOLE 7
PH08	UNKNOWN	510542.122	6928349.347	17.387	PH1700 1X20POLY UNKNOWN POTHOLE 8
PH-EX-01	WATER	510534.871	6928336.781	17.020	PH800 1X300DICL PREXISTING TRENCH

LEGEND

Design Features

- Control line
- 3500 — Chainage (control)
- Kerb and channel
- Kerb
- Channel
- Hardwood Timber Bollards
- 1.2m high chainwire fence with no top rail
- Locking rail
- Batter boiler cut/fill slope
- Kerb Ramp
- Median/Island Concrete Infill
- Concrete Footpath/Driveway
- Extent of works

Cadastral Boundaries

- Property boundary
- Easment boundary

Proposed Drainage

- Stormwater culvert
- Stormwater pipe - longitudinal
- Channel
- Stormwater grated trench drain
- Stormwater gully
- Sloping headwall
- Headwall, wings and apron
- Headwall and Apron (no wingwalls)
- Scour protection (rock protection)

Proposed Conduits and Pits

- New electrical circular pit
- New communications circular pit
- New underground HDUPVC conduit

Existing Features

- Property boundary
- Drainage culvert and headwall
- Drainage stormwater pipe
- Drain line
- Stream
- Road crown
- Pavement edge
- Batter line
- Fence line
- Fence line (poles located)
- Fence line (Chainwire)
- Gate
- Sign (single and multiple support)
- Structure
- Guardrail
- Tree
- Vegetation

Existing Services

- Proposed Decommissioned Service

Aboveground Existing Services

- Electricity
- Stay Pole & Wire

Underground Existing Services

- Electricity
- Telecomms
- Sewer
- Water
- Optic Fibre

Dial Before You Dig

- Electricity
- Telecomms
- Sewer
- Water
- Optic Fibre
- 65PM — Sewer Rising Main

Service Conflicts

- TA XX / NB XX — Telecommunications
- EA XX — Electricity
- SE XX — Sewer
- WA XX — Water
- PH.XXX — Pothole location and number

Public Utilities Services

- Power Pole
- Telephone Box
- Street Light on Pole
- Inspection Box
- Maintenance Hole
- Sewer Maintenance Hole
- Fire Hydrant
- Valve
- Water Meter

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\10_PU\30031795-V10-PU-0011.dwg

Associated Job Nos:

Auxiliary Drg Nos:

Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.055	0.558	3.554	5A

Through Chainage from Start of Gazettal: 10.748km – 11.306km

RTI-4349 Page 251 of 375

Drawn: C. Geiger

Designed: K.Paterson

PUBLIC UTILITY PLANT NOTES AND LEGEND AND POTHOLE TABLE

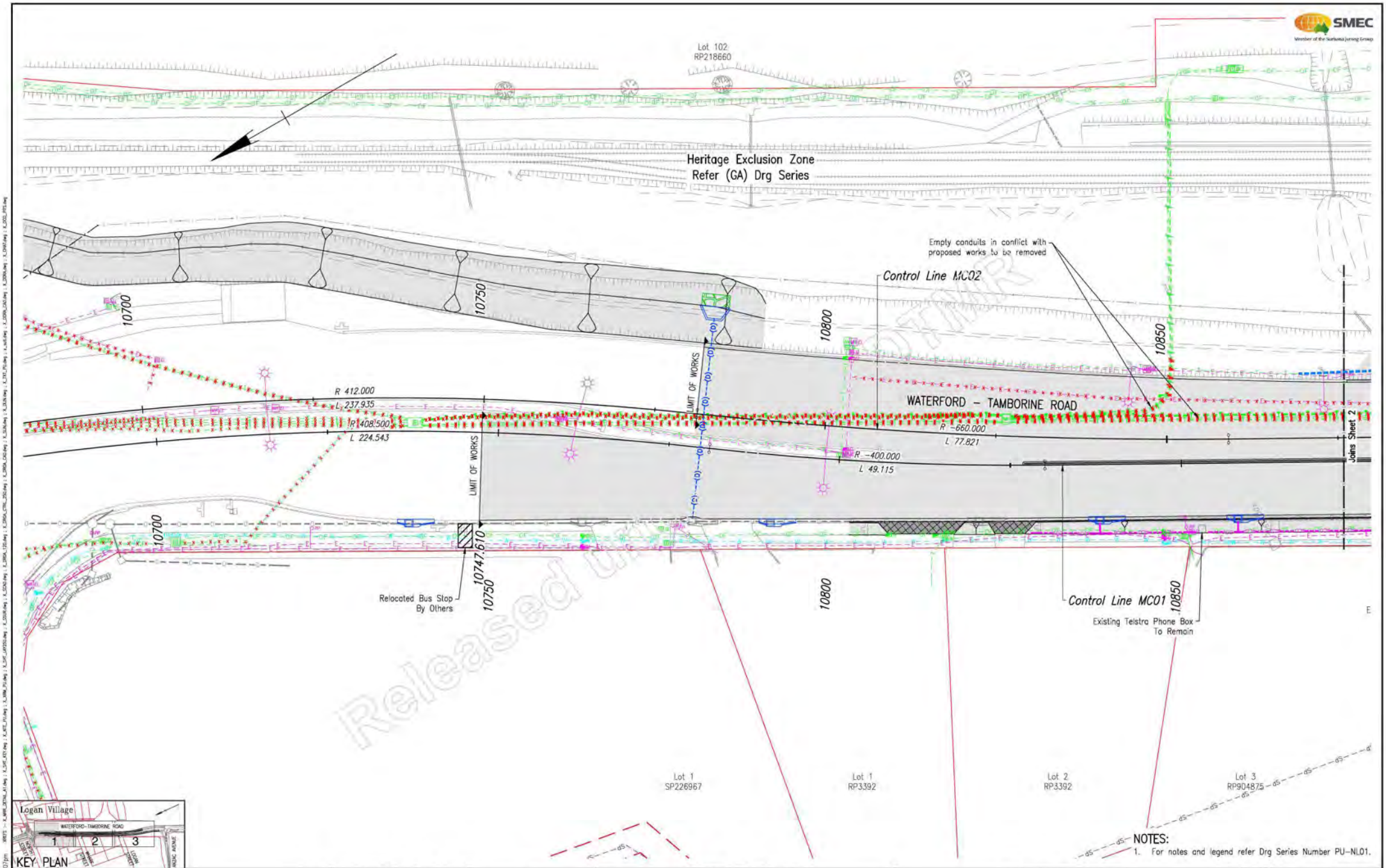
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	18494	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857902 | A
Series Number	PU-NL01 of 1

Last Modified: Aug 07, 2020 - 4:06pm



A	Issued For Construction						
	Revisions/Descriptions	Name or RPEQ No.	Signature	Date			

CAD FILES | V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\10_PLN\30031795–V10–PU–1001.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	2.058	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

PUBLIC UTILITY PLANT
LAYOUT PLAN
SHEET 1 OF 3

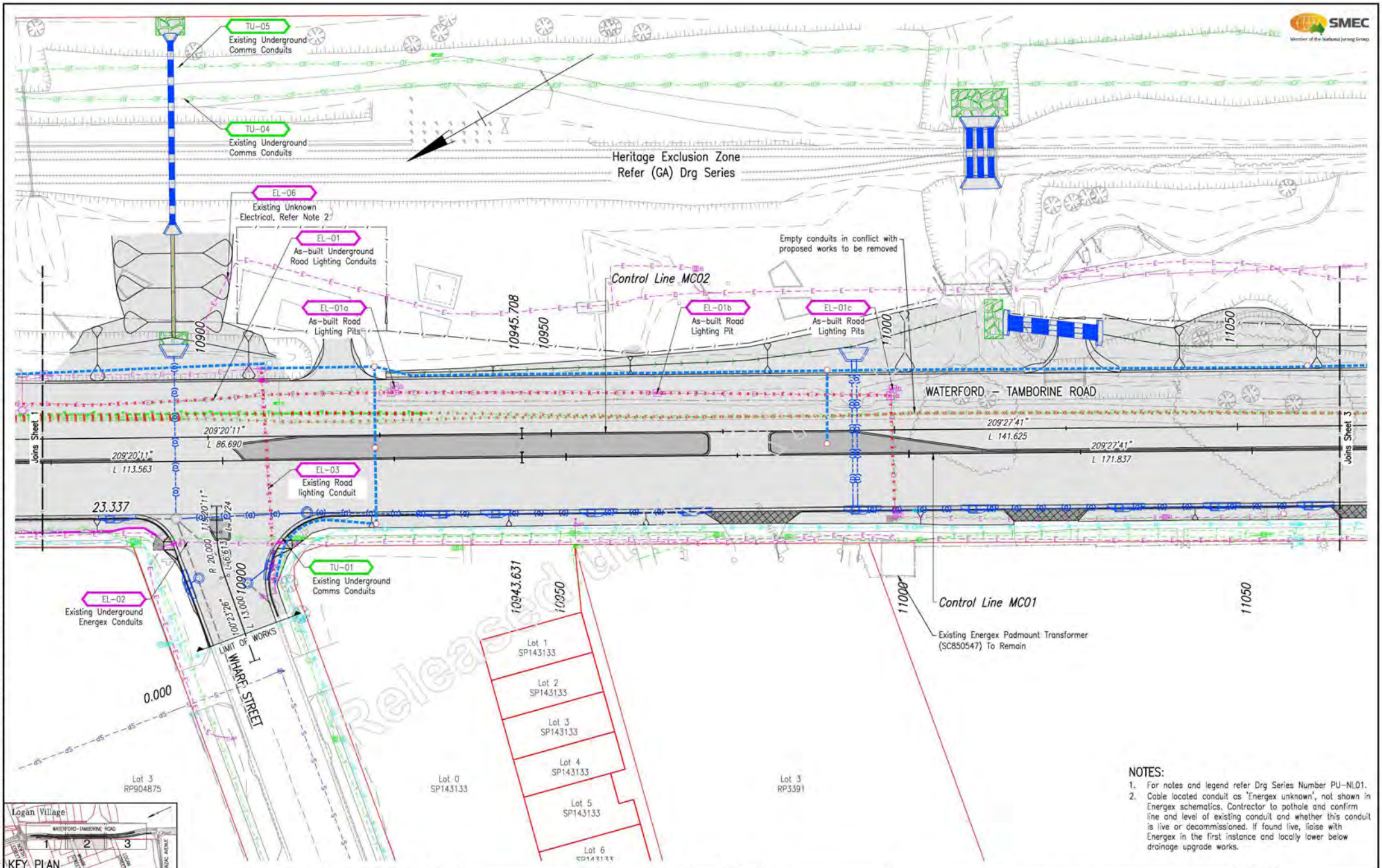
Drawn: G. Geiger
Designed: K.Paterson

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	18494	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857903 | A
Series Number	PU–01 of 3



NOTES:

1. For notes and legend refer Drg Series Number PU-NL01.
2. Cable located conduit as 'Energex unknown', not shown in Energex schematics. Contractor to pothole and confirm line and level of existing conduit and whether this conduit is live or decommissioned. If found live, liaise with Energex in the first instance and locally lower below drainage upgrade works.

A	Issued For Construction				
Revisions/Descriptions		Name or RPEQ No.	Signature	Date	

CAD FILES | V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\10_PLN\30031795-V10-PU-1002.dwg

Last Modified: Aug 07, 2020 - 4:07pm

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	9.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

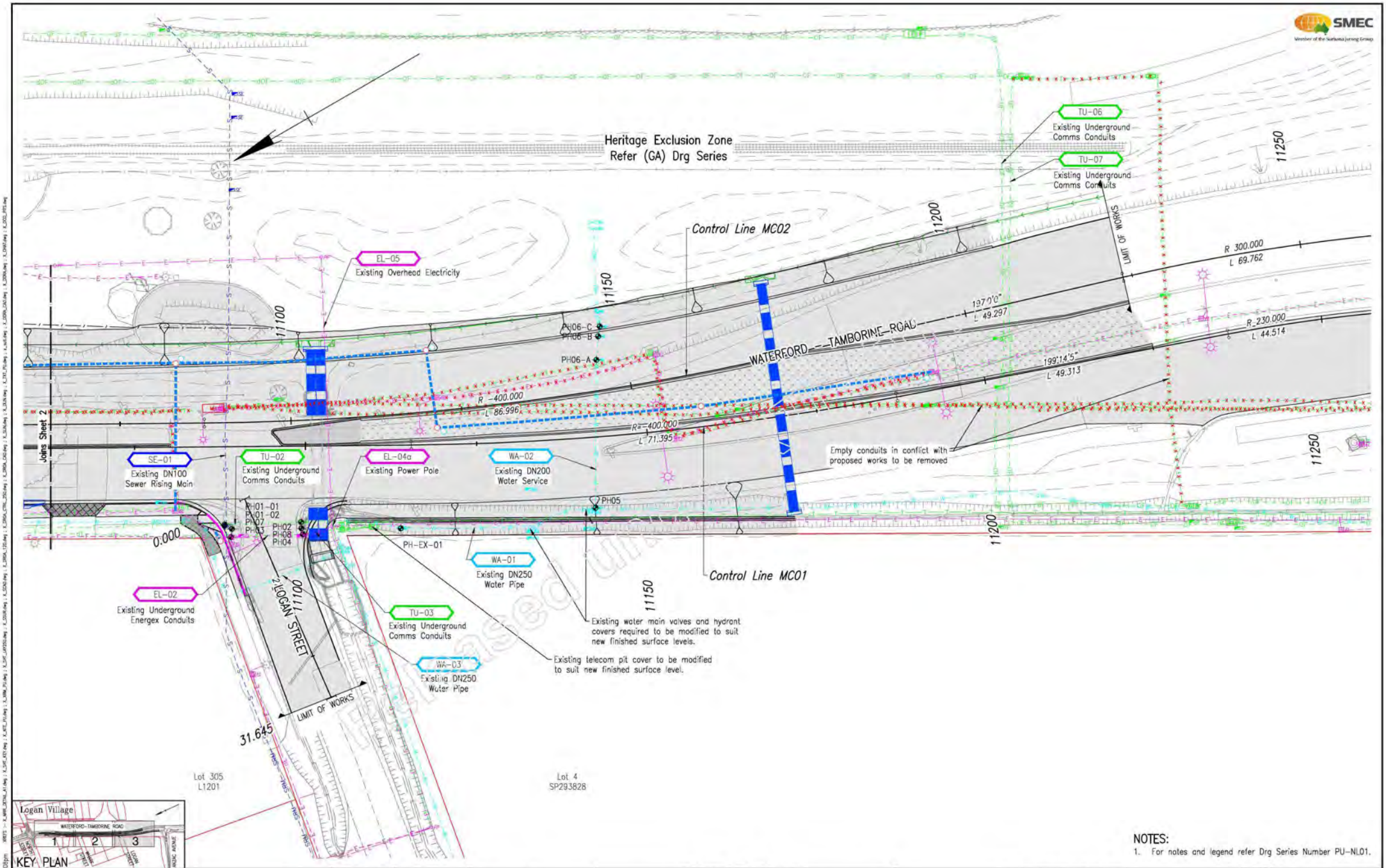
PUBLIC UTILITY PLANT
LAYOUT PLAN
SHEET 2 OF 3

Drawn: G. Geiger
Designed: K.Paterson

ENGINEERING CERTIFICATION (RPEQ)					
ENG. AREA	NAME	SIGNATURE	No.	DATE	
CIVIL	PI	ORIGINAL SIGNED	18494	07/08/2020	

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857904 | A
Series Number	PU-02 of 3



NOTES:
1. For notes and legend refer Drg Series Number PU-NL01.

A	Issued For Construction										
	Revisions/Descriptions	Name or RPEQ No.	Signature	Date							

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\10_PLN\30031795-V10-PU-1003.dwg

Last Modified: Aug 07, 2020 - 4:08pm

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: 0 2 4 6 8 10m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	9.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

PUBLIC UTILITY PLANT
LAYOUT PLAN
SHEET 3 OF 3

Drawn: G. Geiger
Designed: K.Paterson

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	18494	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857905 | A
Series Number	PU-03 of 3

SMEC

CONFLICTS REGISTER

CONFLICT ID	ASSET OWNER	ASSET TYPE	ASSET COMPONENT	ASSET DESCRIPTION	QUALITY LEVEL	APPROX. DEPTH (mm)	CONFLICT DESCRIPTION	SHEET / PLAN NO.	ASSET TO REMAIN / PROTECT / RELOCATE / REMOVE	PROPOSED CONFLICT MITIGATION	COMMENTS
EL-01	TMR	Electrical	Street lighting	Decommissioned streetlight	QL-B	800	Road widening / pavement works	PU-02	Remove	Refer RL3 drawing series for more details on removal.	As-built survey received 191213. Empty Conduits.
EL-01a	TMR	Electrical	Pit	Decommissioned streetlight	QL-B	800	Road widening / pavement works	PU-02	Remove	Refer RL3 drawing series for more details on removal.	As-built survey received 191213.
EL-01b	TMR	Electrical	Pit	Decommissioned streetlight	QL-B	800	Road widening / pavement works	PU-02	Remove	Refer RL3 drawing series for more details on removal.	As-built survey received 191213.
EL-01c	TMR	Electrical	Pit	Decommissioned streetlight	QL-B	800	Road widening / pavement works	PU-02	Remove	Refer RL3 drawing series for more details on removal.	As-built survey received 191213.
EL-02	Energex	Electrical	Conduits	11kV / LV 7/100 PVC	QL-B	1450	Road widening / pavement works	PU-02	Protect	Protect during construction	Sufficient clearance from pavement box out to existing conduits. Refer Energex Project No. C0478235 drawings for more details. Low vibration works and appropriate selection of compaction machinery to be adopted.
EL-03	Energex	Electrical	Street lighting	Decommissioned streetlight	QL-B	800	Road widening / pavement works	PU-02	Remove	Refer RL3 drawing series for more details on removal.	As-built survey received 191213.
EL-04a	Energex	Electrical	Power pole	LV Pole	QL-A	–	Adjacent drainage upgrade works	PU-03	Remain	To remain	Drainage upgrade works in close proximity to the 'Do Not Disturb Zone' of existing pole. Contractor to use pole grab or similar supports, in consultation with Energex.
EL-05	Energex	Electrical	Overhead	LV	QL-C	–	Road widening / pavement works	PU-03	Remain	To remain	–
EL-06	Energex	Electrical	Conduits	unknown	QL-B	500	Table drain	PU-02	Remain	To remain, drainage works to avoid this conduit.	Cable located conduit as 'Energex unknown', not shown in Energex schematics. Contractor to pothole and confirm line and level of existing conduit and whether this conduit is live or decommissioned. If found live, liaise with Energex in the first instance and locally lower below drainage upgrade works.
TU-01	Telstra	Telecomms	Conduits	100 PVC	QL-B	1100	Road widening / pavement works	PU-02	Protect	Protect during construction	Sufficient clearance from pavement box out to existing conduit. Low vibration works and appropriate selection of compaction machinery to be adopted.
TU-02	Telstra	Telecomms	Conduits	100 PVC	QL-B	1000	Road widening / pavement works	PU-03	Protect	Protect during construction	Sufficient clearance from pavement box out to existing conduit. Low vibration works and appropriate selection of compaction machinery to be adopted.
TU-03	Telstra	Telecomms	Conduits	50 PVC	QL-D	–	Road widening / pavement works	PU-03	Protect	Protect during construction	Contractor to pothole and confirm line and level of existing conduit.
TU-04	Opticomm	Telecomms	Conduits	50 PVC	QL-B	550	Proposed drainage extension	PU-02	Protect	Protect during construction	Refer DD drawing series for more details.
TU-05	Telstra	Telecomms	Conduits	6/100 PVC	QL-B	800	Proposed drainage extension	PU-02	Protect	Protect during construction	Refer DD drawing series for more details.
TU-06	Telstra	Telecomms	Conduits	6/100 PVC	QL-B	2700	Road widening / pavement works	PU-03	Protect	Protect during construction	Low vibration works and appropriate selection of compaction machinery to be adopted.
TU-07	Opticomm	Telecomms	Conduits	50 PVC	QL-B	2600	Road widening / pavement works	PU-03	Protect	Protect during construction	Low vibration works and appropriate selection of compaction machinery to be adopted.
SE-01	Logan City Council	Sewer	Sewer Rising Main	DN100 PVC	QL-C	1100	Road widening / pavement works	PU-03	Protect	Concrete protection	Concrete encasement (under the roadway) in accordance with SEQ-PSS-1001-1.
WA-01	Logan City Council	Water	Water main	DN200 DICL	QL-C	900	Road widening / pavement works	PU-03	Remain	To remain	Potholing investigation identified existing concrete encasement in place.
WA-02	Logan City Council	Water	Water main	DN250 DICL	QL-C	700 – 1200	Table drain	PU-03	Protect	Concrete protection	Table drain to be concrete lined – refer GA drawing series.
WA-03	Logan City Council	Water	Water main	DN250 DICL	QL-C	800	Road widening / pavement works	PU-03	Protect	Protect during construction	Low vibration works and appropriate selection of compaction machinery to be adopted.

EDD/DE: EDD (WTR Curve Widening) — 10730 — Refer EDD/DE Report 02 Rev03 (Job No. 489244); 10900 — DE (Wharf St Intersection – Left Turn Treatment) — 11000 — Refer EDD/DE Report 02 Rev03 (Job No. 489244); 11100 — DE (Logan St Intersection – Left Turn Treatment) — 11200 — Refer EDD/DE Report 02 Rev03 (Job No. 489244)

Chainage	10700	10725	10750	10775	10800	10825	10850	10875	10900	10925	10950	10975
Design Height	17.004	17.219	17.425	17.696	17.805	17.880	17.955	18.029	18.020	17.945	[illegible]	18.007
Natural Surface	17.004	17.219	17.475	17.686	17.781	17.853	17.928	17.965	17.995	18.016	18.019	18.049

Chainage	11000	11025	11050	11075	11100	11125	11150	11175	11200	11225	11250	11275	11300
Design Height	18.082	18.157	18.232	18.307	18.382	18.525	18.682	18.840	18.936	19.011	19.106	19.248	19.366
Natural Surface	18.056	18.142	18.192	18.230	18.277	18.388	18.609	18.926	19.047	18.999	19.106	19.248	19.366

Horiz. Data: R408.5 — R-400 — R-400 — R230

Operating Speed: 70 Km/h

Superelev.: Existing Pavement RHS -3% — 10748.00 — RHS -3% — 11248.00 — Existing Pavement RHS -3%

LONGITUDINAL SECTION MC01

A	Issued For Construction
Revisions/Descriptions	Name or RPEQ No. / Signature / Date

Associated Job Nos

Auxiliary Drg Nos

Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 10 20 30 40m Horiz.
0 1 2 3 4m Vert.
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	[illegible]	[illegible]	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

LONGITUDINAL SECTION
CONTROL LINE MC01

Drawn P.W.
Designed LS

ENGINEERING CERTIFICATION (RPEQ)

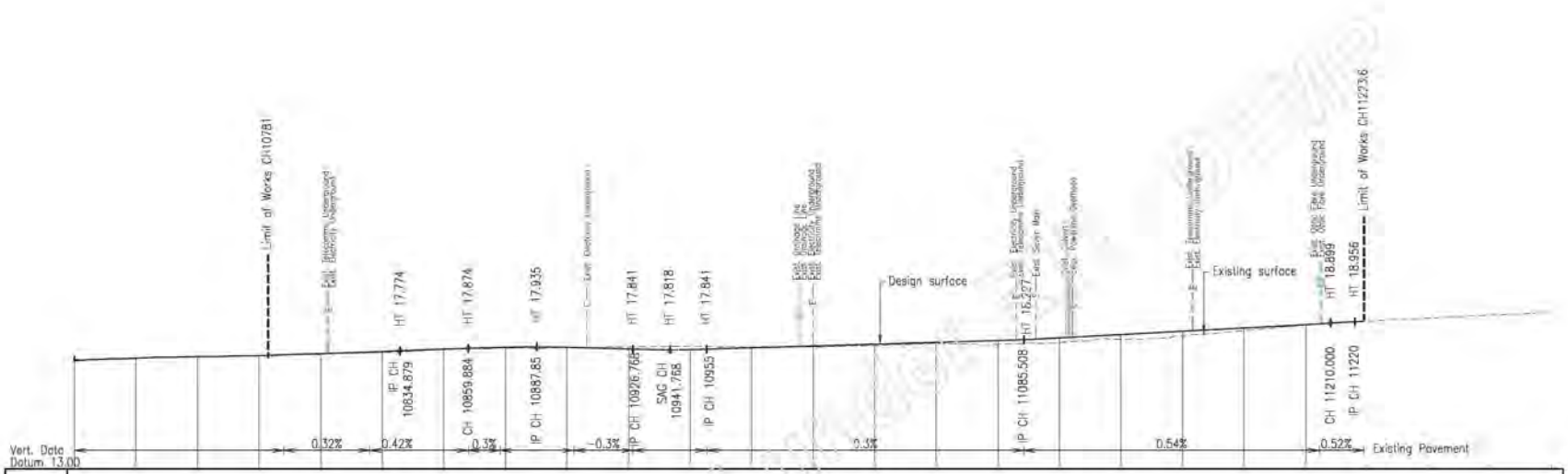
ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	[redacted]	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857907 A
Series Number	LS-01 of 4

CAD FILES V:_Vault\Projects\30031795\CADD_WRS\CAD\DWG\11_LS\30031795-V11-LS-0101.dwg

Last Modified – Aug 07, 2020 – 4:03pm



LONGITUDINAL SECTION MC02

A	Issued For Construction			
Revisions/Descriptions	Name or RPEQ No.	Signature	Date	

LAD FILES: V:_Jaual\Projects\3\K031295\CADD\MAR\DAD\DWG\11_LS\300317295-W11-LS-0102.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 10 20 30 40m
Horiz.
0 1 2 3 4m
Vert.
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn P.W
Designed L.S

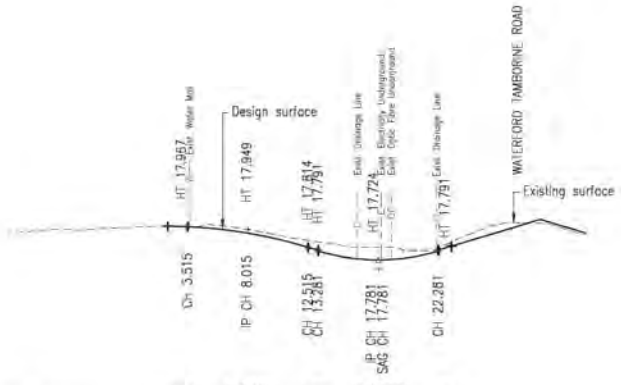
LONGITUDINAL SECTION CONTROL LINE MC02

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AMC	SIGNATURE:	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857908 | A
Series Number	LS-02 of 4



Vert. Data Datum 16.50	0.4% K 3.465 L 9.000	-3% K 1.500 L 9.000	3%
Design Height			
Natural Surface	0 17.966		17.857
Chainage			23.337
Horiz.Data		R20	
Operating Speed	60 Km/h		
Superelev.	LHS VARIES RHS VARIES		

LONGITUDINAL SECTION MC10

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Jaual\Projects\310031795\CADD\WAR\CAD\DWG\11_LS\310031795-V11-LS-1001.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8m
Horiz.
0 0.2 0.4 0.6 0.8m
Vert.
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn P.W
Designed L.S

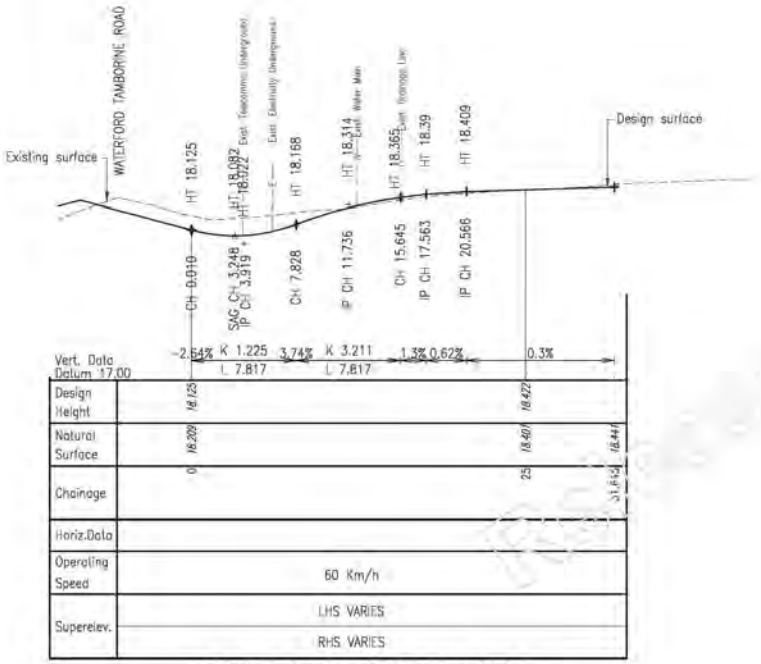
LONGITUDINAL SECTION
CONTROL LINE MC10

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AME	SIGNATURE	No.	DATE
CIVIL PI		ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857909 | A
Series Number	LS–03 of 4



LONGITUDINAL SECTION MC20

A	Issued For Construction		
Revisions/Descriptions	Name or RPEQ No.	Signature	Date

CAD FILES: v:_layout\Projects\30031795\CADD\WAR\CAD\DWG\11_LS\30031795-V11-LS-2001.dwg

Associated Job Nos

Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8m
Horiz.
0 0.2 0.4 0.6 0.8m
Vert.
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	[redacted]	[redacted]	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: L.S

LONGITUDINAL SECTION CONTROL LINE MC20

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AMC	SIGNATURE	No.	DATE
CIVIL	Pr	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857910 | A
Series Number	LS-04 of 4

LEGEND

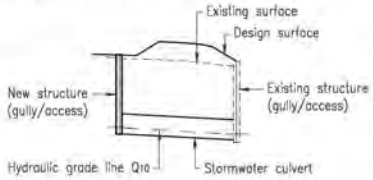
Proposed Drainage

- Stormwater culvert
- Stormwater pipe – longitudinal (ø375)
- Channel grass lined
- Channel concrete lined
- Channel rock lined
- Grated trench drain
- Design contours – major (0.5m)
- Design contours – minor (0.1m)
- Existing contours – major (1.0m)
- Existing contours – minor (0.25m)
- Stormwater gully
- Sloping headwall
- Headwall, wings and apron
- Headwall and Apron (no wingwalls)
- Scour protection (rock protection)
- Structure Number / Line Number (5 / 21)
- CULVERT — Transverse culvert label
- Drainage to be removed/abandoned

Existing Drainage

- Existing Culvert
- Existing stormwater pipe (EX ø375)
- Existing drain
- Existing stormwater access chamber (MH SW)
- Existing headwall, wings and apron
- Existing Stormwater access chamber
- Existing Stormwater Pit/Gully
- Existing Stormwater gully
- Structure Number / Line Number (EO5 / 21)

Longitudinal Section Legend



Design Features

- Control line
- 3500 — Chainage (centre)
- Kerb and channel
- Kerb
- Channel
- Fence
- Batter batter cut/fill slope

Cadastral Boundaries

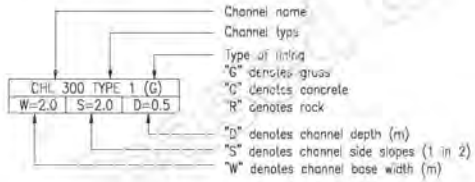
- Parish boundary
- Easement boundary

Existing Features

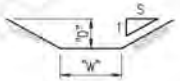
- Kerb
- Kerb and channel
- Pavement edge
- Batter
- Guardrail
- Fence
- Wire fence

Typical Label Description

CHANNEL LABEL



TYPES OF CHANNEL



For channel types refer to typical detail drawings

Existing Services

Aboveground Existing Services

- Electricity
- Stay Pole & Wire

Underground Existing Services

- Electricity
- Telecomms
- Sewer
- Water
- Optic Fibre

Dial Before You Dig

- Electricity
- Telecomms
- Sewer
- Water
- Optic Fibre
- Sewer Rising Main

Public Utilities Services

- Power Pole
- Telephone Box
- Street Light on Pole
- Inspection Box
- Maintenance Hole
- Sewer Maintenance Hole
- Fire Hydrant
- Valve
- Water Meter

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_MR\CAD\DWG\12_DDI\30031795-V12-DDI-0051.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: Dimensions shown in millimeters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.000	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: M.M

DRAINAGE
NOTES AND LEGEND
SHEET 1 OF 2

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	P.I	ORIGINAL SIGNED	14093	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857911 | A
Series Number	DD–NL01 of 2

Last Modified: Aug 07, 2020 - 4:17pm

NOTES:
GENERAL

1. All works to be undertaken in accordance with TMR Standard Specifications and Drawings. All construction materials and workmanship shall be in accordance with relevant codes of practice, requirements of statutory authorities and specifications listed on the drawings.
2. All locations, orientation and levels shall be verified on site before commencing any work. Discrepancies shall be referred to the Administrator. Do not obtain dimensions from scaling. Natural surface levels on the drawings are indicative only.
3. Where a connection is made to an existing drainage pipe or gully, the level of that element must be surveyed prior to construction. The surveyed levels shall be provided to the Administrator to confirm the connection and levels prior to construction.
4. All precast and proprietary products are to be installed as per the Manufacturer's Specifications.
5. Drainage structures have been designed for operational loads. Temporary bracing and propping for drainage pipes, culverts and structures may be required during construction. Structures shall be maintained in a stable position and no part shall be overstressed during construction, in accordance with TMR specifications.
6. For Gully and Access chamber details, refer to TMR Std Drgs 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1321, 1322, 1441, 1442, 1443, 1444 and 1445.
7. TMR headwalls shall include reinforced concrete aprons and cutoff walls, refer to TMR Std Drgs 1304 and 1305 for details.
8. For network drainage reference point and height refer to Drainage Longitudinal Sections Drg Series No. DD-LS01 to DD-LS02.
9. Trench drain slotted grate shall have a locking mechanism.
10. The design surface contours are shown on Drg Series No. DD-01 to DD-03 to depict Road Design and the stormwater flow direction.

SCOUR PROTECTION

1. Scour protection has been designed in accordance with Austroads Guide to Road Design Part 5B.
2. Rock and geotextile shall comply with the requirements of MRTS03. Rock sourcing and suitability to be approved by a suitably qualified RPEQ Geotechnical Engineer engaged by the Contractor.
3. Geotextile provided under rock and wire mattresses shall be Strength Class E, Filtration Class V in accordance with MRTS27.

CHANNELS AND BENCH DRAINS

1. Channel and bench drain locations are included as part of the design digital terrain model. Actual alignment and location are to be confirmed on site.
2. Channel dimensions are provided on the plans in reference to the typical details.
3. Channels not lined with concrete are to be landscaped. Channels are to be prepared, stabilised and landscaped in accordance with PD Drg Series.
4. The exposed ground condition shall be inspected and verified by a suitably qualified RPEQ Geotechnical Engineer engaged by the Contractor to ensure conformance with the expected design conditions.

DRAINAGE– TRANSVERSE AND LONGITUDINAL

1. Exposure classification to be B2 UNO.
2. All pipes are to be reinforced concrete UNO, minimum of class 3 has been determined for operational traffic loading only, based on type H2 support and embankment condition installation to TMR Std Drg 1359.
3. Construction loading shall comply with the requirements specified in MRTS25.
4. In accordance with MRTS03 Drainage, Retaining Structures and Protective Treatments, Clause 12.3.1, "General", the construction loads to be placed on the pipe shall be checked by the Contractor. If the Contractor chooses heavier plant and/ or less cover than that indicated on MRTS25 Appendix B, the selected pipe class and installation technique must be certified by the Contractor's RPEQ Engineer.
5. All transverse culverts to be extended are to have existing headwalls, wingwalls and aprons demolished and removed UNO.
6. Minimum cover over pipes shall be 700mm.
7. Backfilling of transverse drainage culverts shall be in accordance with TMR Std Drg 1359. Concrete surround shall be provided to pipes with less than minimum cover.
8. Pipe lengths provided in drainage long sections are calculated from pit reference point to pit reference point, as detailed in the drawings, and are not intended for measurements and payment purposes.
9. All drainage lines shall be constructed in a staged manner over short lengths to avoid disturbance to adjacent buried services. The Contractor shall employ suitable construction practices to avoid damage to existing services.

SUBSURFACE DRAINAGE

1. Refer to PD Drg Series for subsurface drainage details and locations.
2. Subsurface drainage pit connections are to be in accordance with the requirements of MRTS03.
3. Extend existing subsoil drains to new gully pits. For subsoil drain outlet and cleanout details, refer to TMR Std Drg 1116.
4. Existing subsoil drainage to be retained where possible.

EXISTING STORMWATER PITS AND PIPES

1. Existing stormwater drainage pit and pipe layouts shown on the drawings are indicative. All locations, orientation and levels of existing shall be verified on site before commencing any works.
2. Existing stormwater pipes to be decommissioned are to be removed where practical, or filled with a controlled low strength material to AS 3725, at the Asset Owner's agreement.
3. Existing drainage structures to be abandoned are to be demolished where practical, debris removed and backfilled in accordance with MRTS03.
4. Existing pipes and culverts to be retained shall be cleaned of silt and debris.
5. Any exposed reinforcement on existing structures to be modified and retained as part of the work is to be protected in accordance with requirements of new construction.
6. Where new gullies are installed, all existing property outlets to be reconnected to the new gully.
7. Where new kerb and channel is installed, all existing property outlets to be reconnected to the new kerb and channel.

DRAINAGE STRUCTURES

1. Unsuitable founding material for pipes and structures shall be removed or improved in accordance with MRTS04.
2. Drainage structures must be founded on engineered fill, stiff clay or better.
3. Suitability of the founding material shall be assessed and confirmed on site by a suitably qualified RPEQ Geotechnical Engineer engaged by the Contractor. A minimum bearing capacity is to be achieved as advised by a suitably qualified RPEQ geotechnical engineer engaged by the Contractor.
4. Steel grates are to be fabricated from mild steel and be hot dip galvanised. All grates are to be Class D UNO. Grates and frames within the pavement surface are to be bicycle safe in accordance with AS 3996.
5. Access chamber cover and frames shall comply with AS3996 Class D design load and shall be approved by the Administrator.
6. All welds to comply with Australian Standard AS 1554. Fillet welds to be not less than 6mm UNO.
7. All reinforcement shall comply with TMR MRTS71.
8. All galvanising to be in accordance with AS 2312 and AS 4680. Galvanising to threaded fasteners to be in accordance with AS 1214. Minimum galvanising 600g/sqm other than fasteners.
9. All drainage pit grates to be bolted (hex bolt) to the frame. For location and level of pits and headwalls refer to drainage drawing long sections.
10. In TMR Std Drg. 1243, the precast cut off wall anchor is M12 Grade 8.8 anchors in Hilti HIT-RE500. The anchor spacing is 300mm centres. Care shall be taken by the Contractor to ensure the annulus surrounding the anchor in the formed apron slab hole is adequately filled with the low modulus sealant to minimise relative movement. All anchors shall be hot dipped galvanised (HDG) finished.

SERVICES

1. Location and level of all services crossing, proposed or likely to be impacted/exposed during construction of drainage must be obtained prior to construction. All levels shall be checked for conflict with any services and any identified conflicts resolved.
2. Prior to undertaking any excavation, the Contractor shall confirm by potholing the location and depth of all services within 3m of proposed drainage along the entire length of the proposed line. The Administrator shall be notified immediately of any conflicts or discrepancies.

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Jaxel\Projects\37031295\CADD\MR\DrDi\DWG\13_DDI\37031295-V13-DD-0012.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: Dimensions shown in millimeters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: M.M

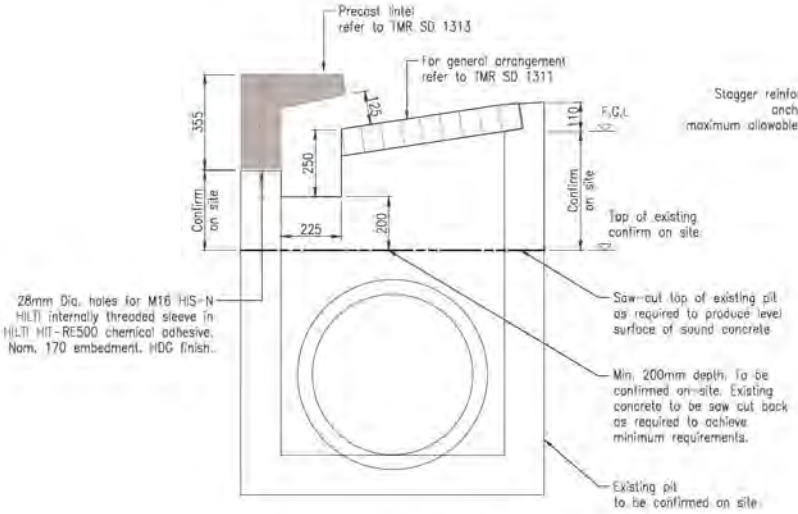
DRAINAGE
NOTES AND LEGEND
SHEET 2 OF 2

ENGINEERING CERTIFICATION (RPEQ)

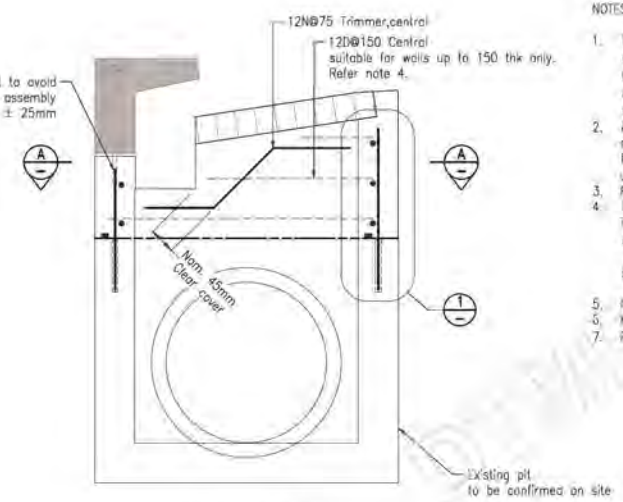
ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	P.I.	ORIGINAL SIGNED	14093	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857912 | A
Series Number	DD–NL02 of 2



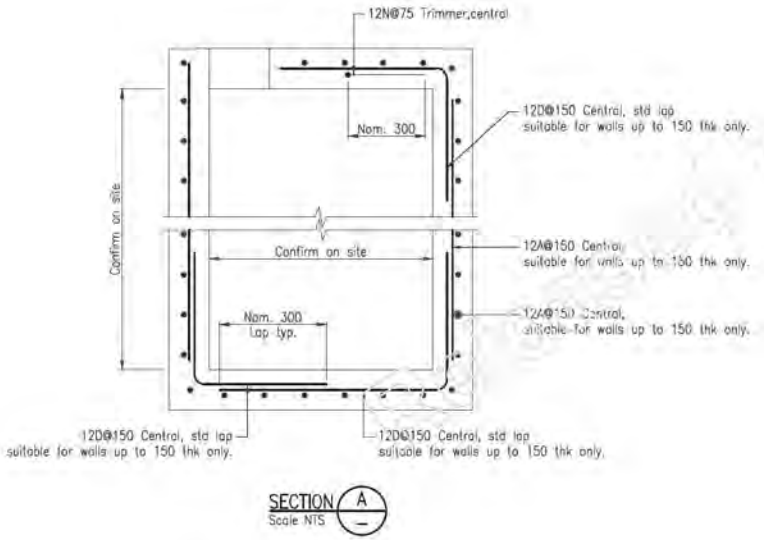
GENERAL ARRANGEMENT
EXISTING PIT MODIFICATION
PIT ID E04/04
NTS



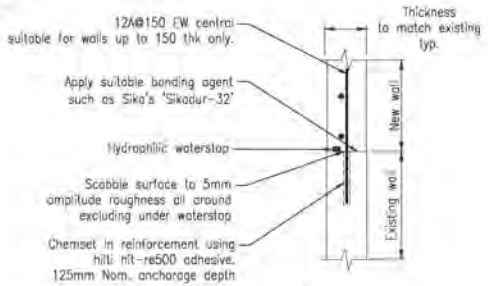
REINFORCEMENT
EXISTING PIT MODIFICATION
PIT ID E04/04
NTS

NOTES:

1. These drawings shall be read in conjunction with:
   a) TMR standard drawings;
   b) MRTS70;
   c) MRTS71;
   d) TMR 'Registered products and suppliers' specification.
2. All products shall be installed in accordance with manufacturer's specifications. Where nominated, products indicate the intended level of performance and may be substituted for other products of equal or superior performance. All products shall be approved for use by TMR as per the 'Registered products and suppliers' specification.
3. Refer to TMR standard drawing SD1033, SD1311 and SD1313 for kerb details.
4. The contractor shall make all necessary allowances for the complete structural investigation into
   a) Existing infrastructure dimensions with the intent of matching sizes/ layouts with new infrastructure;
   b) Existing infrastructure condition with the intent of making-good where required to complete all interfacing works.
5. Nominal clear cover 45mm.
6. Minimum 2 horizontal bars for wall extension.
7. Reinforced concrete wall extension shall be N32/20/80 in accordance with MRTS70.



SECTION A
Scale NTS



DETAIL 1
Scale NTS

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:\...\Layout\Projects\3\N31295\CADD\MAR\D401\DWG\13_DDI_N31295-V12-DD-DT01.dwg

Associated Job Nos:

Auxiliary Drg Nos
Refer Drawing Index
Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in millimeters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

DRAINAGE
GENERAL DETAILS
SHEET 1 OF 5

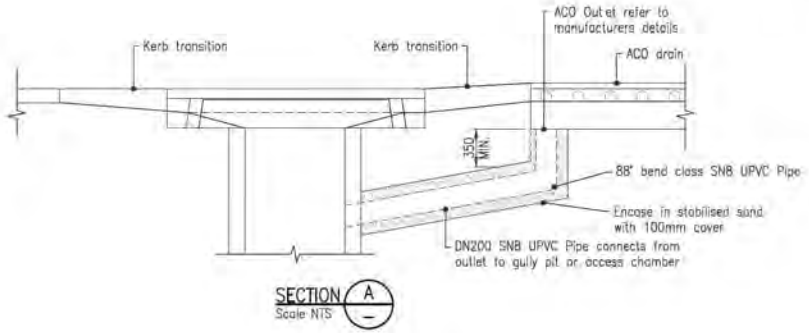
Drawn: P.W
Designed: M.M

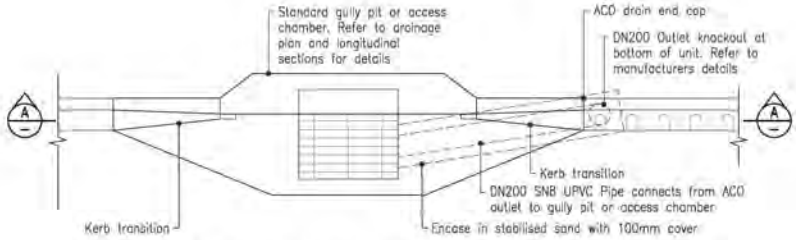
ENGINEERING CERTIFICATION (RPEQ)

	SIGNATURE	No.	DATE
ENG. AREA CIVIL	ORIGINAL SIGNED	14093	07/08/2020
STRUCTURE	ORIGINAL SIGNED	13738	07/08/2020

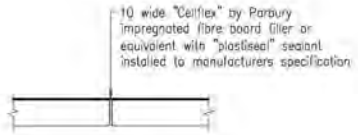
Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857913 | A
Series Number	DD-DT01 of 5

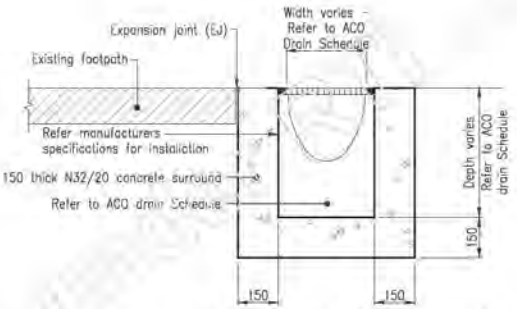




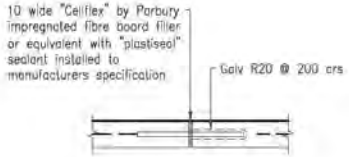
TYPICAL TRANSITION FROM ACO DRAIN TO GULLY PIT OR ACCESS CHAMBER (SIMILAR)
NTS



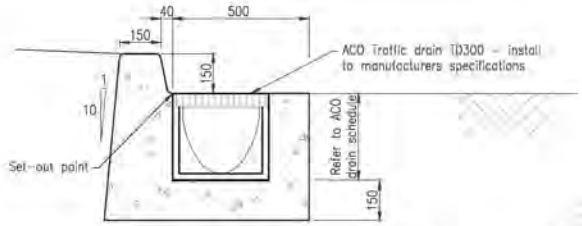
EXPANSION JOINT (EJ) – UNREINFORCED CONCRETE
NTS



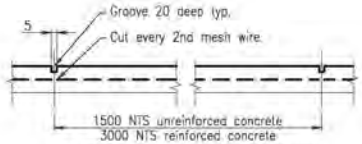
TYPICAL ACO DRAIN (KLASSIC DRAIN)
NTS



DOWEL JOINT (DJ) – REINFORCED CONCRETE
NTS



TYPICAL ACO DRAIN (TRAFFIC DRAIN)
NTS



CONTROL JOINT (CJ) – TYPICAL
NTS
(Apron slabs and headwalls only)

NOTES
1. For drainage general notes refer to Drg Series No. DD–NL02.
2. For landscaping details, refer to PD Drg series.

ACO DRAIN SCHEDULE

Culvert / Drain Line ID	Control Line	From Chainage	To Chainage	Length (m)	To Pit	ACO Type	ACO Width (mm)	ACO Depth (mm)	Grate Type
ACO1	MC01	10827.000	10838.000	10.00	ACO2	Klassic Drain K200	200.000	300.000	Class D Iron Intercept heelsafe anti slip
ACO2	MC01	10851.000	10838.000	16.00	03/04	Klassic Drain K200	200.000	300.000	Class D Iron Intercept heelsafe anti slip
ACO3	MC01	10851.000	10858.000	5.00	ACO4	Klassic Drain K200	200.000	300.000	Class D Iron Intercept heelsafe anti slip
ACO4	MC01	10890.000	10858.000	34.30	02/04	Klassic Drain K200	200.000	300.000	Class D Iron Intercept heelsafe anti slip
ACO5	MK21	32.000	18.000	14.00	E06/02	Traffic Drain TD300	300.000	450.000	Class D Iron Intercept heelsafe anti slip

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Jacobs\Projects\378312955\CADD\MAR\DrDD\DWG\13_DD\378312955-V12-DD-DT02.dwg

Associated Job Nos:
Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS
Dimensions shown in millimeters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4 RTI-4349 Page 303 of 3150		3.554		5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: M.M

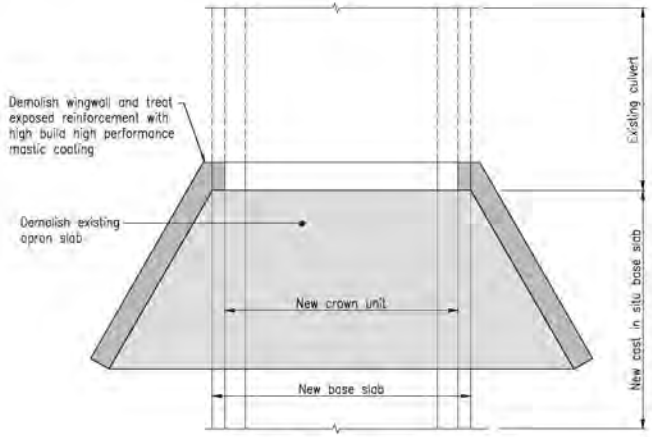
DRAINAGE
GENERAL DETAILS
SHEET 2 OF 5

ENGINEERING CERTIFICATION (RPEQ)

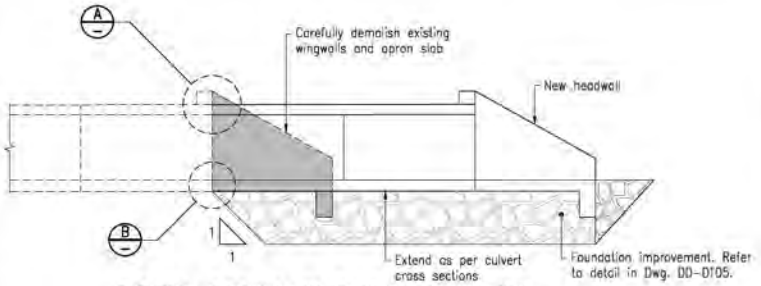
ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	14093	07/08/2020

Queensland Government

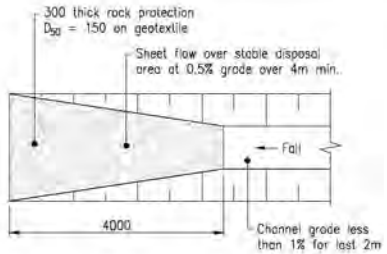
Job No.	489244
Contract No.	CN–14898
Drawing No.	857914 | A
Series Number	DD–DT02 of 5



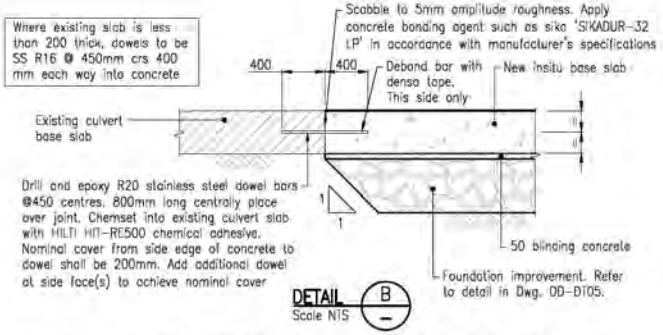
EXTENSION OF RCBC
NTS



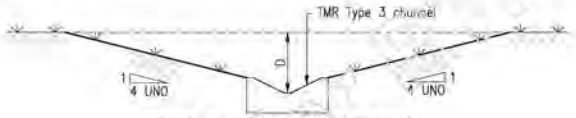
ELEVATION EXTENSION TO EXISTING BOX CULVERT
NTS



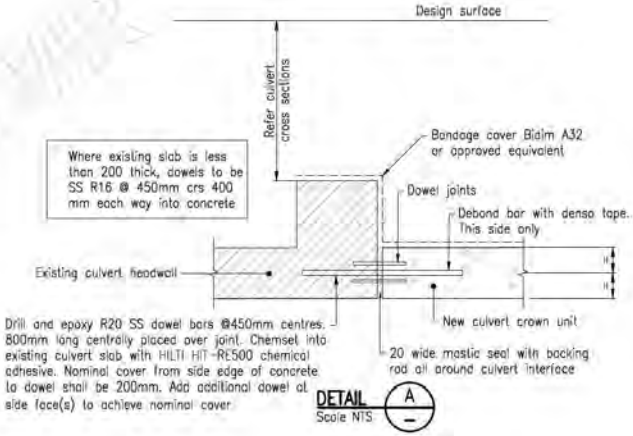
CHANNEL OUTLET DETAILS (CO)
NTS

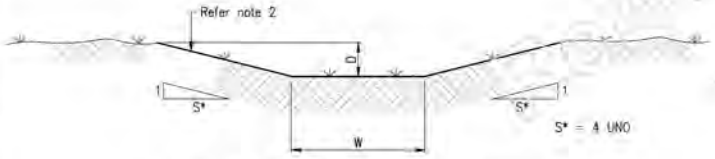


JOINT FOR NEW CULVERT BASE SLAB TO EXISTING
NTS

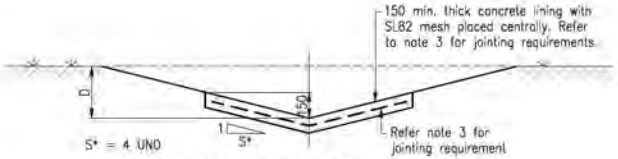


TYPE 6 (C) TYPICAL INTERFACE CHANNEL CONCRETE INVERT
NTS

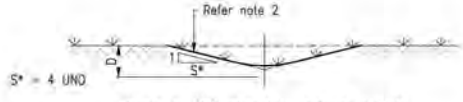




TYPE 1 (G) TYPICAL GRASS LINED CHANNEL
NTS



TYPE 5 (C) TYPICAL CONCRETE LINED V- CHANNEL
NTS



TYPE 5 (G) TYPICAL GRASS LINED V- CHANNEL
NTS

1. For drainage general notes refer to Drg Series No. DD-N102.
2. For planting details refer to PD Drg series.
3. Provide expansion joints at 12m centers and movement joints at 3m centers in all concrete lining. Refer to details on Drg Series No. DD-DT02.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\112_DD\30031795-V12-DD-DT03.dwg

Last Modified - Aug 07, 2020 - 4:13pm

Associated Job Nos	Survey Data	
	Horiz. Datum	MGA94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number DI-01	Height Datum	AHD Derived
	Survey Books	MR101140

Scales: NTS

Dimensions shown in millimeters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.058	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: M.M

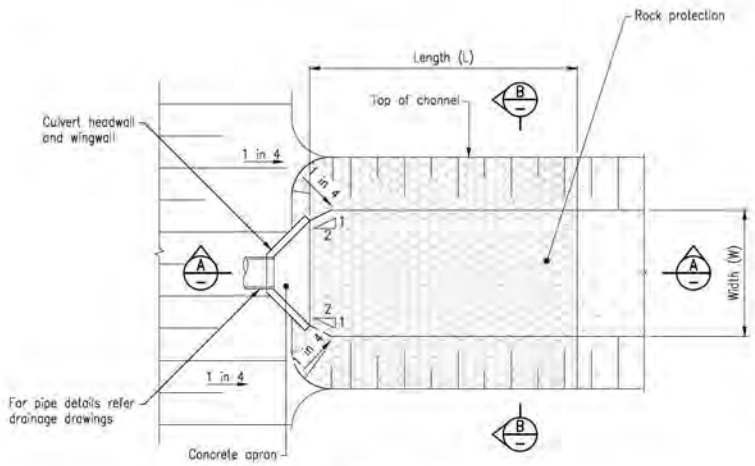
DRAINAGE
GENERAL DETAILS
SHEET 3 OF 5

ENGINEERING CERTIFICATION (RPEQ)

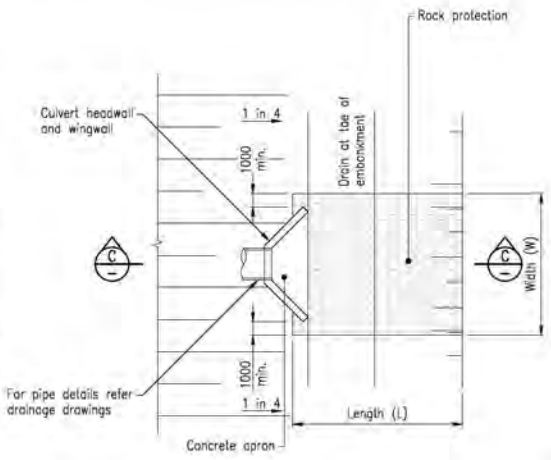
	NAME	SIGNATURE	No.	DATE
ENG. AREA CIVIL	P1	ORIGINAL SIGNED	14093	07/08/2020
STRUCTURE		ORIGINAL SIGNED	13736	07/08/2020

Queensland Government

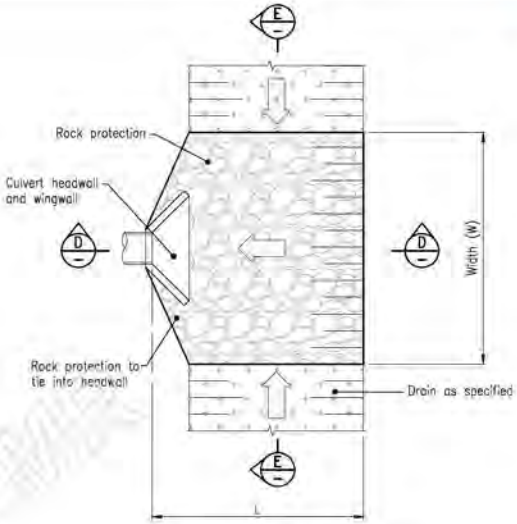
Job No.	489244
Contract No.	CN-14898
Drawing No.	857915 | A
Series Number	DD-DT03 of 5



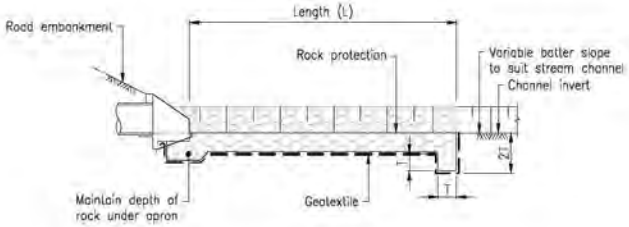
PLAN – SCOUR OUTLET PROTECTION TYPE 1
NTS

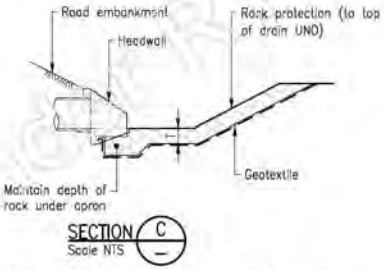


PLAN – SCOUR OUTLET PROTECTION TYPE 2
NTS

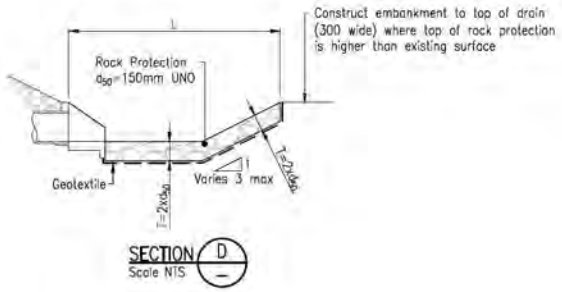


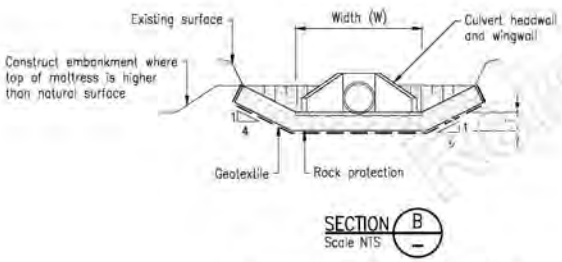
PLAN – SCOUR INLET PROTECTION
NTS





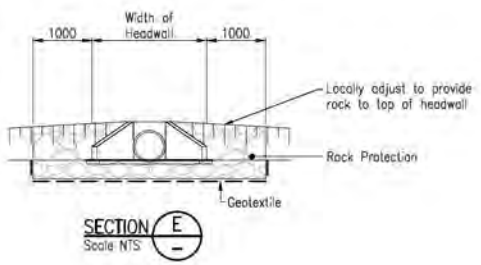
TRANSITION TO PERPENDICULAR CHANNEL





TRANSITION TO PARALLEL CHANNEL

NOTES
1. For drainage legend and general notes refer to Drg Series Nos. DD-NL01 and DD-NL02.
2. Steel wire mattresses shall be constructed in accordance with MRTS03.
3. For Outlet protection Type, dimensions (L), (W), (T) and D50, refer to Drg Series No. DD-XS01.



Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\12_DD\30031795-V12-DD-DT04.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in millimeters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.446	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: M.M

DRAINAGE
GENERAL DETAILS
SHEET 4 OF 5

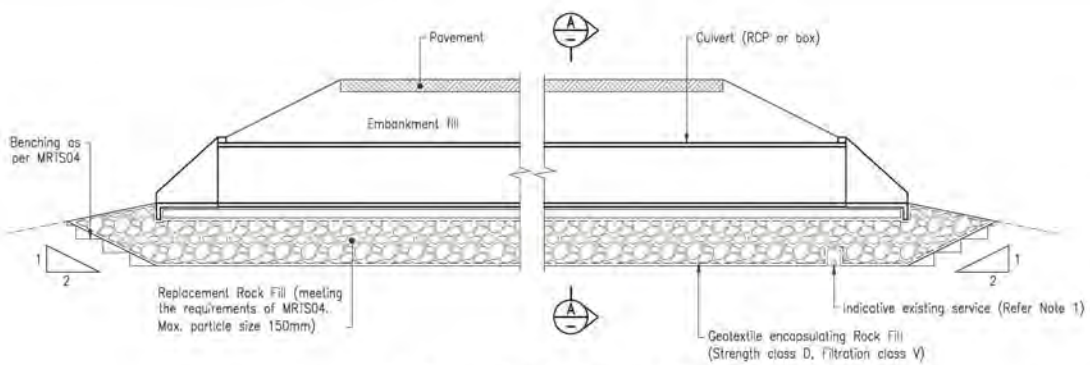
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AME	SIGNATURE	No.	DATE
CIVIL P1		ORIGINAL SIGNED	14093	07/08/2020

Queensland Government

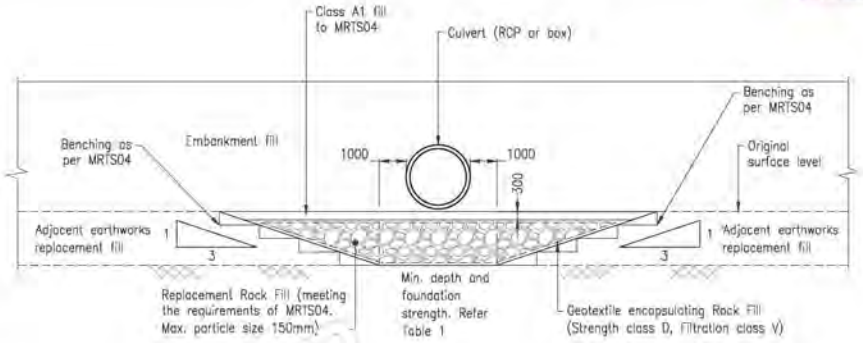
Job No.	489244
Contract No.	CN-14898
Drawing No.	857916 | A
Series Number	DD-DT04 of 5

Last Modified – Aug 07, 2020 – 4:13pm



CULVERT FOUNDATION EARTHWORKS DETAIL

NTS



SECTION A

Scale

CHL-R06 SET OUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	COMMENTS
START	0.000	510798.820	6928702.491	15.359	
	5.000	510795.733	6928698.559	15.378	
	10.000	510792.463	6928694.776	15.398	
	15.000	510789.043	6928691.129	15.417	
	20.000	510785.594	6928687.510	15.437	
	25.000	510782.076	6928683.957	15.457	
	30.000	510778.349	6928679.792	15.477	
	35.000	510777.008	6928675.582	15.496	
	40.000	510774.969	6928670.816	15.516	
	45.000	510772.634	6928666.399	15.535	
	50.000	510770.505	6928661.880	15.555	
	55.000	510767.891	6928657.621	15.574	
	60.000	510764.716	6928653.760	15.593	
	65.000	510761.502	6928649.931	15.613	
	70.000	510758.215	6928646.163	15.632	
	75.000	510754.918	6928642.405	15.652	
	80.000	510751.651	6928638.620	15.672	
	85.000	510748.414	6928634.811	15.691	
	90.000	510745.268	6928630.926	15.711	
	95.000	510742.440	6928627.352	15.729	
	100.000	510740.033	6928623.705	15.746	
	105.000	510737.184	6928619.596	15.766	
	110.000	510734.277	6928615.528	15.785	
	115.000	510731.333	6928611.487	15.805	
	118.073	510728.948	6928608.186	15.821	CHANGE IN GRADE
	120.000	510728.313	6928607.510	15.855	
	125.000	510724.883	6928603.691	16.053	
END	126.527	510723.815	6928602.780	16.113	

TABLE 1: GROUND TREATMENT SUMMARY

Approximate Chainage	Culvert ID	Min. Depth of Removal and Replacement (mm)	Min. foundation strength (kPA)
10770	Culvert E06/04 to 07/04	400	70
10890	Culvert E06/03 to 07/03	500	120
10990	Culvert 05/01 to 06/01	400	70
11110	Culvert 02 (Refer Note 1)	800	120
11175	Culvert 01	800	120

NOTE:

1. Where existing services are located within the foundation improvement zone, foundation improvement shall be undertaken around the service trench, avoiding impact to the bedding material and service, as directed by a suitably qualified RPEQ Geotechnical Engineer engaged by the Contractor.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_MR\CAD\DWG\12_DDS\30031795-V12-DD-D105.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in millimeters except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.888	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W

Designed: M.M

DRAINAGE

GENERAL DETAILS

SHEET 5 OF 5

ENGINEERING CERTIFICATION (RPEQ)

	NAME	SIGNATURE	No.	DATE
ENG. AREA CIVIL	P.I.	ORIGINAL SIGNED	14093	07/08/2020
GEOTECHNI		ORIGINAL SIGNED	08683	07/08/2020

Queensland Government

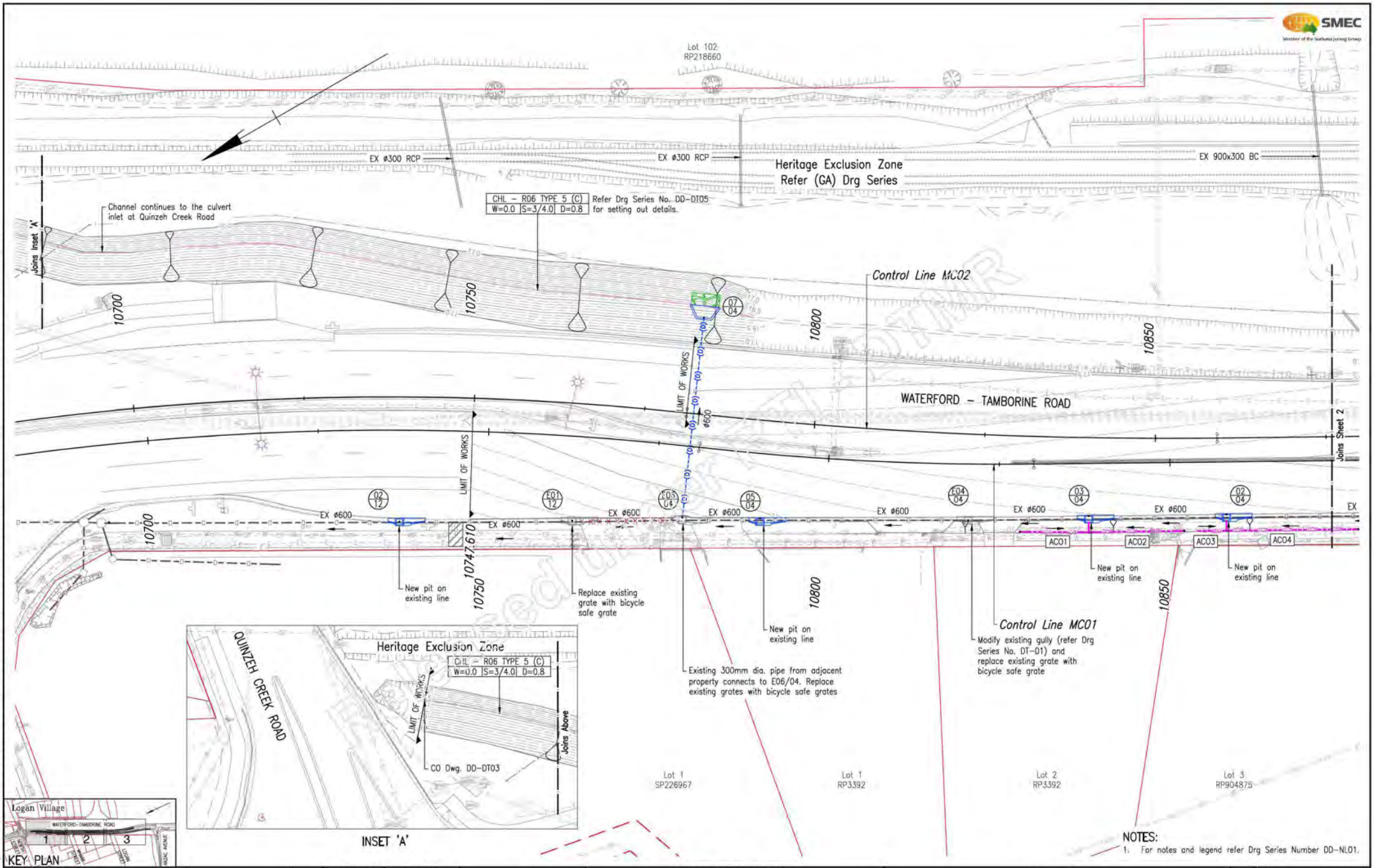
Job No. 489244

Contract No. CN-14898

Drawing No. 857917 A

Series Number DD-D105 of 5

Last Modified: Aug 07, 2020 - 4:14pm



Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\12_DD\30031795-V12-DD-1001.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index
Drg. Series
Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in millimeters
except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: M.M

DRAINAGE LAYOUT PLAN SHEET 1 OF 3

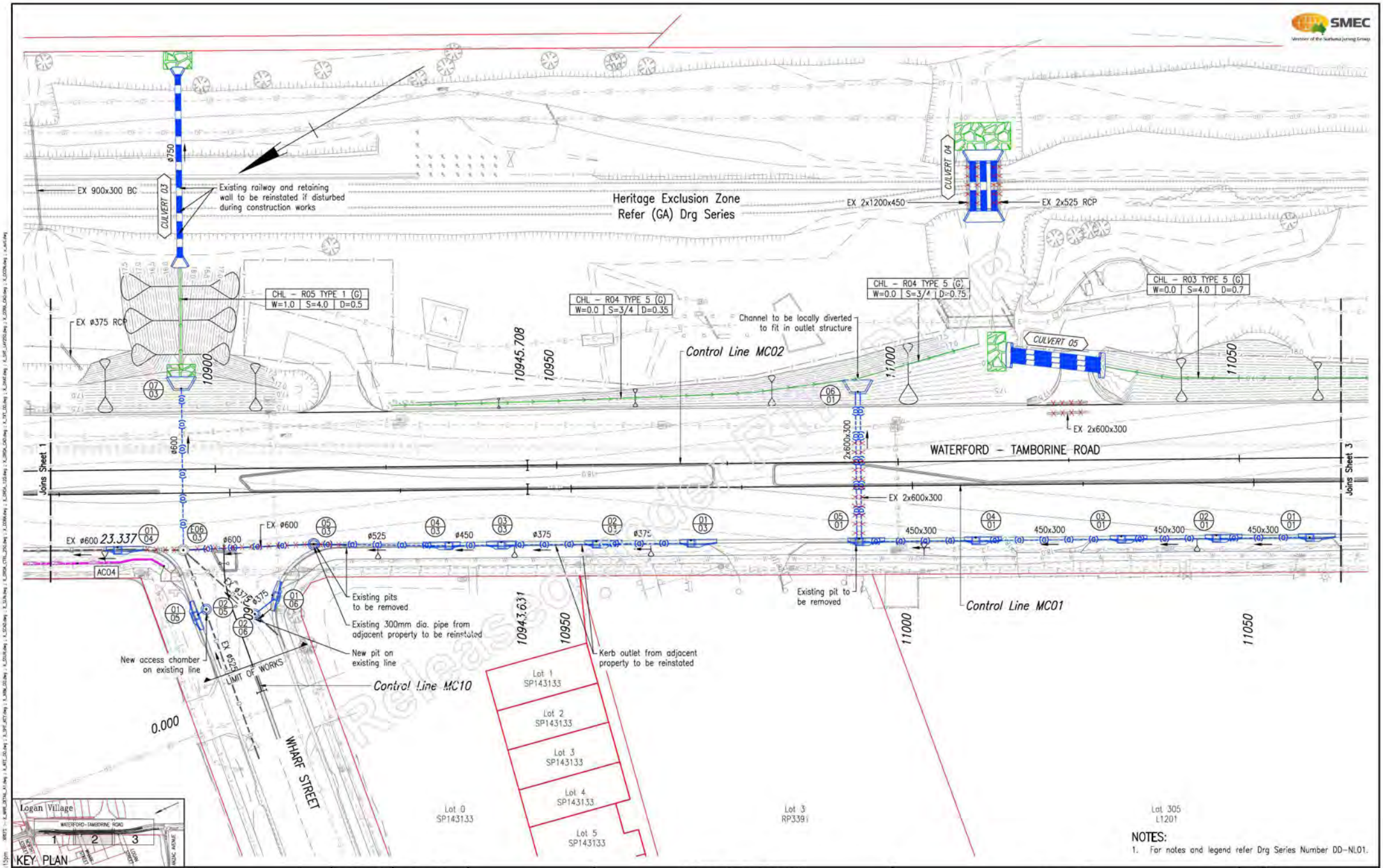
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AME	SIGNATURE	No.	DATE
CIVIL PI		ORIGINAL SIGNED	14093	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857918 | A
Series Number	DD-01 of 3

Last Modified: Aug 07, 2020 - 4:14pm



NOTES:
1. For notes and legend refer Drg Series Number DD–NL01.

A	Issued For Construction						
	Revisions/Descriptions	Name or RPEQ No.	Signature	Date			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\12_DD\30031795-V12-DD-1002.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in millimeters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.48	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: M.M

DRAINAGE
LAYOUT PLAN
SHEET 2 OF 3

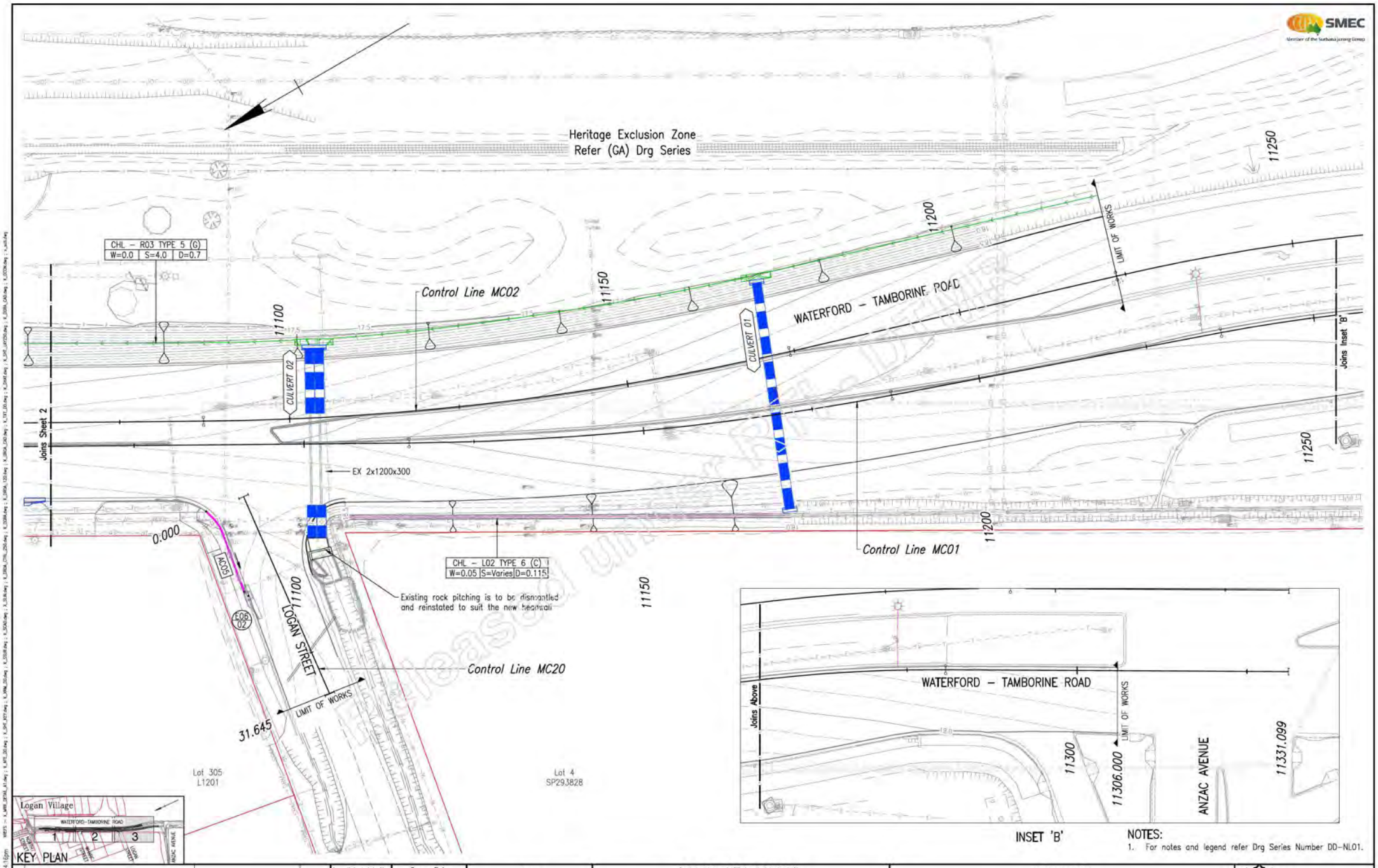
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AME	SIGNATURE	No.	DATE
CIVIL PI		ORIGINAL SIGNED	14093	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857919 | A
Series Number	DD–02 of 3

Last Modified: Aug 07, 2020 – 4:15pm



NOTES:
1. For notes and legend refer Drg Series Number DD-NL01.

Associated Job Nos	Survey Data: Horiz. Datum	MGA94	Scales: 0 2 4 6 8 10m
Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01	Horiz. Grid	Zone 56	Dimensions shown in millimeters except where shown otherwise
	Height Datum	AHD Derived	
	Survey Books	MR101140	

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.455	9.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

DRAINAGE
LAYOUT PLAN
SHEET 3 OF 3

Drawn	Designed
P.W	M.M

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	14093	07/08/2020

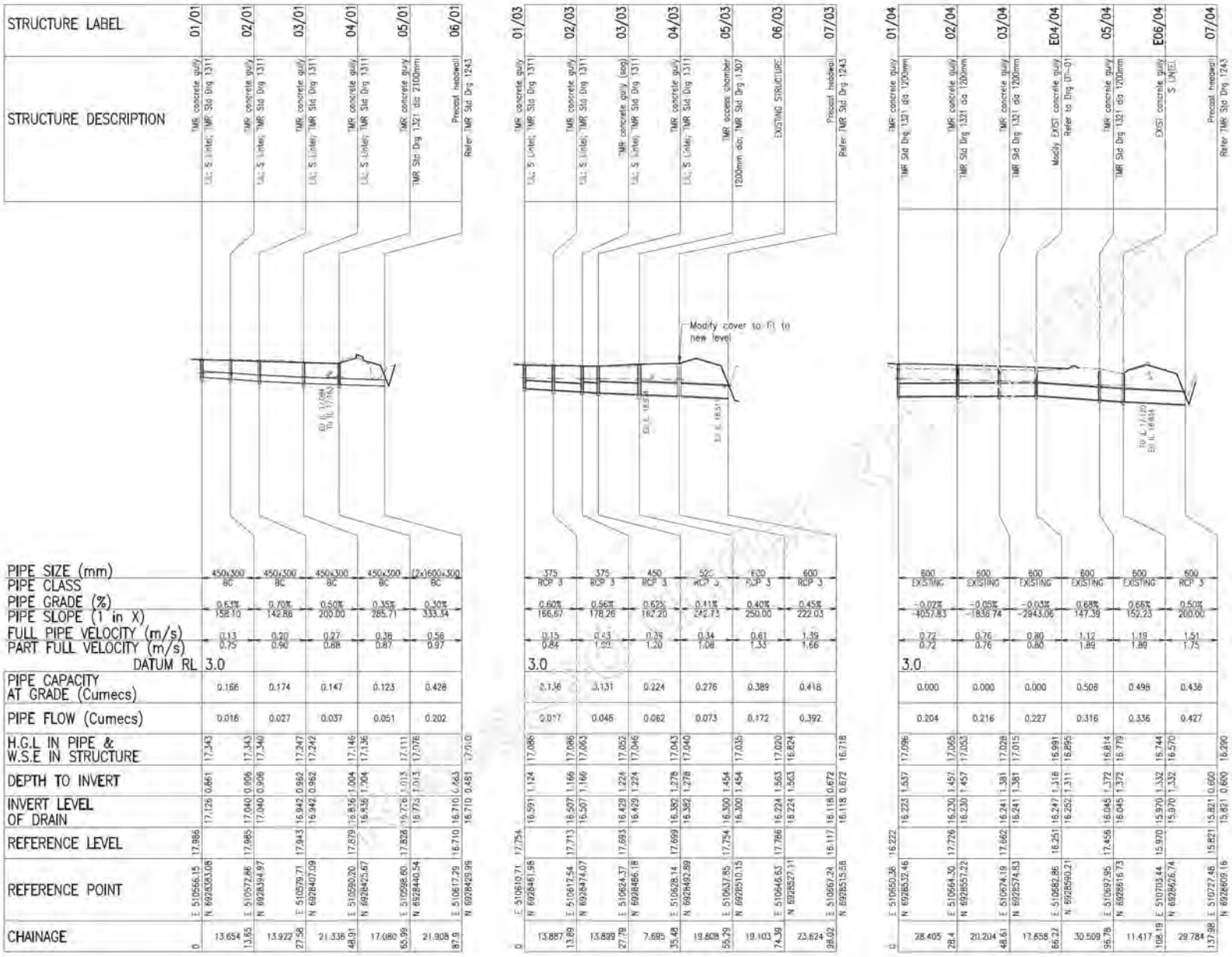
Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857920 | A
Series Number	DD-03 of 3

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\300317795\CADD_WAR\CAD\DWG\12_DD\300317795-V12-DD-1003.dwg

Last Modified: Aug 07, 2020 - 4:16pm



Associated Job Nos	
Auxiliary Drg Nos	Refer Drawing Index Drg. Series Number 01-01
Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 10 20 30 40m
Horiz.
0 1 2 3 4m
Vert.
Dimensions shown in meters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	1.668	3.558	3.554	5A

Through Chainage from Start of Gazettal: 10.748km – 11.306km

DRAINAGE
LONGITUDINAL SECTIONS
SHEET 1 OF 2

Drawn: P.W
Designed: M.M

ENGINEERING CERTIFICATION (RPEQ)

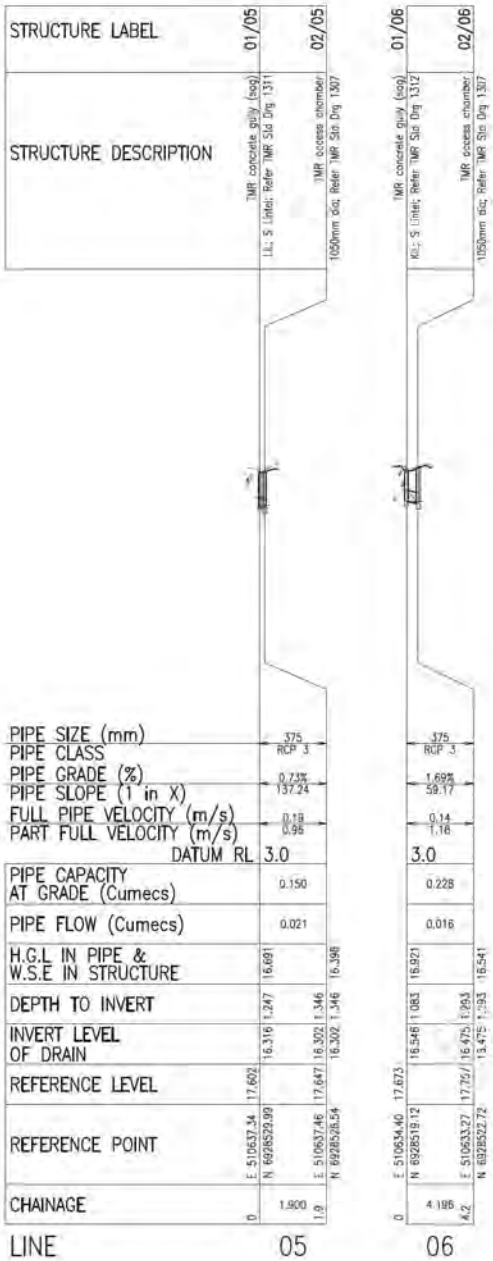
	ENG. AREA	NAME	SIGNATURE	No.	DATE
Civil	PI		ORIGINAL SIGNED	14093	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857921 | A
Series Number	DD-LS01 of 2

A	Issued For Construction			
	Revisions/Descriptions	Name or RPEQ No.	Signature	Date

CAD FILES: V:\...\Drawings\3703\12955\CADD\MR\D+D\DWG\12_DDS\30312955-V12-LDS-PRO1.dwg



A	Issued For Construction				
Revisions/Descriptions		Name or RPEQ No.	Signature	Date	

CAD FILES: V:_Jaxa\Projects\31031295\CADD\MR\DAD\DWG\13_DD\31031295-V13-DD-LS02.dwg

Associated Job Nos

Auxiliary Drg Nos

Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 10 20 30 40m
Horiz.
0 1 2 3 4m
Vert.
Dimensions shown in meters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: M.M

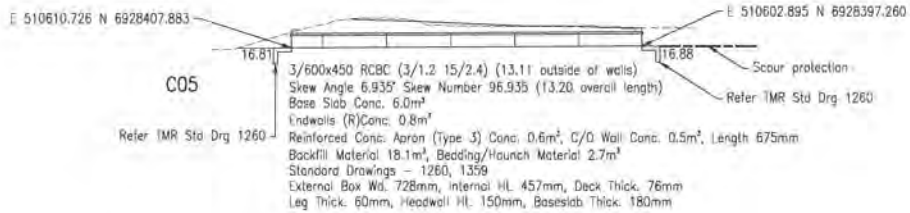
DRAINAGE
LONGITUDINAL SECTIONS
SHEET 2 OF 2

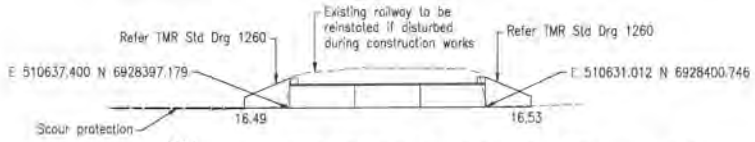
ENGINEERING CERTIFICATION (RPEQ)

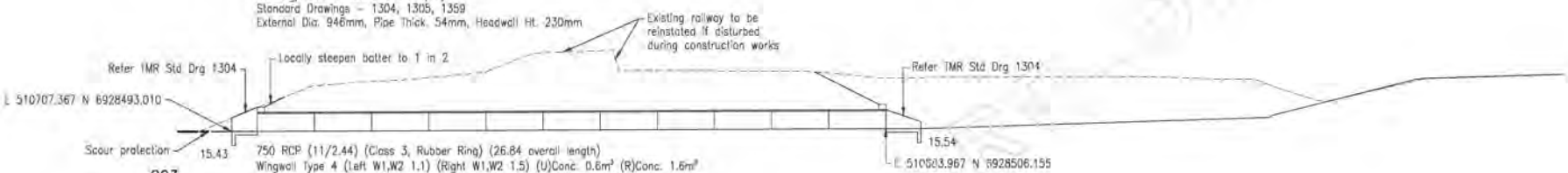
ENG. AREA	AMC	SIGNATURE: ORIGINAL SIGNED	No. 14093	DATE 07/08/2020
CIVIL				

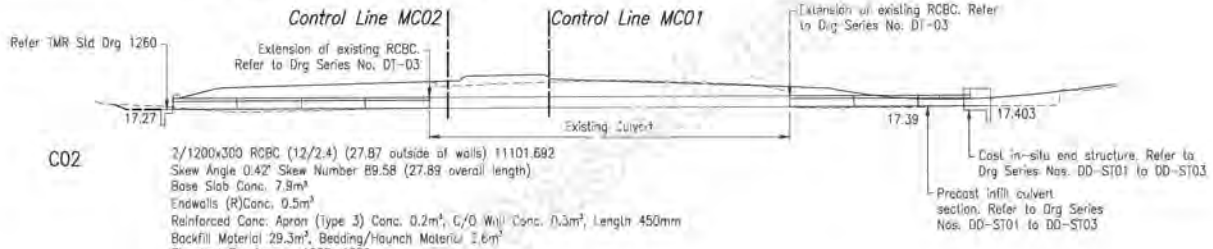
Queensland Government

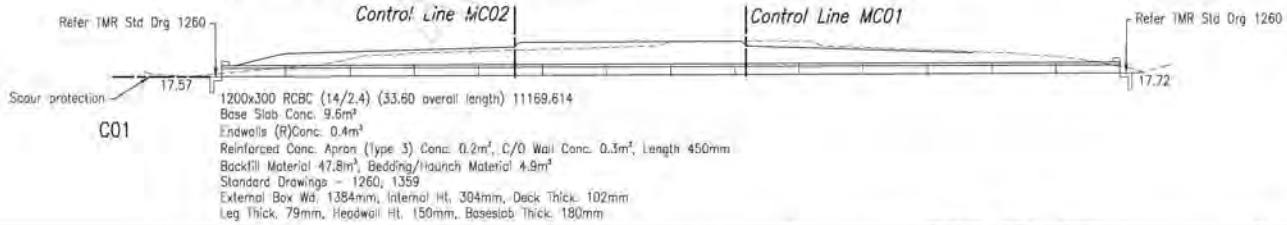
Job No.	489244
Contract No.	CN–14898
Drawing No.	857922 A
Series Number	DD–LS02 of 2











OUTLET SCOUR PROTECTION

Structure Name	Ctrl Line / Chainage	Size (mm)	Scour Protection Length – L (m)	Scour Protection Width (m)	D_{50} (mm)	Thickness – T (mm)	Scour Protection Device	Scour Protection Type	Series Number
C01	MC01 / 11169.614	1 X 1200X300 RCBC	0.9	4.4	200	400	Rock Protection	Type 2	DT04
C02	MC01 / 11101.692	2 X 1200X300 RCBC	0.9	5.6	200	400	Rock Protection	Type 2	DT04
06/01	Line 01	2 X 600X300 RCBC	–	–	–	–	Grass / Vegetation	–	–
C04	MC01 / 11011.047	3 X 825 RCP	4.5	8.2	200	400	Rock Protection	Type 1	DT04
C03	MC01 / 10893.17	750 RCP	2.3	4.8	200	400	Rock Protection	Type 1	DT04
07/03	Line 03	600	1.8	4.1	200	400	Rock Protection	Type 1	DT04
07/04	Line 04	600	1.8	4.1	200	400	Rock Protection	Type 2	DT04
C05		3 X 6004X450 RCBC	2.7	5.7	200	400	Rock Protection	Type 1	DT04

NOTE
For general notes and refer to Drg Series Number DD-N1.01

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Jaust\Projects\30031295\CADD\MAR\DAD\DWG\13_DDS\30031295-V12-GEI-T201.dwg

Associated Job Nos:
Auxiliary Drg Nos:
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: 0 1 2 3 4m
Dimensions shown in meters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: M.M

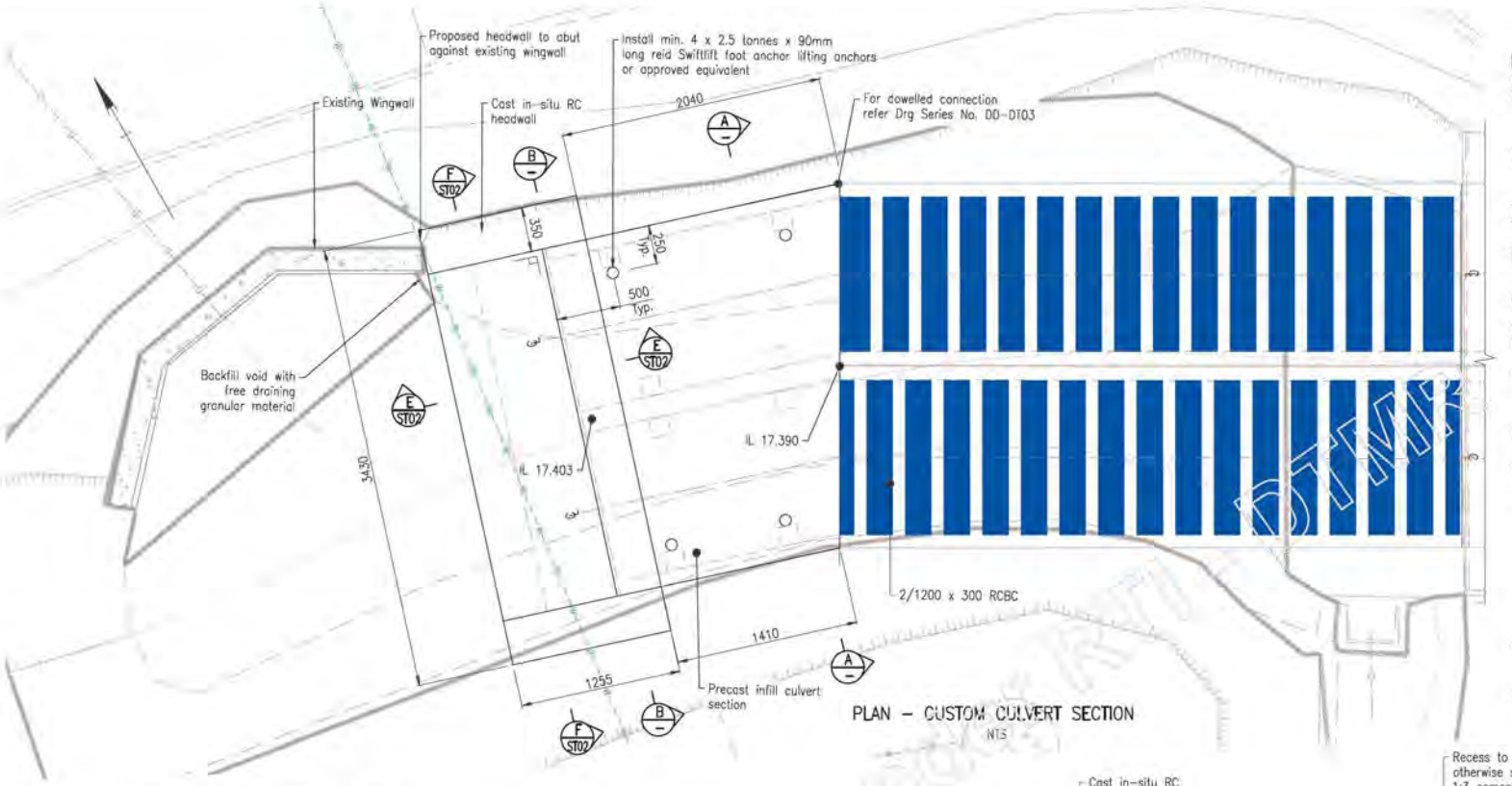
DRAINAGE
CULVERT SECTIONS

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	14093	07/08/2020

Queensland Government

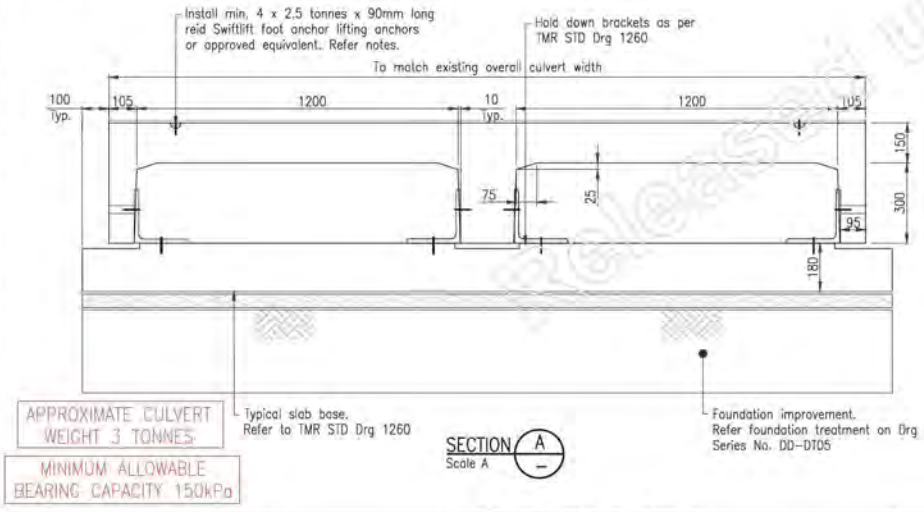
Job No.	489244
Contract No.	CN-14898
Drawing No.	857923 | A
Series Number	DD-XS01 of 1



PLAN – CUSTOM CULVERT SECTION
NTS

NOTES

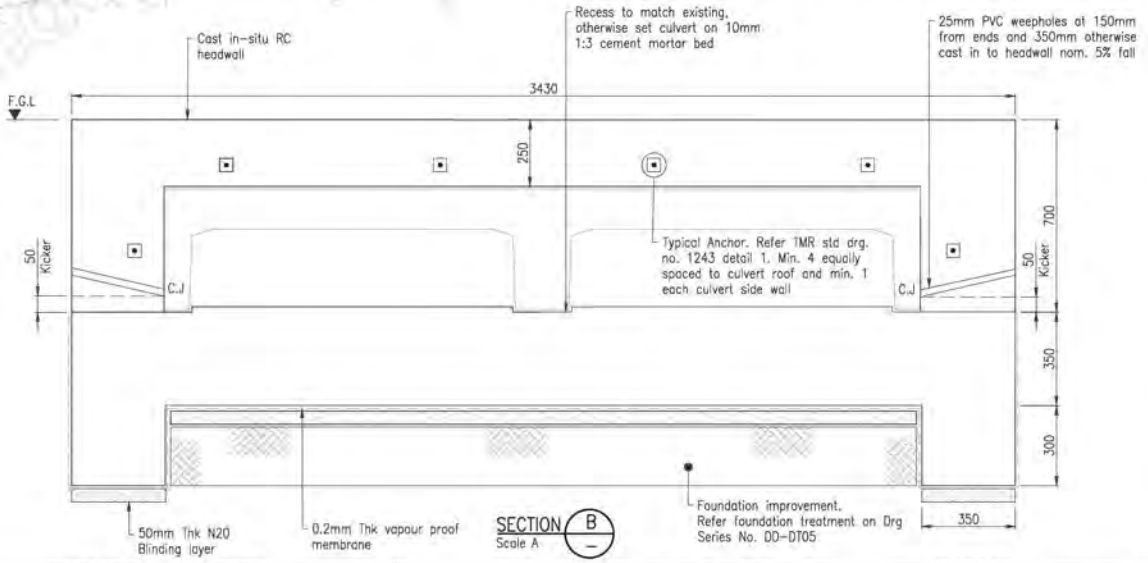
1. All culverts shall be designed and constructed in accordance with AS1597.
2. All concrete strengths shall be as per the following:
   - Headwall: N32/20/80
   - Infill culvert: N40/20/80
   - Blinding: N20/20/80
3. All clear cover shall be in accordance with the following:
   - Headwall: 40mm against air & 50mm against earth
   - Infill culvert: 30mm
4. All concrete shall be suitable for an exposure class B1.
5. Minimum concrete strength of any precast section prior to lifting shall be 25MPa.
6. Maximum allowable traffic surcharge shall be 20kPa.
7. Maximum allowable depth of fill above culvert shall be 200mm (assuming 20kN/m³ material).
8. All lifting shall be the responsibility of the contractor. Lifting arrangement and weights are guidance only.
9. Minimum allowable bearing capacity under the culvert shall be 150kPa.
10. Centreline of custom culvert and headwall shall match existing culvert centreline.
11. Any precast sections shall be stored and transported on timber bearers and shall not be subject to excessive stress and/ or twisting. Precast units shall not be stacked. Damage due to mishandling shall be repaired at the contractor's expense.
12. Culverts/ headwalls shall be backfilled in layers of 150mm, using hand operated mechanical plate compactors only.
13. All works shall be in accordance with TMR specifications followed by Australian standards then industry best practice. The following TMR specifications may be relevant to this project:
    - MRTS01 Introduction to Technical Specifications
    - MRTS03 Drainage, Retaining Structures and Protective Treatments
    - MRTS04 General Earthworks
    - MRTS24 Manufacture of Precast Concrete Culverts
    - MRTS70 Concrete
    - MRTS71 Reinforcing Steel
    - MRTS71A Stainless Steel Reinforcing
    - MRTS72 Manufacture of Precast Concrete Elements
    - MRTS88 Protective Coating for New Work
14. Refer TMR website for other specifications and requirements. (https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Specifications).
15. Construction practices shall avoid damage to existing water main. Any damage to be repaired by the contractor at their expense.



APPROXIMATE CULVERT WEIGHT 3 TONNES

MINIMUM ALLOWABLE BEARING CAPACITY 150kPa

SECTION A (Scale A)



SECTION B (Scale A)

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_MR\CAD\DWG\12_DD\30031795-V12-DD-2007.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
A 0 100 200 300 400mm

Dimensions shown in meters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.888	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: H. Baek
Designed: J. Churchward

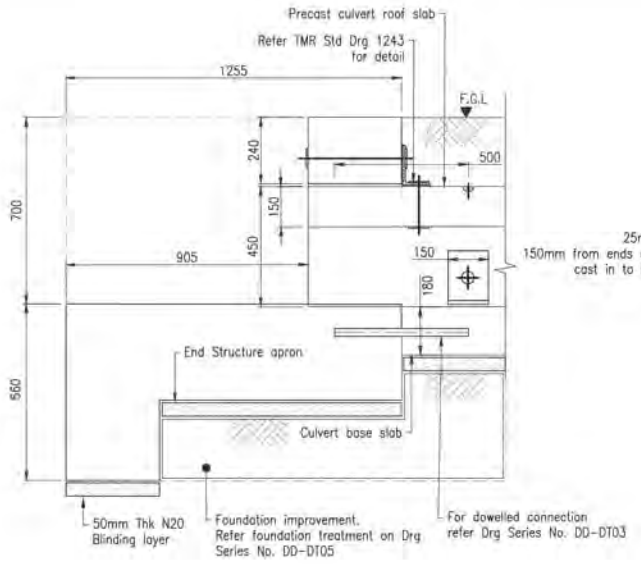
DRAINAGE
CULVERT 02 INLET STRUCTURE
DETAILS SHEET 1 OF 3

ENGINEERING CERTIFICATION (RPEQ)

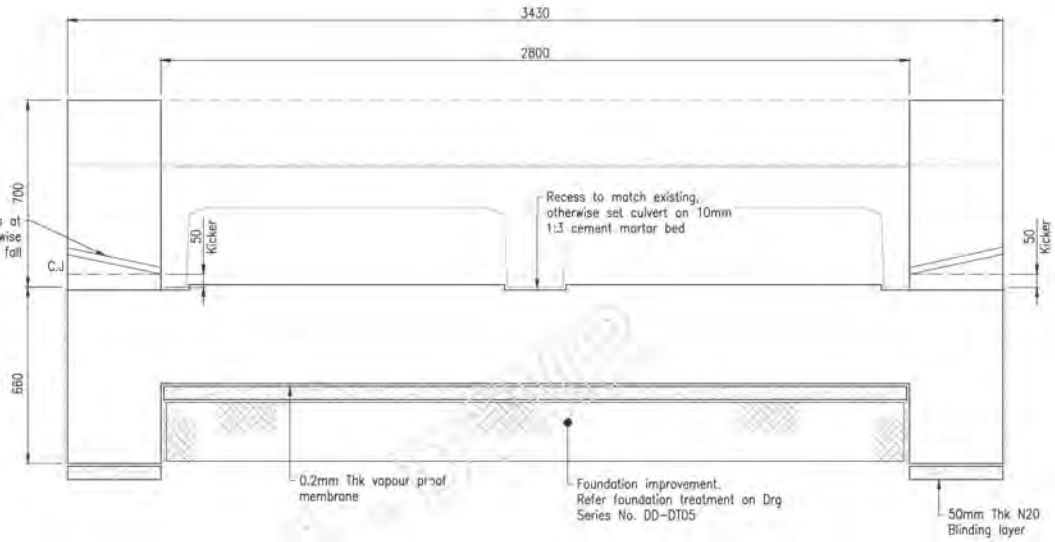
	NAME	SIGNATURE	No.	DATE
ENG. AREA CIVIL	PI	ORIGINAL SIGNED	14093	07/08/2020
STRUCTURE		ORIGINAL SIGNED	13735	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857924 | A
Series Number	DD-ST01 of 3



SECTION E
Scale A
ST01



SECTION F
Scale A
ST01

A	Issued For Construction										
	Revisions/Descriptions	Name or RPEQ No.	Signature	Date							

CAD FILES: V:_Vault\Projects\30031795\CADD_WAR\CAD\DWG\12_DD\30031795-V12-DD-2002.dwg

Last Modified: Aug 07, 2020 - 4:18pm

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
A 0 100 200 300 400mm
Dimensions shown in meters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.888	1.666	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: H. Baek
Designed: J. Churchward

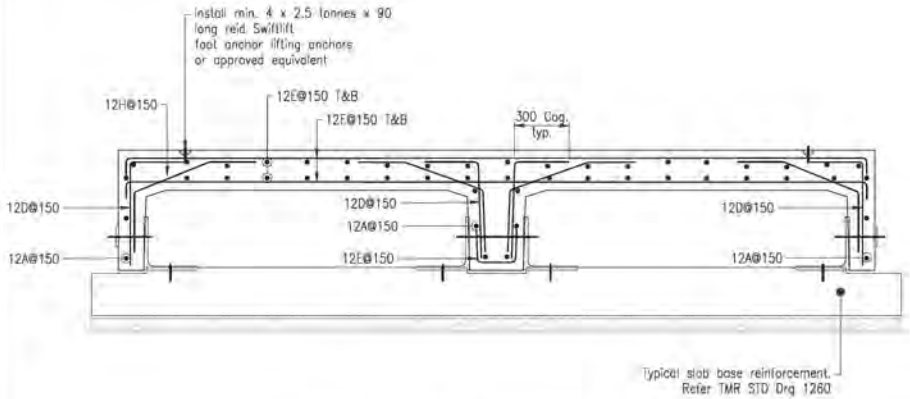
DRAINAGE
CULVERT 02 INLET STRUCTURE
DETAILS SHEET 2 OF 3

ENGINEERING CERTIFICATION (RPEQ)

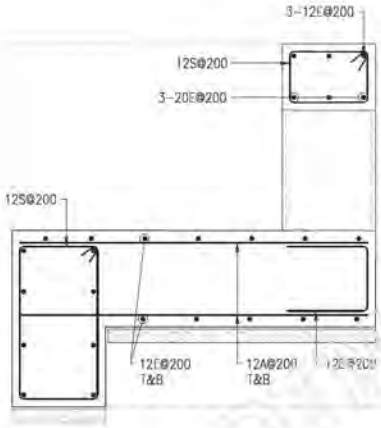
	NAME	SIGNATURE	No.	DATE
ENG. AREA CIVIL	PI	ORIGINAL SIGNED	14093	07/08/2020
STRUCTURE		ORIGINAL SIGNED	13738	07/08/2020

Queensland Government

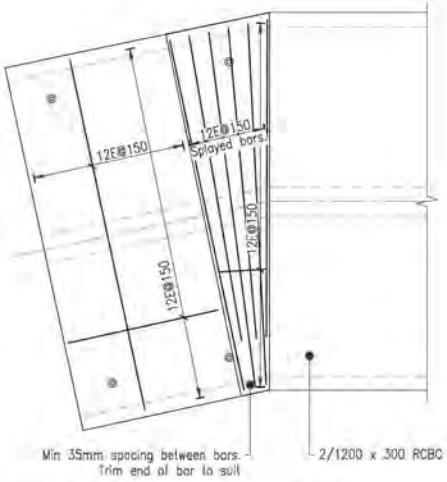
Job No.	489244
Contract No.	CN-14898
Drawing No.	857925 A
Series Number	DD-S102 of 3



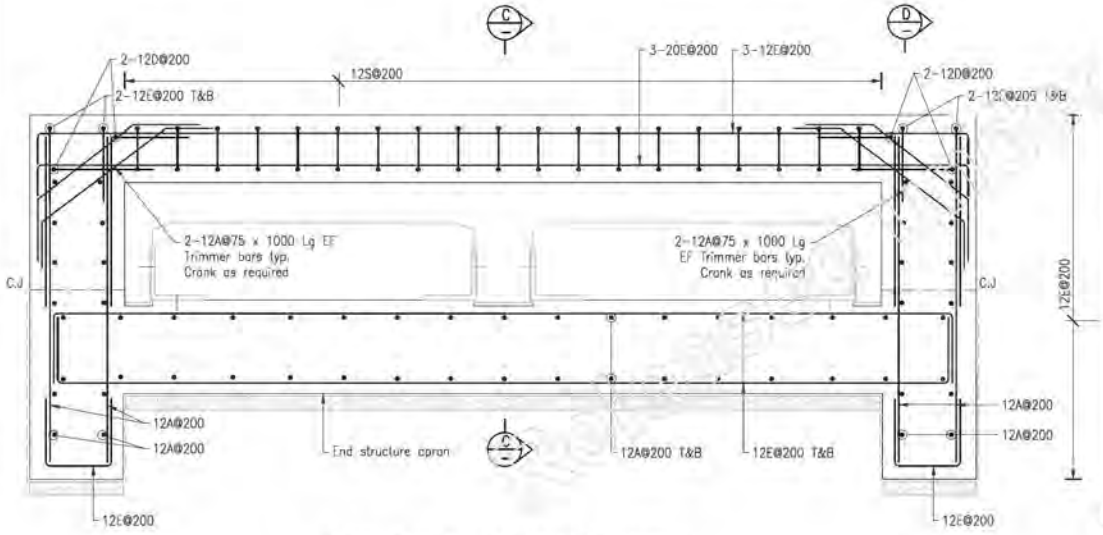
TYPICAL CULVERT REINFORCEMENT SECTION
Scale A



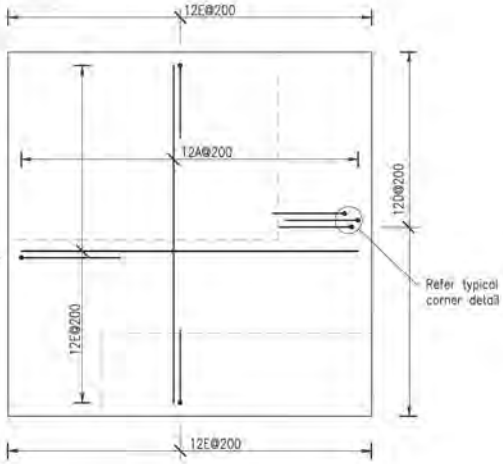
SECTION C
Scale A

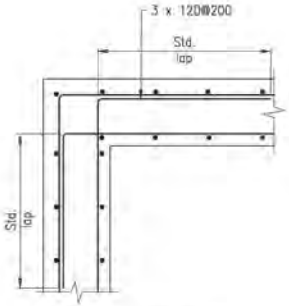


RCBC CULVERT ROOF REINFORCEMENT PLAN
Scale B



TYPICAL HEADWALL REINFORCEMENT SECTION
Scale A





TYPICAL CORNER DETAIL
Scale A

SECTION D
Scale A

A	Issued For Construction				
Revisions/Descriptions		Name or RPEQ No.	Signature	Date	

CAD FILES: V:_Jaust\Projects\3\N031295\CADD\MAR\DAD\DWG\13_DDI\301031295-V13-DDI-2003.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
A 0 100 200 300 400mm
B 0 200 400 600 800mm
Dimensions shown in meters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.000	2.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: H. Baek
Designed: J. Churchward

DRAINAGE
CULVERT 02 INLET STRUCTURE
DETAILS SHEET 3 OF 3

ENGINEERING CERTIFICATION (RPEQ)

	NAME	SIGNATURE	No.	DATE
CIVIL	P)	ORIGINAL SIGNED	14093	07/08/2020
STRUCTURES		ORIGINAL SIGNED	13738	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857926 | A
Series Number	DD-S103 of 3

GENERAL NOTES

1. For pavement composition and locations refer to this drawing and Drg Series No. PD-01 to PD-03.
2. For concrete median infill refer GA series
3. For Footpaths refer GA series
4. For new driveway accesses refer GA series

EXISTING PAVEMENT

1. The existing pavement, before and after milling, is to be inspected with the Administrator prior to placement of any resurfacing and the extent and depth of any pavement repairs instructed.
2. The Contractor, in conjunction with the Administrator, shall complete a defects mapping before undertaking resurfacing or repair works.
3. Works are to be undertaken at times to minimise the influence of rain and/or seasonal ground water. All existing pavements shall be dry prior to resurfacing.
4. Existing retroreflective raised pavement markers (RRPM's) shall be removed by mechanical means prior to any resurfacing.
5. Existing linemarking shall be reinstated after any resurfacing.
6. After milling of asphalt the remaining asphalt thickness should not be less than 40mm to eliminate the occurrence of lenses that may lead to delamination. Test cores shall be taken at 20 m minimum intervals to confirm thickness.

SUBGRADE

1. The subgrade is to be inspected and tested prior to placement of any pavement layers in accordance with MRTS04.
2. Even though sufficient testing has been completed during the design phases, the Administrator may direct additional testing of the subgrade following the inspection and prior to placement of any subgrade treatment or special embankment material.
3. Once the subgrade has been inspected and additional subgrade test results are received by the Administrator, any amendments to subgrade treatment or special embankment material type and/or thickness will be confirmed by the Administrator.
4. Subgrade treatment types shall be as specified in Annexure MRTS04.1 and "Subgrade Treatment" notes below.

SUBGRADE TREATMENT

1. Subgrade treatment is required under all new Type A pavements and is to be either one of the following presented in Table 1.

Table 1: Subgrade Treatment Under New Pavement Type A Summary Table

Control Line	Chainage (m)	Thickness (mm)	Treatment
MC01	10,608 to 11,143	500	Rock fill (MRTS04 Clause 14.3.3.12 Subgrade Treatment Type J) layer wrapped in geotextile underlain by a Subgrade Reinforcement Geosynthetic Type 2, as specified in MRTS58.
	11,143 to 11,225	200 (Lightly Bound) & 300 (Unbound)	Lightly bound Type 2.3 underlain by Unbound Type 2.4 layer wrapped in Geotextile (MRTS04 Subgrade Treatments Type K) underlain by a Subgrade Reinforcement Geosynthetic Type 2, as specified in MRTS58.
MC02	10,610 to 11,200	500	Rock fill (MRTS04 Clause 14.3.3.12 Subgrade Treatment Type J) layer wrapped in geotextile underlain by a Subgrade Reinforcement Geosynthetic Type 2, as specified in MRTS58.

2. The rock fill layer shall comply with the grading and strength requirements specified in MRTS04 Clause 14.2.3 (Table 14.2.3) and shall have a maximum aggregate size of 150mm.
3. The subgrade treatments under the existing pavements of Waterford Tamborine Road are likely to be Subgrade Treatment Type I, Subgrade Treatment Type J or a combination of both and shall be confirmed on-site.

SPRAYED SEALS

1. Binder spray rates and aggregate spread rates nominated are indicative only and the Contractor shall undertake designs to suit site conditions at the time of placement and submit details in writing to the Administrator for approval prior to commencement of spray seal works. Refer MRTS11 and MRTS22 as well as TMR Technical Notes 175 and 186.

BITUMEN IMPREGNATED GEOTEXTILE STRIPS

1. Where required and as shown in the typical details, bitumen impregnated geotextile strips shall consist of a composite membrane on nonwoven geotextile and self-adhesive rubberised bitumen.
2. Placement of bitumen impregnated geotextile strips and primer where required shall be as per manufacturers specifications.

SELECT FILL

1. Pavement Types D1 and D2 will require a select fill layer under the improved layer if the subgrade effective CBR is <7% and ≥3%. The minimum thickness of the select fill layer shall be 170 mm. Subgrade effective CBR < 3% will require subgrade treatment as directed by the Administrator. It is noted that where subgrade treatement is required, the presence of existing PUP may constitute a constraint.
2. Select Fill material properties are specified in Table 2 below.

Table 2: Select Fill Material Properties

PROPERTIES	MATERIAL REQUIREMENT
Laboratory CBR (%) tested in accordance with Q113C (97.0% MDD, OMC, standard compactive effort and soaked for a period of ten days)	≥10
Laboratory Swell (%) tested in accordance with Q113C (97.0% MDD, OMC, standard compactive effort and soaked for a period of ten days)	≤1.5
Plasticity Index (PI)	>4
Weighted Plasticity Index (WPI)	<1200
Maximum aggregate size (mm)	37.5
Passing 0.075 mm (%)	4-30

SUBSOIL AND PAVEMENT DRAINS

1. Subsoil drains have been specified in discrete areas (wavy setout), locations and extents of subsoil drains shall be confirmed on site following confirmation of actual subgrade conditions and adjoining existing pavement compositions and it is to the Administrator's discretion whether additional drains are required if unexpected sources of moisture are encountered during construction.
2. For details of subsoil drain system outlets and flushing points refer to TMR STD drawing 1116.
3. Subsoil drains are to be graded at 1% minimum (desirable) and at 0.5% (absolute minimum).
4. The subsoil drain filter media shall not be sealed over at the top of the improved layer, but left in intimate contact with the lowest base layer.
5. Where subsoil drains are to outlet to an access chamber or gully pit, the joint between the concrete surface and pipe shall be fully sealed and made watertight with an approved joint sealing compound such as bituminous putty.
6. Subsoil drains shall be Subsoil Drain Type B with no fines concrete filter media wrapped in geotextile and complying with all requirements of MRTS03.
7. In sections where no subsurface drains can be provided (outlets cannot be provided), water collected within the rock fill layer (subgrade treatment Type J) shall be discharged into subsurface trenches (refer to Detail F in the GD Series).
8. All subsoil drainage outletting into gully pits are to have the ends fitted with solid pest flaps.

FOAMED BITUMEN STABILISED CRUSHED ROCK LAYERS

1. Foamed bitumen stabilised crushed rock layers shall be constructed by following the requirements of either MRTS09 (plant mix) or MRTS07C (in-situ mix). Pavement Type A configuration shown in Drawing No. PD-NL02 include two foamed bitumen stabilised layers as per MRTS09 requirements. If the foamed bitumen stabilised granular pavement is constructed in-situ it can be constructed in a single 280 mm thick layer.
2. The thickness of the foamed bitumen stabilised crushed rock layers shall be as indicated in the pavement typical details on Drg. No. PD-NL02 for Pavement Type A.
3. For in-situ mixed Foamed Bitumen Stabilised Crushed Rock (FBSCR) layers constructed in accordance with MRTS07C requirements, the improved layer shall be constructed and compacted 50 mm thicker to ensure that no lenses of unbound material are built in between the improved layer and the FBSCR layer during the in-situ mixing of the FBSCR layer. The sacrificial 50 mm extra thickness of the improved layer will be mixed together with the Type UM2 crushed rock as well as the primary and secondary stabilising agents of the FBSCR layer. Even if the foamed bitumen stabilised granular pavements is to be constructed in-situ as per MRTS07C requirements, the unbound granular material shall comply with the MRTS09 requirements for Type UM2.
4. If the FBSCR (plant mix) base layer type is provided, then the maximum allowable period elapsing between the construction of lower and upper FBSCR layers specified in Annexure MRTS09.1 shall be adhered to.

ASPHALT COURSES

1. All asphalt works shall conform to the requirements of MRTS30.

LIGHTLY BOUND IMPROVED LAYERS

1. All lightly bound improved layers to conform with the requirements of MRTS10.

PAVEMENT REPAIRS PRIOR TO "MILL & RESURFACE" & "MILL, LEVEL CORRECTION & RESURFACE" WORKS

1. Prior to placing the new asphalt layer/s, the following is required:
   a. The existing asphalt surfacing shall be visually assessed prior to milling to identify distressed pavement areas. The location of these areas will be recorded for repairs to be undertaken after the existing surfacing has been milled off.
   b. The existing pavement surfacing be milled off to the minimum milling depth specified on the typical pavement details drawing (Drg. No. PD-NL02) or as otherwise directed by the Administrator to ensure all lenses of asphalt material or all unsound materils are removed;
   c. The exposed milled surface condition be visually assessed;
   d. Distressed pavement areas marked out;
   e. Repairs undertaken;
   f. Where required prime applied over exposed unbound / cement stabilised granular layer surfaces or bitumen emulsion tack coat applied over exposed bituminous surfaces.

ASPHALT REINFORCEMENT GEOSYNTHETIC

1. An asphalt geosynthetic reinforcement layer shall be applied over the armourcoat seal in accordance with the requirements of MRTS104 and the supplementary specification.
2. The asphalt reinforcement geosynthetic shall be applied over a armourcoat seal fully bonded to the underlying foamed bitumen stabilised granular layer, to completely eliminate the risk of future horizontal movement at the interface between the armourcoat seal / geosynthetic and foamed bitumen stabilised crushed rock layer.

GEOGRID / GEOTEXTILE COMBINATION

1. Geogrid shall comply with the requirements of MRTS58 for a Type Z Geogrid and with the following additional requirements:
   - Tensile Strength at 2% Elongation, md / cmd, EN ISO 10319 ≥ 20 kN/m.
   - Tensile Strength at 5% Elongation, md / cmd, EN ISO 10319 ≥ 45 kN/m.
2. Geotextile shall comply with the requirements of MRTS27 Filtration Class VI Strength Class D requirements.

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Jaxel\Projects\30031295\CADD\MAR\DAD\DWG\13_PDS\30031295-V13-PD-0012.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	1.000	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: P.B

PAVEMENT AND LANDSCAPING NOTES AND LEGEND SHEET 1 OF 2

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	SIGNATURE:	No.	DATE
CIVIL PI	ORIGINAL SIGNED	14080	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857927 | A
Series Number	PD-NL01 of 2

LEGEND

Pavement Types

- Pavement Type A (New Pavement, Asphalt over Foamed Bitumen Stabilised Crushed Rock Base)
- Pavement Type B (Mill, Level Correction and Resurface)
- Pavement Type C (Mill and Resurface)
- Pavement Type D1 (Full Depth Asphalt) (Wharf Street)
- Pavement Type D2 (Full Depth Asphalt) (Logan Street)
- TYPE A — Pavement Type
- Saw Cut Pavement

Landscaping

- Topsoil and Turf (Refer to MRTS16 and TMR Std Drg 1650)

Subsoil Drainage

- Subsoil Drain Type B (No fines concrete filler media wrapped in Geotextile) (Refer to MRTS03)
- FP — Flush/Cleanout Point – Refer TMR Std Drg 1116 for details
- Subsoil Drain Outlet to Batter – Refer TMR Std Drg 1116 for details
- GP — Subsoil Drain Outlet to Gully Pit
- Subgrade Treatment Type J Subsurface Trench (Refer to Detail F in the GD Series)

Design Features

- Control line
- 3500 — Chainage (control)
- Kerb and channel
- Kerb
- Channel
- Fence
- Batter batter cut/fill slope
- Median/Island Concrete Infill
- Stormwater culvert
- (D) (D) (D) — Stormwater pipe – longitudinal
- Channel
- Stormwater gully
- Headwall, wings and apron
- Headwall and Apron (no wingwalls)
- Scour protection (rock protection)

Cadastral Boundaries

- Parish boundary
- Easment boundary

Existing Features

- Kerb
- Kerb and channel
- Pavement edge
- Road crown
- Batter
- Guardrail
- Fence
- Wire fence

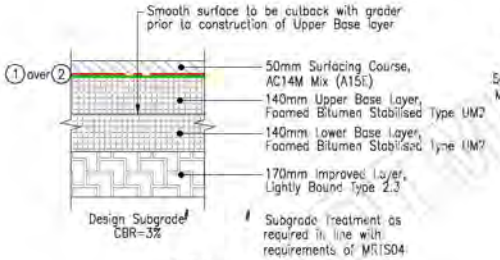
Existing Drainage

- Existing Culvert
- Existing stormwater pipe
- Existing drain
- MH SW — Existing stormwater access chamber
- Existing headwall, wings and apron
- Existing Stormwater access chamber
- Existing Stormwater Pit/Gully
- Existing Stormwater gully

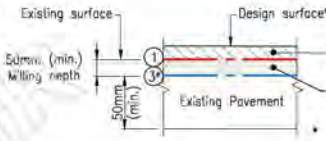
BITUMINOUS TREATMENT LEGEND

1. Waterproofing Seal – Size 10mm PMB Seal (S25E) (140m²/m³ & 1.5L/m²)
2. Armourcoat Seal – Size 7mm Class 170 Seal (C170) (230m²/m³ & 0.8L/m²)
3. Prime & Spray Seal – AMC00 prime @ 0.9L/m² and size 10mm Class 170 Seal (140m²/m³ & 1.1L/m²)
4. Approved Proprietary Bitumen Emulsion Prime* and size 10mm Class 170 Seal (140m²/m³ & 1.1L/m²)

*Spray rate and suitability to be confirmed on small trial section on-site



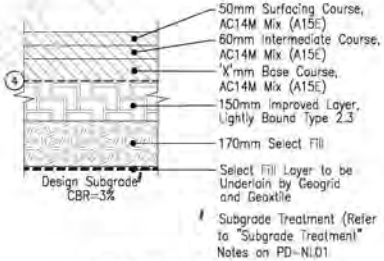
TYPE A
NEW PAVEMENT – ASPHALT SURFACED FOAMED BITUMEN STABILISED CRUSHED ROCK (TMR TYPE A/B(B))



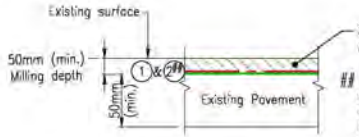
TYPE B
MILL, LEVEL CORRECTION & RESURFACE

* Prime & Sprayed Seal shall be applied if exposed surface is non-bituminous. Alternatively, a bituminous milled surface shall be sprayed with a bitumen emulsion tack coat prior to placement of the asphalt corrector course.

** The existing surface and design surface levels are the same where Pavement Type B interfaces with Pavement Type C. At this location, corrector coarse will not be required unless the milled surface requires repairing or level correction (irregular surface).



TYPE D1 & D2
NEW PAVEMENT – FULL DEPTH ASPHALT

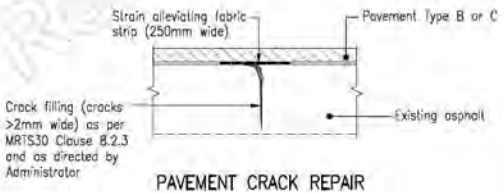


TYPE C
MILL & RESURFACE

PAVEMENT TYPE D1 & D2 LAYER THICKNESS

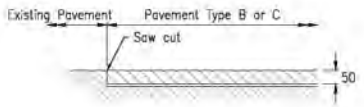
Pavement Type	Location	Design Traffic (ESA)	Layer 'X' Thickness (mm)	Total Asphalt Thickness (mm)
D1	Wharf Street	2.29×10^5	30	160
D2	Logan Street	5.15×10^5	70	180

PAVEMENT CRACK REPAIR

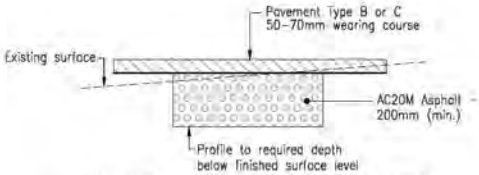


PAVEMENT JOINT

PAVEMENT TYPE B OR C AND EXISTING PAVEMENT TIE-INS



ASPHALT PAVEMENT REPAIRS AS DIRECTED



Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\118_PD\30031795-V13-PD-0012.dwg

Last Modified – Aug 07, 2020 – 4:19pm

Associated Job Nos: Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number D1-01

Survey Data

Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.486	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: P.B

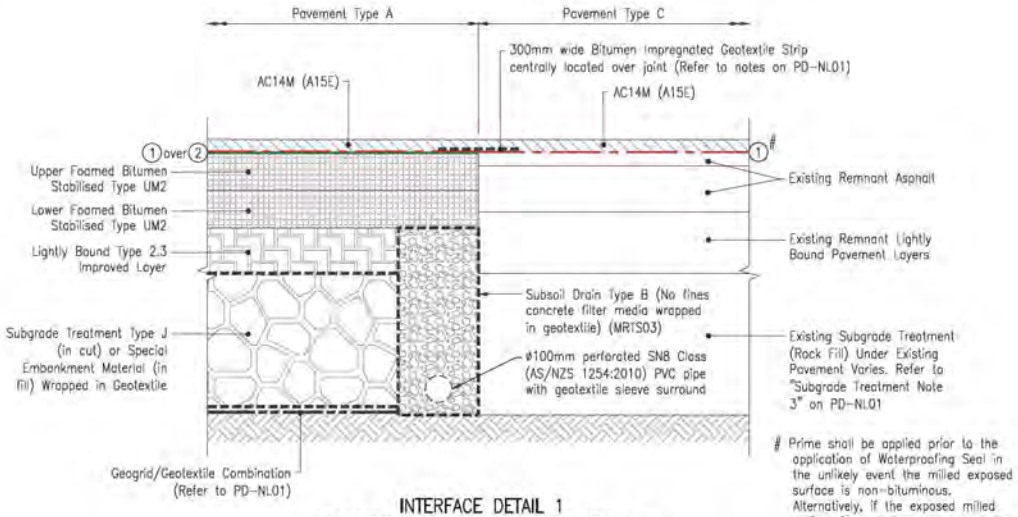
PAVEMENT AND LANDSCAPING NOTES AND LEGEND SHEET 2 OF 2

ENGINEERING CERTIFICATION (RPEQ)

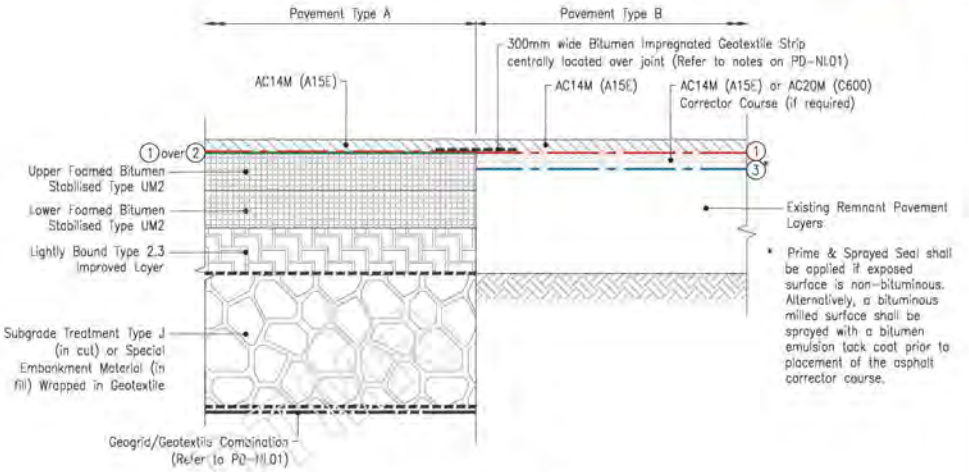
ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	14080	07/08/2020

Queensland Government

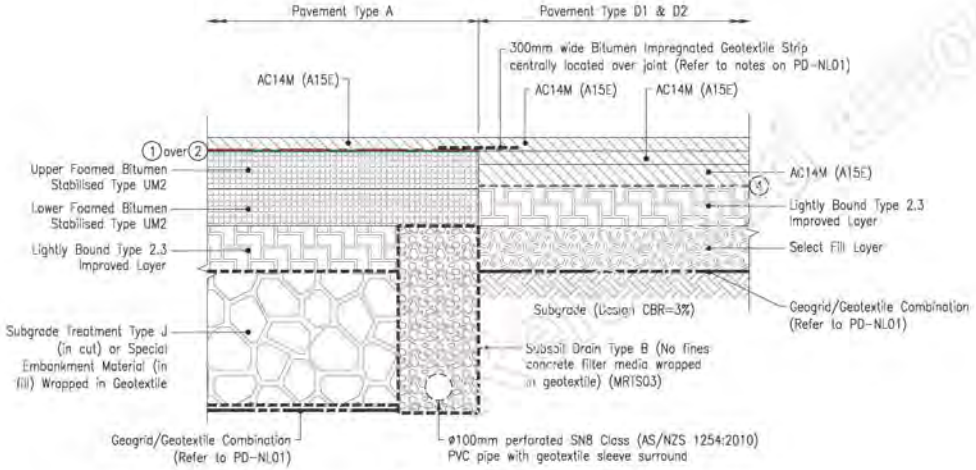
Job No.	489244
Contract No.	CN-14898
Drawing No.	857928 | A
Series Number	PD-NL02 of 2



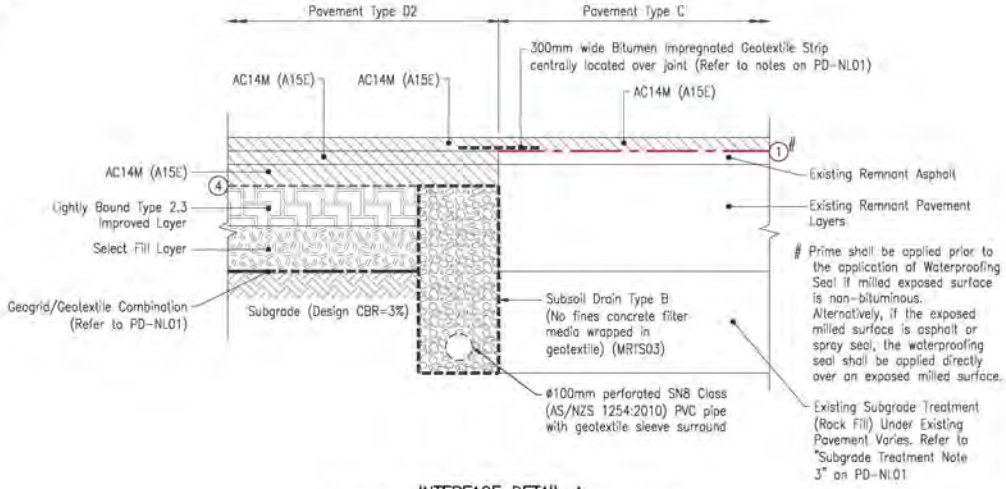
INTERFACE DETAIL 1
PAVEMENT TYPE A TO PAVEMENT TYPE C
(LONGITUDINAL & TRANSVERSE INTERFACE)



INTERFACE DETAIL 3
PAVEMENT TYPE A TO PAVEMENT TYPE B
(LONGITUDINAL & TRANSVERSE INTERFACE)



INTERFACE DETAIL 2
PAVEMENT TYPE A TO PAVEMENT TYPE D1 & D2
(LONGITUDINAL & TRANSVERSE INTERFACE)

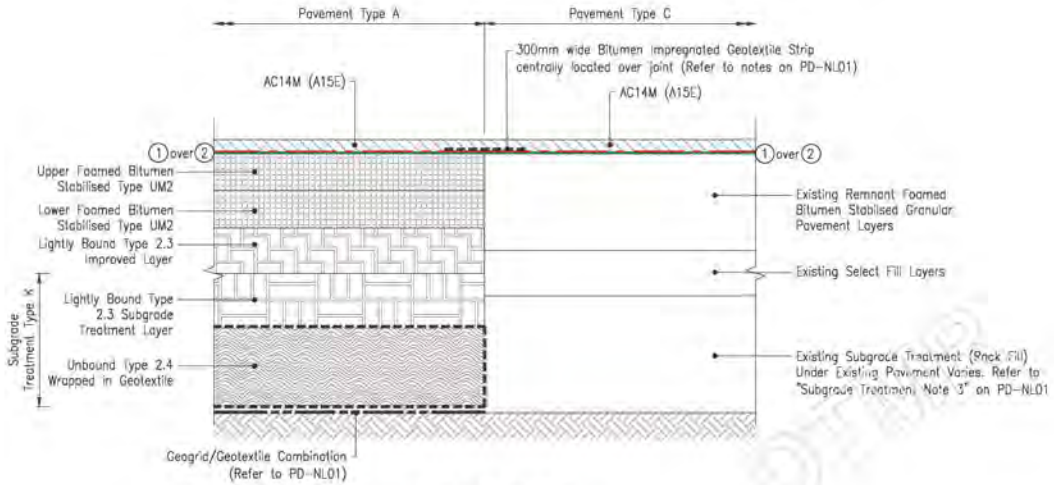


INTERFACE DETAIL 4
PAVEMENT TYPE D2 TO PAVEMENT TYPE C
(TRANSVERSE INTERFACE)

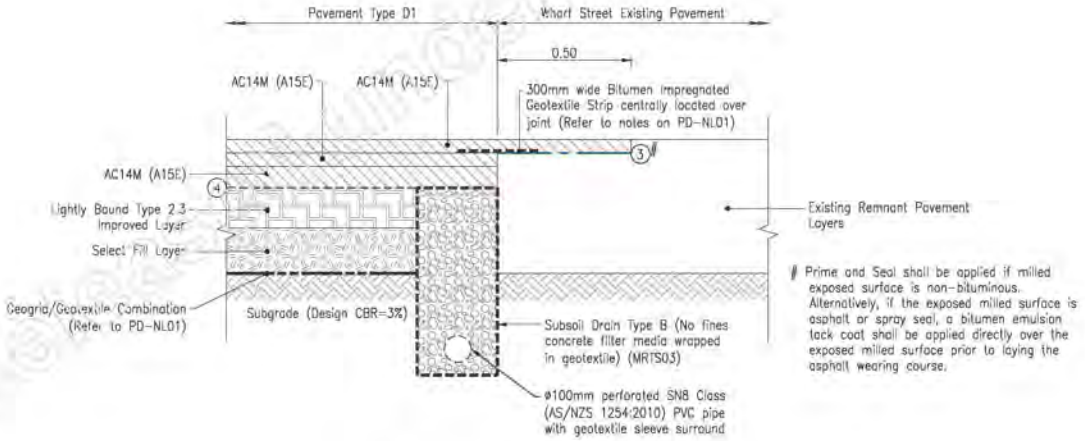
A	Issued For Construction				Associated Job Nos	Survey Data		Scales	LOGAN CITY COUNCIL	PAVEMENT AND LANDSCAPING INTERFACE DETAILS SHEET 1 OF 3	Queensland Government
	Revisions/Descriptions	Name or RPEQ No.	Signature	Date		Horiz. Datum	MGA94		WATERFORD – TAMBORINE ROAD (207)		Job No. 489244
					Auxiliary Drg Nos Refer Drawing Index Drg. Series Number 01-01	Horiz. Grid	Zone 56		CTL CHGE 10747.610 – 11306.000		Contract No. CN-14898
						Height Datum	AHD Derived		Reference Points	Drawn P.W	Drawing No. 857929 A
						Survey Books	MR101140	Dimensions shown in metres except where shown otherwise	Preceding RP / Dist. to start of job (km) / From start to end of job / From end to Following RP / Following RP: 4 / 3.558 / 3.554 / 5A	Designed P.W	Series Number PD-DT01 of 3
									Through Chainage from Start of Gazettal 10.748km – 11.306km		

ENGINEERING CERTIFICATION (RPEQ): ENG. AREA CIVIL | NAME P.I | SIGNATURE: ORIGINAL SIGNED | No. 14080 | DATE 07/08/2020

CAD FILES: V:_Vault\Projects\30031795\CADD\MR\CAD\DWG\13_PDT\30031795-V13-PD-DT01.dwg



INTERFACE DETAIL 5
PAVEMENT TYPE A TO PAVEMENT TYPE C
MC01 CH 11143 – 11225
(LONGITUDINAL & TRANSVERSE INTERFACE)



INTERFACE DETAIL 6
PAVEMENT TYPE D1 TO EXISTING PAVEMENT
WHARF STREET
(TRANSVERSE INTERFACE)

A	Issued For Construction						
Revisions/Descriptions		Name or RPEQ No.	Signature	Date			

CAD FILES: V:_Vault\Projects\30031795\CADD_WAR\CAD\DWG\13_PDT\30031795-V13-PD-DT02.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number D1-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.000	2.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

PAVEMENT AND LANDSCAPING
INTERFACE DETAILS
SHEET 2 OF 3

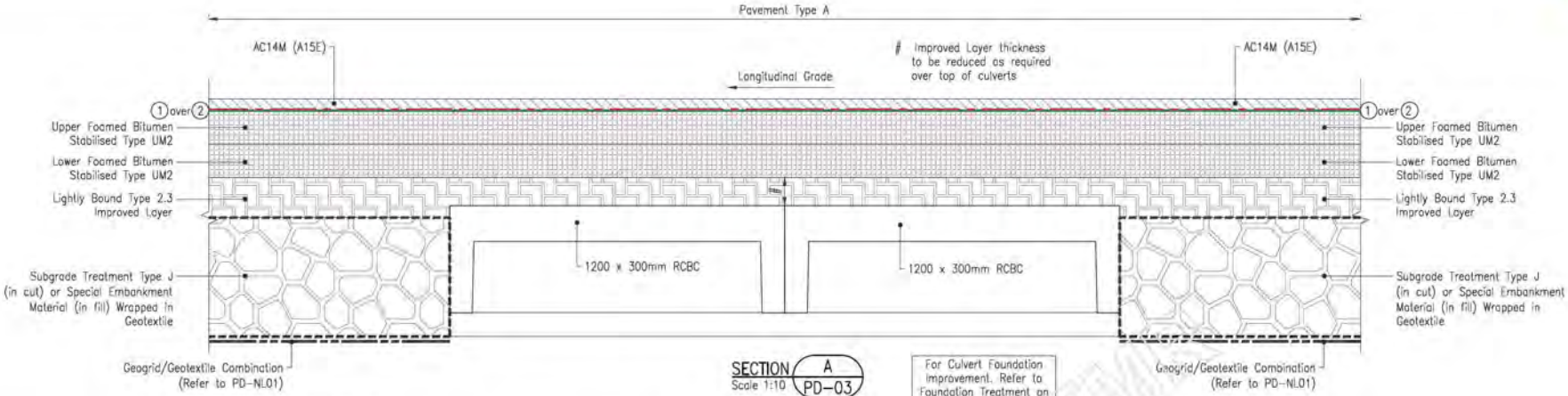
Drawn: P.W
Designed: P.B

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	P.I	ORIGINAL SIGNED	14080	07/08/2020

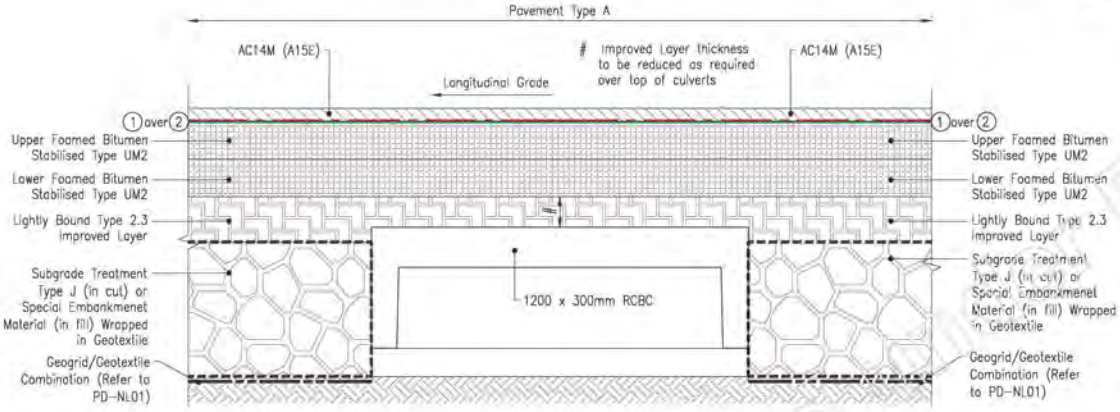
Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857930 | A
Series Number	PD-DT02 of 3



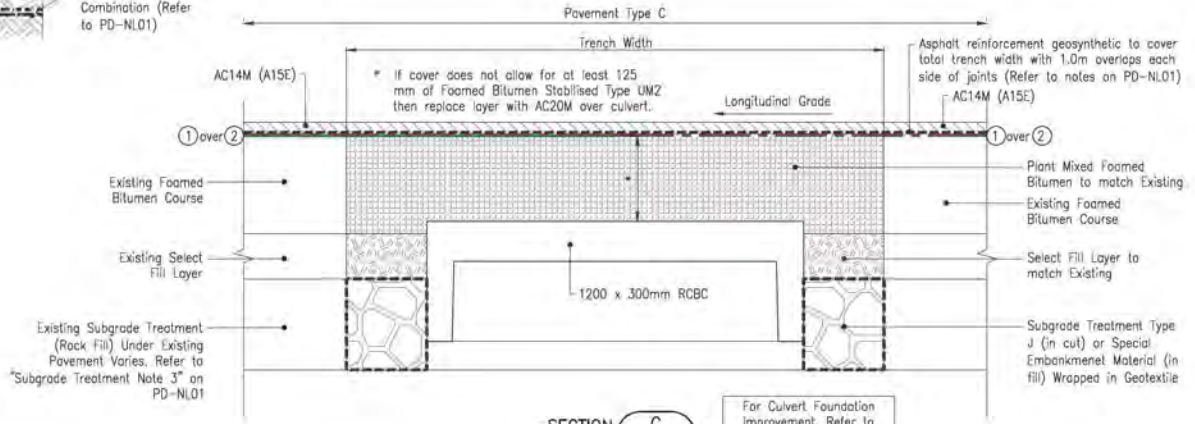
SECTION A
Scale 1:10
PD-03

For Culvert Foundation Improvement, Refer to Foundation Treatment on Drg. Series DD-DT05.



SECTION B
Scale 1:10
PD-03

For Culvert Foundation Improvement, Refer to Foundation Treatment on Drg. Series DD-DT05.



SECTION C
Scale 1:10
PD-03

For Culvert Foundation Improvement, Refer to Foundation Treatment on Drg. Series DD-DT05.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_MAR\CAD\DWG\13_PDT\30031795-V13-PD-0103.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.668	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: P.B

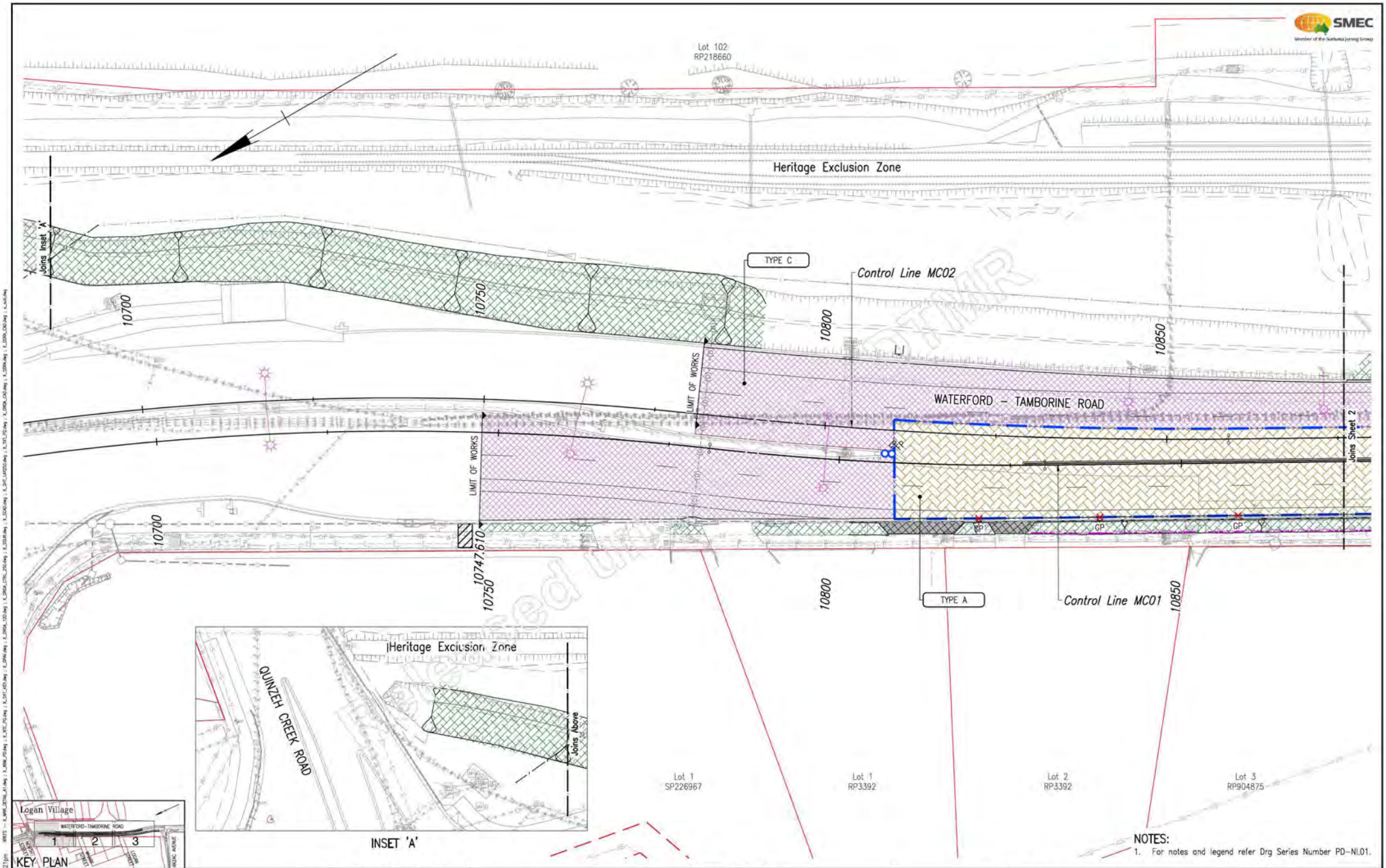
PAVEMENT AND LANDSCAPING INTERFACE DETAILS SHEET 3 OF 3

ENGINEERING CERTIFICATION (RPEQ)					
ENG. AREA	NAME	SIGNATURE:	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	14080	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857931 | A
Series Number	PD-DT03 of 3

Last Modified: Aug 07, 2020 - 9:21pm



NOTES:
1. For notes and legend refer Drg Series Number PD–NL01.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\13_PD\30031795-V13-PD-1001.dwg

Last Modified – Aug 07, 2020 – 4:21pm

Associated Job Nos	Survey Data	
	Horiz. Datum	MGA94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number D1–01	Height Datum	AHD Derived
	Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	9.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

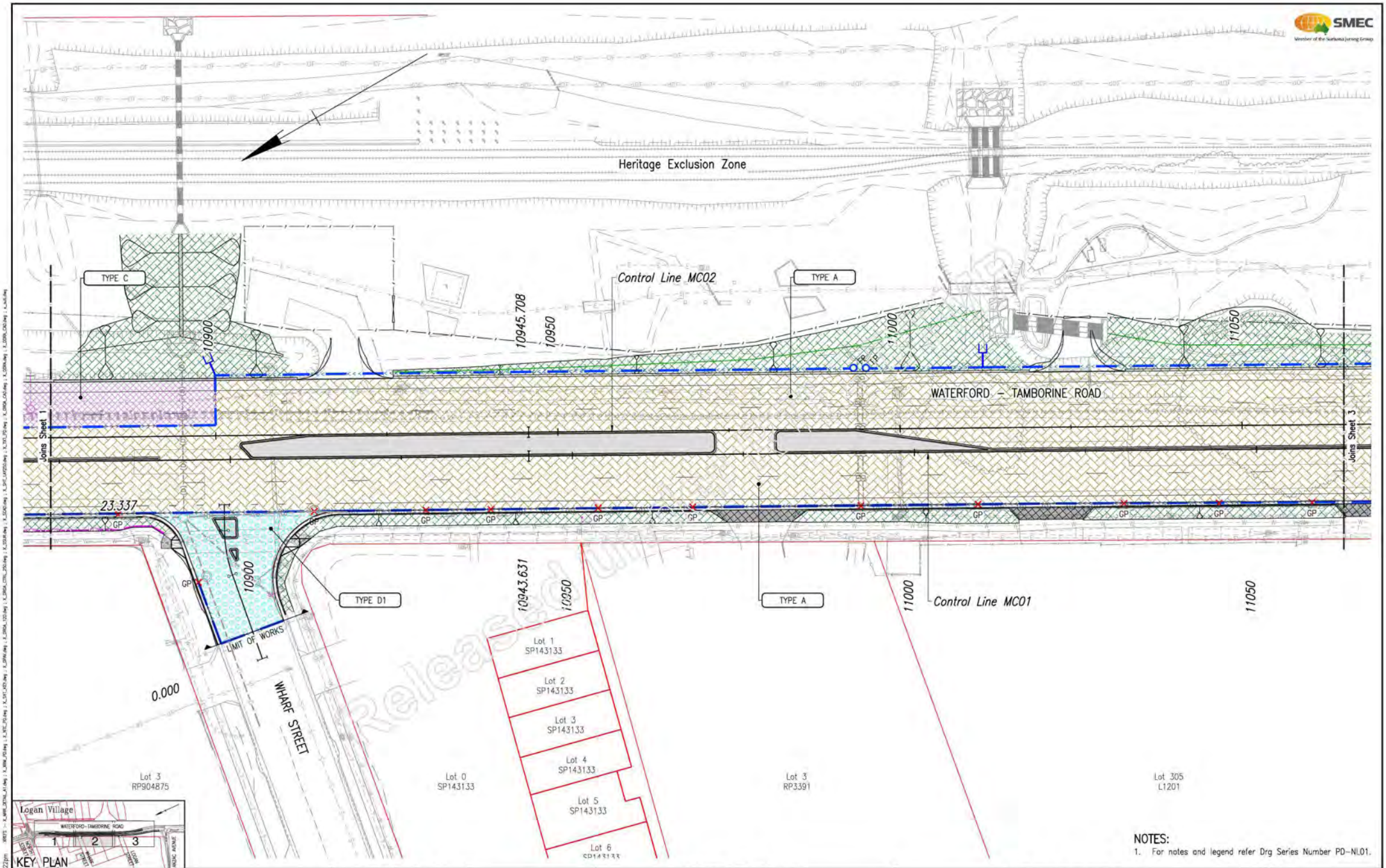
Drawn P.W
Designed P.B

PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 1 OF 3

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	14080	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857932 | A
Series Number	PD–01 of 3



NOTES:
1. For notes and legend refer Drg Series Number PD-NL01.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\13_PD\30031795-V13-PD-1002.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number D1-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	2.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn P.W
Designed P.B

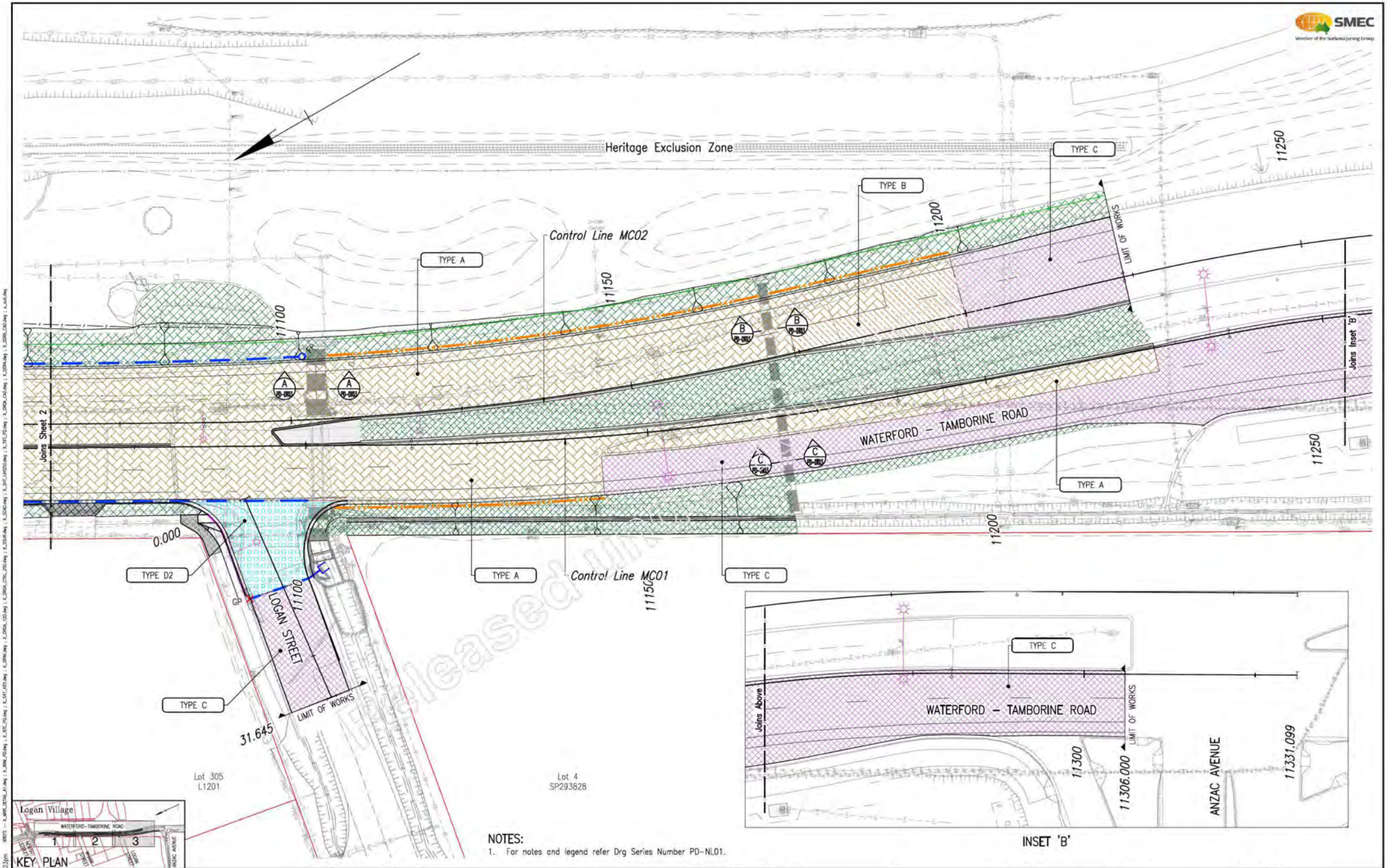
PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 2 OF 3

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	SIGNATURE:	No.	DATE	
CIVIL PI	ORIGINAL SIGNED	14080	07/08/2020	

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857933 A
Series Number	PD-02 of 3

Last Modified – Aug 07, 2020 – 4:22pm



NOTES:
1. For notes and legend refer Drg Series Number PD-NL01.

A	Issued For Construction					
	Revisions/Descriptions	Name or RPEQ No.	Signature	Date		

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\13_PD\30031795-V13-PD-1063.dwg

Last Modified – Aug 07, 2020 – 4:23pm

Associated Job Nos	Survey Data	
	Horiz. Datum	MGA94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number D1-01	Height Datum	AHD Derived
	Survey Books	MR101140

Scales

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	9.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: P.B

PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 3 OF 3

ENGINEERING CERTIFICATION (RPEQ)

		SIGNATURE:	No.	DATE
ENG. ARE				
CIVIL	PI	ORIGINAL SIGNED	14080	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857934 | A
Series Number	PD–03 of 3

SIGNS AND PAVEMENT MARKINGS NOTES

GENERAL

1. Limits of signage and pavement marking works to be confirmed with the Administrator to ensure a neat tie-in with existing.
2. All signs and pavement markings shall be in accordance with the current Manual of Uniform Traffic Control Devices (MUTCD), Traffic and Road Use Management (TRUM) Manual & TC Signs.

PAVEMENT MARKINGS

3. All line marking, chevron details and raised pavement markers shall be in accordance with TMR's current Manual of Uniform Traffic Control Devices (MUTCD).
4. All noses of splitter islands and medians shall be painted with white reflective paint.
5. 'Yellow' indicates line marking colour to be yellow.
6. Intersection pavement arrows shall be as shown in Figure 5.10 of MUTCD Part 2.
7. Merge pavement arrows shall be as shown in Figure 5.12(a) of MUTCD Part 2 (Urban Type).
8. Raised Pavement Markers shall be installed in accordance with the current MUTCD.
9. New pavement marking shall join smoothly to existing where required.
10. Where new linemarking ties into existing linemarking the setout is to be confirmed by the Administrator prior to commencing work.
11. Coloured surface treatment shall be as per MRTS45 and TMR Supplementary Specification MRSS10B.
12. All pavement marking material shall be paint in accordance with MRTS45 unless otherwise noted. Transverse markings shall be thermoplastic material unless noted otherwise.
13. All existing pavement marking affected by the works that is to remain shall be reinstated, in accordance with the current MUTCD.
14. Redundant pavement markings and RRPM'S not consistent with this design are to be removed to leave a clean, undamaged pavement with a surface texture, reflectivity characteristics and color comparable to the adjacent pavement surface.
15. For pavement marking setout details refer Drg Series No. CL-TA01 and SL-01 to SL-04.
16. For Services refer to Public Utilities and Services Drg Series No. PU-NL01, PU-01 to PU-03, and PU-TA01.

SIGNAGE

17. For sign locations refer Drg Series No. SL-SC01 to SL-SC02.
18. All sign footings within 3m of existing services shall be vacuum excavated.
19. All existing signage within the limits of works including posts and footings are to be removed unless noted otherwise as detailed in the existing signage schedule.
20. Signs located in grassed areas shall have a surrounding 500mm diameter x 100mm thick concrete mowing strip.
21. The bottom of all un-sealed posts shall be flattened prior to placing in concrete footing.
22. Vandal proof bolts and fittings shall be used on all permanent signs.
23. Sleeved sign supports in accordance with TMR Std Drg 1368 are to be provided to all paved areas.
24. All single traffic sign supports having 50mm NB posts (excluding temporary or project signs) shall utilise concrete footings types and not wedge type footings as detailed on TMR Std Drg 1368.
25. All sign footings and breakaway posts shall be as per TMR Std Drgs 1363 and 1368 unless shown otherwise.
26. For sign post spacing refer to TMR Std Drg 1363. Max sign panel overhang 150mm.
27. Stiffeners shall be in accordance with TMR Std Drg 1369.
28. For sign connection strap and erection cleat details refer to TMR Std Drg 1364.
29. Sign mounting heights shall be in accordance with the MUTCD.
30. Directional sign faces shall be confirmed by the Administrator prior to ordering.
31. All existing signage that is to remain and conflicts with the works shall be temporarily re-erected clear of the works and reinstated in its original position once works are complete.
32. For existing signs that are to be relocated to a new location, the contractor is required to measure the sign and use appropriate posts. Post spacing's, stiffeners and footings shall be in accordance with the current Design Guide for Roadside Signs.
33. All signs shall be manufactured assembled and installed in accordance with MRTS 14.
34. Dimensions of sign faces and offset from carriageways shall not be scaled off the drawings.
35. Sign offset from carriageway to be in accordance with current MUTCD.
36. Ensure a minimum 3.0m vertical clearance is maintained from the top of signs to overhead powerlines in accordance with TMR Std Drg No. 1333.
37. If an existing sign is designated as "to remain" in the existing signage schedule and is not present on site, a new sign of the same type and size shall be installed in accordance with the current MUTCD. The Contractor shall identify all instances and request advice from the Administrator.
38. Locations of sign post footings are indicative only. Contractor shall adjust the location to ensure no conflicts with services as approved by the Administrator.

ROAD EDGE GUIDE POSTS

1. Road edge guide posts shall be provided in accordance with MUTCD Part 2 and AS1742.2 and TMR Std Drg 135, refer Drg Series No. SL-01 to SL-04 for indicative locations.

LEGEND

SIGNS

- Existing sign to be removed*
- 0101 — Existing sign*
- 103r — Existing sign to be relocated
- 103R — Location of relocated sign
- N001 — New sign single post #
- N002 — New sign multiple posts #
- Road edge guide post

* Details of existing signs to be retained, relocated, and removed are provided in the Existing Signs Schedules on Drg Series No. SL-SC01.

\# Details of new signs to be installed are provided in the New Signs Schedules on Drg Series No. SL-SC02.

PAVEMENT MARKING LONGITUDINAL LINES

		Width (mm)
1. BARRIER LINES		
(a) Single	(SBL)	100
(b) Both directions	(DBL)	80 80 80
2. Lane lines		3m 9m 3m 9m 3m 9m 3m
(a) Broken	(LL)	100
(b) Continuous	(ULL)	100
3. Edge lines (including transition lines)	(EL)	100
4. Continuity line	(CL)	1m 3m 1m 3m 1m 3m 1m — 200
5. Turn lines (Thermoplastic)	(TL)	600mm stripe and gap — 100
6. Outline lines	(OL)	150
7. No stopping line (yellow)	(NSU)	100
8. Broken Yellow Zone Line	(BYZ)	600mm stripe, 900mm gap — 100

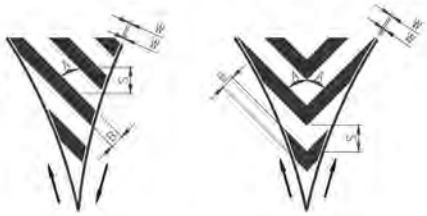
TRANSVERSE LINES (Thermoplastic)

9. Stop lines	(SL)	300
10. Give way lines	(GWL)	600mm stripe and gap — 300
11. Pedestrian line	(CWL)	1m stripe, 300mm gap — 150

- New Bicyle Lane coloured pavement surface. (Refer Pavement Markings Note. 11)
- New pavement arrows
- Bicycle pavement symbol "white" Waterborne Paint. (For road use refer Figure 2.2, Part 9, MUTCD)

DIAGONAL AND CHEVRON MARKING

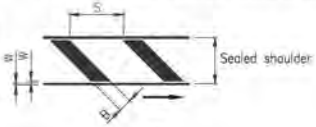
Angle (A)	=	45° See Clause 5.5.1.2
Distance (B)	=	1.0m min
Distance (S)	=	1.5B
Distance (W)	=	150mm



SPLAYED APPROACH TRAFFIC TO LEFT — SPLAYED APPROACH TRAFFIC EITHER SIDE

Figure B2.5A: Splayed Approach (Figure 5.4 MUTCD Part 2)

Distance (B)	=	1.0m min
Distance (S)	=	3B
Distance (W)	=	150mm



SHOULDER

Figure B2.5B: Shoulder (Figure 5.5 MUTCD Part 2)

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Jaxa\Projects\30031295\CADD_MR\CAD\DWG\14_SL\30031295-V14-SL-0011.dwg

Associated Job Nos

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: L.S

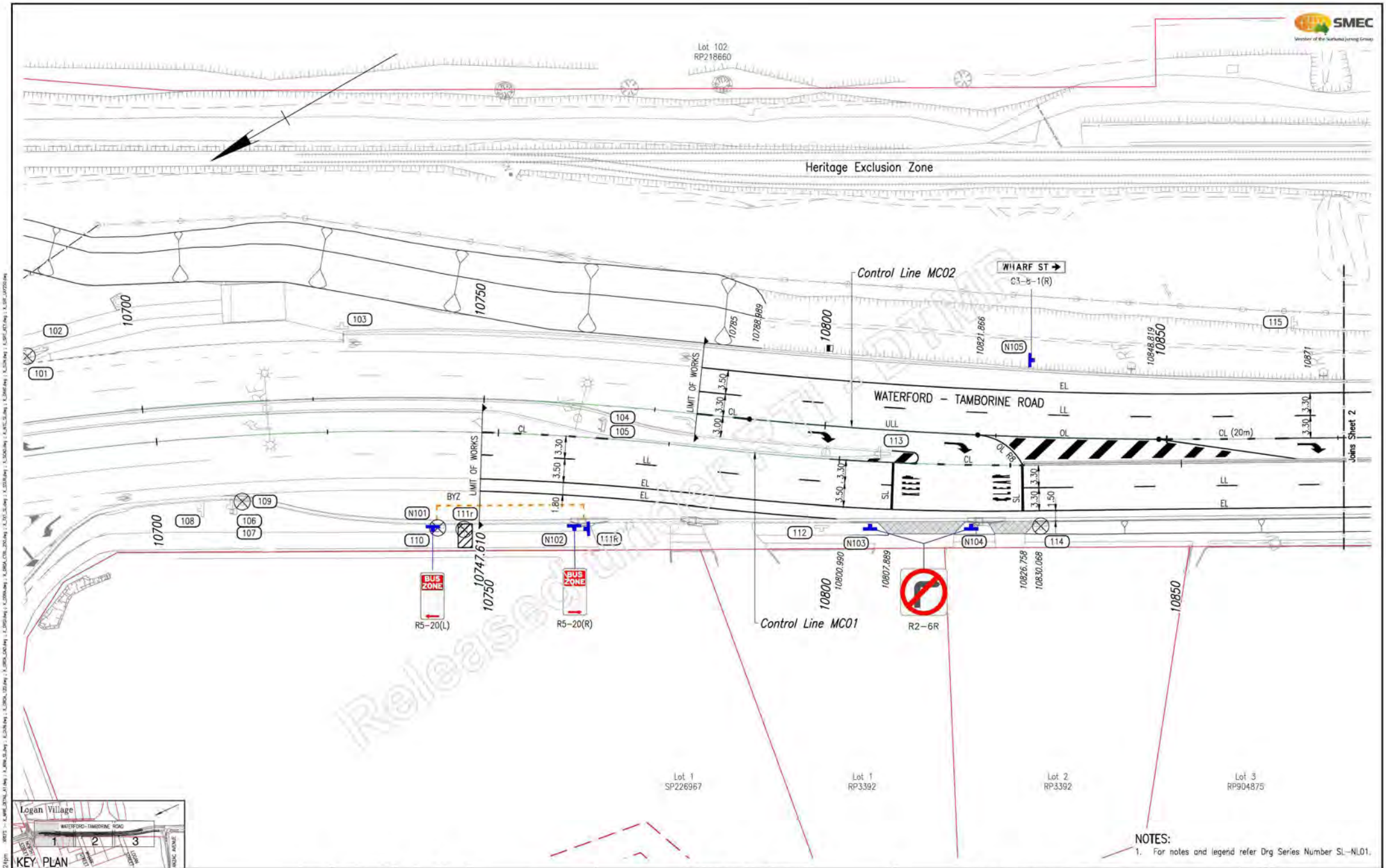
SIGNS AND PAVEMENT MARKINGS NOTES AND LEGEND

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	SIGNATURE:	No.	DATE
CIVIL	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857935 | A
Series Number	SL-NL01 of 1



KEY PLAN

NOTES:
1. For notes and legend refer Drg Series Number SL–NL01.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\14_SL\30031795–V14–SL–1001.dwg

Last Modified – Aug 07, 2020 – 4:24pm

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

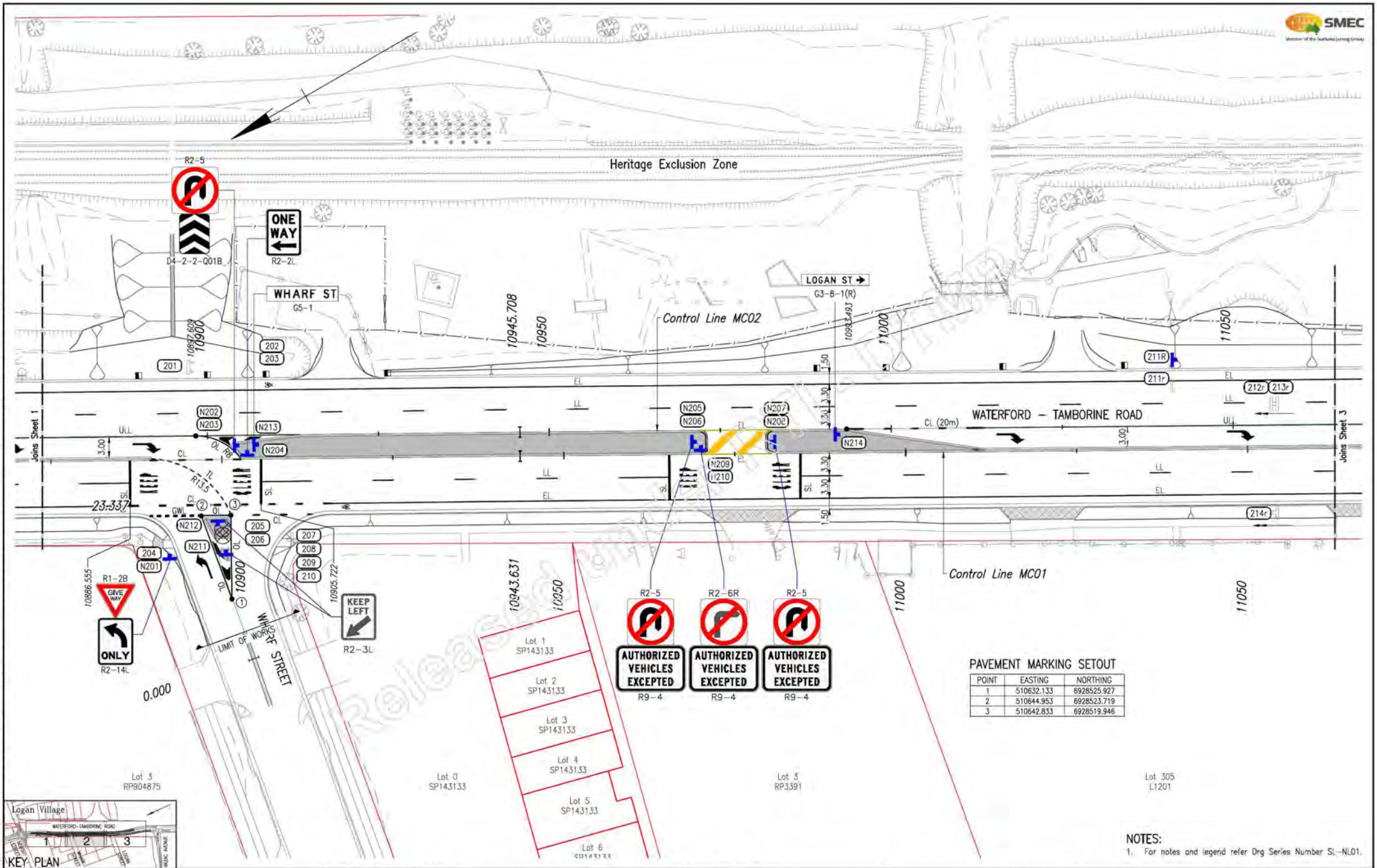
Drawn P.W
Designed L.S

SIGNS AND PAVEMENT MARKINGS
LAYOUT PLAN
SHEET 1 OF 4

ENGINEERING CERTIFICATION (RPEQ)					
ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857936 | A
Series Number	SL–01 of 4



PAVEMENT MARKING SETOUT

POINT	EASTING	NORTHING
1	510632.133	6928525.927
2	510644.953	6928523.719
3	510642.833	6928519.946

KEY PLAN

NOTES:
1. For notes and legend refer Drg Series Number SL–NL01.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES | V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\14_SL\30031795–V14–SL–1002.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	2.058	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

SIGNS AND PAVEMENT MARKINGS
LAYOUT PLAN
SHEET 2 OF 4

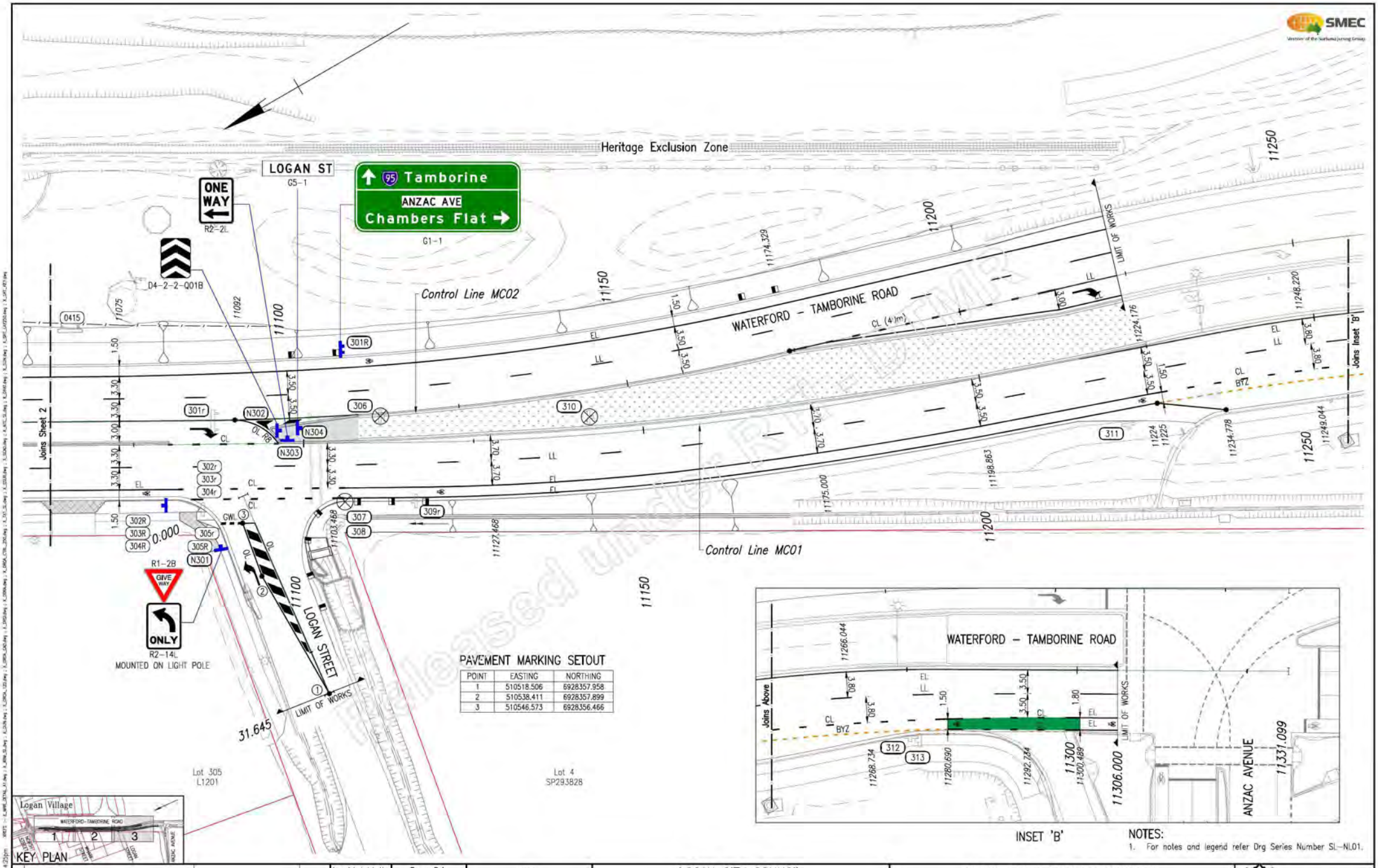
Drawn P.W
Designed L.S

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	SIGNATURE:	No.	DATE
CIVIL	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857937 | A
Series Number	SL–02 of 4



PAVEMENT MARKING SETOUT

POINT	EASTING	NORTHING
1	510518.506	6928357.958
2	510538.411	6928357.899
3	510546.573	6928356.466

NOTES:
1. For notes and legend refer Drg Series Number SL–NL01.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES | V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\14_SL\30031795-V14-SL-1003.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	9.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn P.W
Designed L.S

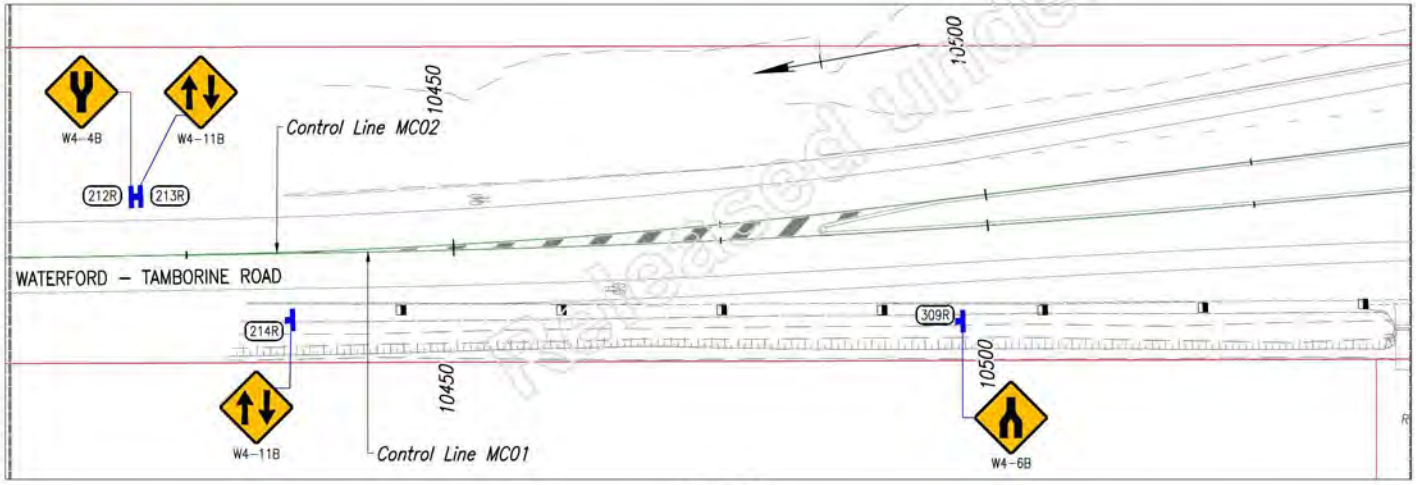
SIGNS AND PAVEMENT MARKINGS
LAYOUT PLAN
SHEET 3 OF 4

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	ME	SIGNATURE: ORIGINAL SIGNED	No. 15348	DATE 07/08/2020
CIVIL	PI			

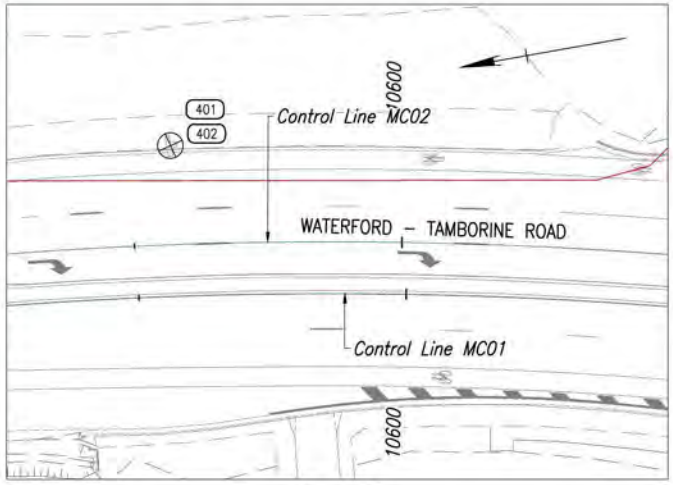
Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857938 | A
Series Number	SL–03 of 4

LOCATION PLAN
Scale A



DETAIL 'A'
Scale B



DETAIL 'B'
Scale B

NOTES:
1. For notes and legend refer Drg Series Number SL–NL01.

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\14_SL\30031795–V14–SL–1004.dwg

Associated Job Nos:
Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
A 0 10 20 30 40m
B 0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: L.S

SIGNS AND PAVEMENT MARKINGS
LAYOUT PLAN
SHEET 4 OF 4

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857939 | A
Series Number	SL–04 of 4

Last Modified: – Aug 07, 2020 – 4:26pm

SMEC

EXISTING SIGN SCHEDULE

SIGN ID	LOCATION: ROAD NAME	CONTROL LINE	CHAINAGE	POSITION (L/M/R)	DIRECTION FACING	SIGN TYPE	SIGN FACE REFERENCE AS PER MUTCD	DESCRIPTION	NO. POSTS	ACTION
101	WATERFORD-TAMBORINE ROAD	MC02	10683	L	GAZETTAL	GUIDE	G9-15	FORM 1 LANE	2	REMOVE
102	WATERFORD-TAMBORINE ROAD	MC02	10684	L	GAZETTAL	REGULATORY	R5-20(R)	BUS ZONE (RIGHT)	2	RETAIN
103	WATERFORD-TAMBORINE ROAD	MC02	10728	L	GAZETTAL	REGULATORY	R5-20(L)	BUS ZONE (LEFT)	2	RETAIN
104	WATERFORD-TAMBORINE ROAD	MC01	10765	R	AGAINST GAZETTAL	GUIDE	G2-1	NORTH ST	2	RETAIN
105						GUIDE	G2-1	QUINZEH CREEK RD		RETAIN
106	WATERFORD-TAMBORINE ROAD	MC01	10707	L	AGAINST GAZETTAL	GUIDE	G9-15	FORM 1 LANE	2	RETAIN
107						GUIDE	TC1840_1	SUPPLEMENTARY PLATE "AFTER SIGNALS"		RETAIN
108	WATERFORD-TAMBORINE ROAD	MC01	10704	L	AGAINST GAZETTAL	REGULATORY	R7-1-4	BICYCLE LANE	1	RETAIN
109	WATERFORD-TAMBORINE ROAD	MC01	10707	L	AGAINST GAZETTAL	REGULATORY	R5-35(L)	NO STOPPING (LEFT)	1	REMOVE
110	WATERFORD-TAMBORINE ROAD	MC01	10740	L	AGAINST GAZETTAL	REGULATORY	R5-35(R)	NO STOPPING (RIGHT)	1	REMOVE
111r	WATERFORD-TAMBORINE ROAD	MC01	10750	L	AGAINST GAZETTAL	WARNING	W6-3	CHILDREN SIGN	1	RELOCATE TO 111R
112	WATERFORD-TAMBORINE ROAD	MC01	10799	L	AGAINST GAZETTAL	REGULATORY	R5-35(D)	NO STOPPING	1	REMOVE
113	WATERFORD-TAMBORINE ROAD	MC01	10808	R	AGAINST GAZETTAL	REGULATORY	R2-3(L)	KEEP LEFT	1	RETAIN
114	WATERFORD-TAMBORINE ROAD	MC01	10828	L	AGAINST GAZETTAL	REGULATORY	R5-20(L)	BUS ZONE (LEFT)	1	REMOVE
115	WATERFORD-TAMBORINE ROAD	MC02	10868	L	GAZETTAL	–	–	FOREST OF MEMORIES	1	RETAIN
201	WATERFORD-TAMBORINE ROAD	MC02	10698	L	GAZETTAL	–	–	LOGAN VILLAGE	1	RETAIN
202	WATERFORD-TAMBORINE ROAD	MC02	10907	L	GAZETTAL	REGULATORY	R7-1-4	BICYCLE LANE	1	REMOVE
203						REGULATORY	R7-4	END		REMOVE
204r	WHARF STREET	–	–	L	GAZETTAL	REGULATORY	R1-2B	GIVE WAY	1	RELOCATE ABOVE N201 IN EXISTING LOCATION
205	WHARF STREET	–	–	R	AGAINST GAZETTAL	REGULATORY	TC9265-3	KEEP LEFT (NARROW)	1	REMOVE
206	WHARF STREET	–	–	R	GAZETTAL	REGULATORY	TC9265-3	KEEP LEFT (NARROW)	1	REMOVE
207	WATERFORD-TAMBORINE ROAD	MC01	10910	L	AGAINST GAZETTAL	STREET SIGN	–	WHARF STREET	1	RETAIN
208						STREET SIGN	–	A.O.G CHURCH		RETAIN
209						STREET SIGN	–	MUSEUM & CRAFT COTTAGE		RETAIN
210						STREET SIGN	–	LIBRARY		RETAIN
211r	WATERFORD-TAMBORINE ROAD	MC02	11041	L	GAZETTAL	–	–	FOREST OF MEMORIES	1	RELOCATE TO 211R
212r	WATERFORD-TAMBORINE ROAD	MC02	11056	L	GAZETTAL	WARNING	W4-4	DIVIDED ROAD	1	RELOCATE TO 212R NORTH OF NORTH STREET

EXISTING SIGN SCHEDULE (CONTINUED)

SIGN ID	LOCATION: ROAD NAME	CONTROL LINE	CHAINAGE	POSITION (L/M/R)	DIRECTION FACING	SIGN TYPE	SIGN FACE REFERENCE AS PER MUTCD	DESCRIPTION	NO. POSTS	ACTION
213r	WATERFORD-TAMBORINE ROAD	MC02	11086	L	AGAINST GAZETTAL	WARNING	W4-11	TWO WAY	1	RELOCATE TO 213R NORTH OF NORTH STREET
214r	WATERFORD-TAMBORINE ROAD	MC01	11054	L	AGAINST GAZETTAL	WARNING	W4-11	TWO WAY	1	RELOCATE TO 214R NORTH OF NORTH STREET
301r	WATERFORD-TAMBORINE ROAD	MC02	11090	L	GAZETTAL	GUIDE	G1-1	"TAMBORINE (STRAIGHT) CHAMBERS FLAT (RIGHT)"	2	RELOCATE TO 301R. REFER PART 7 PROJECT SPECIFIC DOCUMENTS IN CONTRACT DOCUMENTS FOR INDICATIVE SUPPORT DESIGN ONLY. REFER NOTE 32 ON DRG SERIES NO SL-N.01
302r	WATERFORD-TAMBORINE ROAD	MC01	11075	L	AGAINST GAZETTAL	STREET SIGN	–	ALBERT STREET	1	RELOCATE TO 302R
303r						STREET SIGN	–	LOGAN STREET		RELOCATE TO 303R
304r						STREET SIGN	–	POLICE BEAT		RELOCATE TO 304R
305r	LOGAN STREET	–	–	L	GAZETTAL	REGULATORY	R1-2B	GIVE WAY	1	RELOCATE TO 305R
306	WATERFORD-TAMBORINE ROAD	MC02	11113	L	GAZETTAL	REGULATORY	R7-1-4	BICYCLE LANE	1	REMOVE
307	WATERFORD-TAMBORINE ROAD	MC01	11105	L	AGAINST GAZETTAL	REGULATORY	R7-1-4	BICYCLE LANE	1	REMOVE
308						REGULATORY	R7-4	END		REMOVE
309r	WATERFORD-TAMBORINE ROAD	MC01	11117	L	AGAINST GAZETTAL	WARNING	W4-8	DIVIDED ROAD	1	RELOCATE TO 309R NORTH OF NORTH STREET
310	WATERFORD-TAMBORINE ROAD	MC02	11145	R	GAZETTAL	REGULATORY	R2-3(L)	KEEP LEFT	1	REMOVE
311	WATERFORD-TAMBORINE ROAD	MC01	11219	L	AGAINST GAZETTAL	REGULATORY	R5-20(L)	BUS ZONE (LEFT)	1	RETAIN
312	WATERFORD-TAMBORINE ROAD	MC01	11275	L	AGAINST GAZETTAL	REGULATORY	G9-73B	MERGE RIGHT	1	RETAIN
313	WATERFORD-TAMBORINE ROAD	MC01	11275	L	AGAINST GAZETTAL	REGULATORY	R5-20(R)	BUS ZONE (RIGHT)	1	RETAIN
401	WATERFORD-TAMBORINE ROAD	MC02	10579	L	GAZETTAL	GUIDE	G9-15	FORM 1 LANE	2	REMOVE
402						GUIDE	TC1840_1	SUPPLEMENTARY PLATE "AFTER SIGNALS"		REMOVE

A	Issued For Construction		
Revisions/Descriptions	Name or RPEQ No.	Signature	Date

CAD FILES: V:_cloud\Projects\378312915\CAD_WAR\CAD\DWG\14_SL\300378219-W14-SL-2101.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points: Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

SIGNS AND PAVEMENT MARKINGS
SIGN SCHEDULES
SHEET 1 OF 2

Drawn: P.W
Designed: L.S

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	SIGNATURE	No.	DATE
CIVIL [redacted] ME	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857940 | A
Series Number	SL-SC01 of 2

NEW SIGN SCHEDULE

Sign ID	Location					Sign Details						Footing Details					Support Details											Stiffner Details			
	Drawing Series	Control Line	Chainage (M)	Position With Regards To Direction Of Travel (L/M/R)	Direction Facing	Sign Type	Sign Face Reference As Per MUTCD	Description	Width (Mm)	Depth (Mm)	Area (M2)	Frangible, Slipbase Post Or Protected? (F/SB/P)	Min. Distance From Edge Shoulder (Mm)	Min. Mounting Height (Mm)	Diameter (Mm)	Depth (Mm)	No.	Spacing	Length P1	Length P2	Length P3	Length P4	Stub Length (Mm)	Post (Mm)	Wall (Mm)	Grade	Type	No.	Spacing (Mm)	Bracket (No.)
N101	SL-01	MCD1	10732	L	AGAINST GAZETTAL	REGULATORY	R5-20(L)	BUS ZONE (LEFT)	225	450	0.101	F	300	2000	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368 AND 1369																	
N102	SL-01	MCD1	10757	L	AGAINST GAZETTAL	REGULATORY	R5-20(R)	BUS ZONE (RIGHT)	225	450	0.101	F	300	2000	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368 AND 1369																	
N103	SL-01	MCD1	10805	L	PERPENDICULAR	REGULATORY	R2-6A(R)	NO RIGHT TURN	450	600	0.270	F	300	525	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368 AND 1369																	
N104	SL-01	MCD1	10818	L	PERPENDICULAR	REGULATORY	R2-6A(R)	NO RIGHT TURN	450	600	0.270	F	300	525	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368 AND 1369																	
N105	SL-02	MCD2	10830	L	NORTH	DIRECTION	G3-8-1(R)	"WHARF ST" AND "RIGHT ARROW"	1243	200	0.249	F	2000	2500	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD DRGS 1363, 1364, 1368, 1369 AND IPWEAQ STD DRG RS-131																	
N201	SL-02	WHARF STREET	—	L	GAZETTAL	REGULATORY	R2-14A (L)	ALL TRAFFIC TURN (LEFT)	600	800	0.480	F	300	2000	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368 AND 1369 EXISTING SIGN 204 TO BE MOUNTED ON SAME POST ABOVE N201																	
N202	SL-02	MCD2	10904	R	GAZETTAL	REGULATORY	R2-5B	NO U-TURN	600	800	0.480	F	500	525	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368, 1369 AND IPWEAQ STD DRG RS-131																	
N203						HAZARD MARKER	D4-2-2-0018	BI-DIRECTIONAL HAZARD MARKER	900	1200	1.080																			
N204	SL-02	MCD1	10904	R	AGAINST GAZETTAL	REGULATORY	R2-2B (L)	ONE WAY (LEFT)	600	800	0.480	F	500	525	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368 AND 1369																	
N205	SL-02	MCD2	10972	R	GAZETTAL	REGULATORY	R2-5B	NO U-TURN	600	800	0.480	F	500	525	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368, 1369 AND IPWEAQ STD DRG RS-131																	
N206						REGULATORY	R9-4B	AUTHORISED VEHICLES EXCEPTED	600	400	0.240																			
N207	SL-02	MCD1	10981	R	AGAINST GAZETTAL	REGULATORY	R2-5B	NO U-TURN	600	800	0.480	F	500	525	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368, 1369 AND IPWEAQ STD DRG RS-131																	
N208						REGULATORY	R9-4B	AUTHORISED VEHICLES EXCEPTED	600	400	0.240																			
N209	SL-02	MCD2	10872	R	WEST	REGULATORY	R2-6B (R)	NO RIGHT TURN	600	800	0.480	F	300	525	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368, 1369 AND IPWEAQ STD DRG RS-131																	
N210						REGULATORY	R9-4B	AUTHORISED VEHICLES EXCEPTED	600	400	0.240																			
N211	SL-02	WHARF STREET	—	M	WEST	REGULATORY	R2-3B (L)	KEEP LEFT	600	800	0.480	F	300	525	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368, 1369 AND IPWEAQ STD DRG RS-131																	
N212	SL-02	WHARF STREET	—	M	EAST	REGULATORY	R2-3B (L)	KEEP LEFT	600	800	0.480	F	300	525	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368, 1369 AND IPWEAQ STD DRG RS-131																	
N213	SL-02	MCD2	10907	M	NORTH	DIRECTION	G5-1	"WHARF ST"	957	200	0.191	F	500	2000	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD DRGS 1363, 1364, 1368, 1369 AND IPWEAQ STD DRG RS-131																	
N214	SL-02	MCD2	10992	M	NORTH	DIRECTION	G3-8-1(R)	"LOGAN ST AND RIGHT ARROW"	1222	200	0.244	F	500	2000	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD DRGS 1363, 1364, 1368, 1369 AND IPWEAQ STD DRG RS-131																	
N301	SL-03	LOGAN STREET	—	L	GAZETTAL	REGULATORY	R2-14A (L)	ALL TRAFFIC TURN (LEFT)	600	800	0.480	F	300	2000	MOUNTED ON LIGHT POLE REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, AND 1369 EXISTING SIGN 305 TO BE MOUNTED ON SAME LIGHT POLE ABOVE N301																	
N302	SL-03	MCD2	11098	R	GAZETTAL	HAZARD MARKER	D4-2-2-0018	BI-DIRECTIONAL HAZARD MARKER	900	1200	1.080	F	500	525	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368, 1369 AND IPWEAQ STD DRG RS-131																	
N303	SL-03	MCD1	11098	R	AGAINST GAZETTAL	REGULATORY	R2-2B (L)	ONE WAY (LEFT)	600	800	0.480	F	500	525	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD. DRGS. 1363, 1364, 1368 AND 1369																	
N304	SL-03	MCD2	11100	M	NORTH	DIRECTION	G5-1	"LOGAN ST"	926	200	0.187	F	500	2000	FOR SIGN SUPPORT DETAILS, REFER TO TMR'S TRUM VOLUME 3 PART 5, AND TMR STD DRGS 1363, 1364, 1368, 1369 AND IPWEAQ STD DRG RS-131																	

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\3\303729\5\CAD_WAR\CAD\DWG\14_SL\303729-W14-SL-2702.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

SIGNS AND PAVEMENT MARKINGS
SIGN SCHEDULES
SHEET 2 OF 2

Drawn: P.W
Designed: L.S

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	P1	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857941 | A
Series Number	SL-SC02 of 2

GENERAL

1. For general notes and legend refer Series Number GA-NL01.
2. All materials supplied and all work installed shall comply with the specifications, standards, codes, rules and regulations of all statutory authorities having jurisdiction over the works.
   This shall include, but not be limited to the following:
   General Standards
   - Electrical Act 1994
   - Electrical Safety Act 2002
   - Electrical Safety Regulation 2013
   - Electrical safety code of practice 2013 & 2020
   - Environment Protection Act 1994
   - Plant Protection Act 1989
   - Plant Protection (Red Imported Fire Ant) Quarantine Notice 2001
   - Workplace Health and Safety Act 2011 & Regulations
   - Guides for Use in the Queensland Electricity Supply Industry
   - Biosecurity Act 2014
   - Transport Operations (Road Use Management) Act 1995
   - Transport Infrastructure Act 1994

   Australian Standards
   - AS/NZS 1158
   - AS/NZS 3000:2018
   - AS/NZS 61386.1
   - AS/NZS 3008:2017
   - AS/NZS 3996
   - AS/NZS 2053.2

   Department of Transport and Main Roads Standard Specifications
   - MRTS91 Conduits and pits
   - MRTS92 Traffic signal and road lighting footings
   - MRTS94 Road lighting
   - MRTS96 Management and removal of asbestos
   - MRTS97 Mounting structures for roadside equipment
   - MRTS210 Supply Mains power
   - MRTS228 Electrical switchboards
   - MRTS256 Power cables
   - Road planning and design manual – Volume 6 (lighting)
   - Standard drawings
   - Manual of Uniform Traffic Control Devices (MUTCD), Part 3 Works on Roads 2018
   - TRUM Vol. 4, Part 3 – Electrical design for road side devices
   - DDPSM – Vol. 2 Part 2 Chapter 2
3. Electrical work including installation of the electrical and communications conduits can only be performed by or under supervision of TMR approved electrical contractor.
4. Location of existing street lighting, pits and conduits is approximate only, contractor to confirm all measurements on site.
5. The electrical contractor shall record all switch-on and all switch-off dates for Energex record purposes.
6. Any change of pole locations must be approved by the Administrator.
7. Provide labelling to all new fuses indicating the rating, type and circuit name.
8. All electric power cables shall be Cu 600/1000V grade to AS/NZS 5000.1.
9. For street lights installed on crossfalls, provide batter treatment and/or a retaining wall as required by TMR standard drawings as applicable.
10. Allow a minimum of 200mm between all other structures and conduits face to face.
11. Contactors complying with AS/NZS IEC 60947.4.1 with a minimum utilisation category AC-5a, rating 32A minimum, coil 240V AC, must be used to control lighting circuits.
12. Contractor to ensure that luminaire mounting heights are maintained throughout the project. Mounting height is the height of the luminaire above the finished road level. This may require the local modification of the batter to allow the pole base to be level with the carriageway.
13. Footings installed in batters shall require confirmation from the Administrator that the footing is sufficient for the proposed location, refer to TMR standard drawings 1380-1388, 1392-1396 and 1429.
14. All redundant existing cables are to be removed as per AS/NZS 3000:2018 and not to be reused.
15. A minimum of 12 screws 50mm X 14G HEX head galvanised equally spaced around the pit, to fasten each riser to pit/riser.

SERVICES LOCATION AND CONFLICTS

1. The existing services information shown on this plan is as supplied by TMR and various utility service authorities and locating undertaken.
2. The information is not intended to provide the Contractor with complete or accurate information concerning the location and extent of utility services.
3. The Contractor is to make enquiries of the service authorities as to the location, depth and extent of utility services prior to commencement of any work on the site.
4. No work is to be carried out within 3 metres of any existing services without prior recorded consultation with the relevant service authority.
5. The Contractor is to immediately advise the Administrator and relevant service authority, when an existing underground utility service not previously identified, is found during construction. A hold time of two days to be allowed, for the service authority to witness and document.
6. The Contractor will be solely responsible for any damage incurred to existing utility services as a result of the execution of work under the contract.

RATE 3

1. Road lighting to be connected under Energex Rate 3 tariff unless otherwise stated.
2. This drg shall be read in conjunction with the TMR standard specification and drgs and typical edge details.
3. For lighting design parameters, refer TMR Standard Drg. 1315.
4. All Rate 3 installations shall conform with TMR standards and policies.
5. Three phase wiring shall be in accordance with TMR Standard Drg. 1625, and the design schematics.
6. Luminaires used in this installation shall be as follows:
   ATS Aero V-LED 198W LED Type 2 (i-table-DP120809-01 V162198WT2.CIE)
   ATS Aero V-LED 198W LED Type 3 (i-table-DP141003-01 V162198WT3.CIE)
7. Luminaire upcast angle shall be 5 degrees unless otherwise stated.
8. All outreaches are to be installed perpendicular to the carriageway unless otherwise stated.
9. Luminaires are only to be as specified on these drawings.
10. For circular pit details refer to TMR Standard Drg 1415 – 1417.
11. All pits shall have drainage installed and lowest pits in conduit run to be drained as per TMR standard drawings 1314.
12. All pits in grassed areas to have a concrete surround.
13. Additional cross bracing/spacers to be used at each additional riser used.
14. Where pit extension required, only proprietary extension, matching pit type, are to be used.
15. Any site construction must comply with the construction environmental management plan.
16. Light pole access hatch to be located on side of pole opposite to direction of traffic.
17. Remove all redundant / unused cables.
18. For all road lighting cable sizing, refer to the Single Line Diagrams, Drawing Series No. RL3-SL01 to RL3-SL02 and the Underground Cable Schedules, Drawing Series No. RL3-SC01 to RL3-SC02.

CERTIFICATE OF COMPLIANCE
DESIGN DOCUMENTATION IN ACCORDANCE WITH THE REQUIREMENTS OF AS/NZS 1158.1.1 APPENDIX D

LOCATION:
WATERFORD – TAMBORINE RD
LIGHTING CATEGORY: V3
INSTALLATION ARRANGEMENT/GEOMETRY:
(REFER AS 1158.1.1 SECTION 2)
- CARRIAGEWAY LIGHTING DESIGN WIDTH (W_d): VARIES
- MOUNTING HEIGHT (H): 12.0
- OUTREACH: VARIES
- POLE SETBACK: VARIES
- UPCAST ANGLE: 5°

LUMINAIRE/LAMP DETAILS:
- LUMINAIRE IDENTIFICATION: "ATS AERO V-LED"
- LAMP TYPE: 198W T2 & T3
- LAMP FLUX: 19,525 18,77 klms RESPECTIVELY
- I.E. TABLE NUMBER: DP120809-01 V162198WT2.CIE DP141003-01 V162198WT3.CIE
- LIGHTING TARIFF: RATE 3
- HIGH POWER FACTOR / LOW POWER FACTOR: HPF
- START / RUN CURRENT: 0.83 T2, 0.86 T3 (START AND RUN CURRENT ARE THE SAME AS PER TN158)

PHOTOMETRIC DATA DETAILS:
- ORIGIN OF NATA CERTIFIED PHOTOMETRIC DATA: STEVE JENKINS & ASSOCIATES (SJA)

LIGHT TECHNICAL PARAMETERS:
STRAIGHT SECTIONS, INTERSECTION, JUNCTIONS AND OTHER SPECIFIED LOCATIONS
- DESIGN METHOD: LUMINANCE & ILLUMINANCE BASED COMPUTER BASED CALCULATION AND DESIGN RULES
- LIMITING VALUES OF LIGHT TECHNICAL PARAMETERS

LIGHTING CATEGORY	$\bar{E}_{min}$	U_{E1}	UWLR	$\bar{E}$	U_{E0}	U_L	TI	E_R
V3	7.5lx	8	3%	0.75 cd/m²	0.33	0.5	20%	50%

ROAD SURFACE REFLECTION CHARACTERISTICS DETAILS:
ROAD SURFACE REFLECTION CHARACTERISTIC (R3)
COMPUTER PROGRAM USED TO CALCULATE TECHNICAL PARAMETERS:
- ILLUMINANCE (AG32)
- LUMINANCE (PERFECT LITE) (COMPLIES WITH REQUIREMENTS OF AS/NZS1158.2:2005)

LEGEND

	ATS162 198W LED Type
	ATS162 198W LED Type to be recovered
T2	Denotes Type 2 luminaire fitting
T3	Denotes Type 3 luminaire fitting
	Luminaire to be installed, when used with luminaire symbol
XX	Luminaire station number
EXXX	Electrical pit station number
CXXX	Communications pit station number
REXXX	Electrical/comms. pit to be recovered station number
	Cable marker E1 – Denotes 100mm dia. HD UPVC orange electrical conduit C1 – Denotes 100mm dia. HD UPVC white communication conduit 16Cu2CSL – Denotes 16mm² copper cable 2 cores for street lighting 16Cu4CSL – Denotes 16mm² copper cable 4 cores for street lighting 25Cu4CLV – Denotes 25mm² copper cable 4 cores for low voltage 24FOC – Denotes 24 core fibre optic cable
	Denotes new street lighting cable to be installed, when used in conjunction with cable marker symbol
	Denotes new fibre optic cable to be installed, when used in conjunction with cable marker symbol
	Denotes existing street lighting cable to remain, when used in conjunction with cable marker symbol
	Denotes existing fibre optic cable to remain, when used in conjunction with cable marker symbol
A	Denotes Aeroscreen luminaire, when used with luminaire symbol
	Existing circular pit (Electrical/Comms pit denoted by tag)
	Existing electrical circular pit to be removed
	New electrical circular pit
	New communications circular pit
	New underground HDUPVC conduit
	Existing underground HDUPVC conduit to remain
	Existing underground HDUPVC conduit to be removed

LEGEND CONT.

	Existing LV, HV, LV/HV and transformer power poles
	Denotes LV cable termination box
	Denotes HV cable termination box
	Denotes earth connection
	Existing stay wire

Design Features Civil
Refer to (GA) Drg Series

Proposed & Existing Drainage
Refer to (DD) Drg Series

Existing Features
Refer to (EF) Drg Series

Existing Services

Aboveground Existing Services
- Electricity
- Stay Pole & Wire

Underground Existing Services
- Electricity

Refer to (EF) or (PU) Drg Series

Dial Before You Dig
- Electricity

Refer to (EF) or (PU) Drg Series

Cadastral Boundaries
- Parish boundary
- Easment boundary

ABBREVIATIONS

SBM	–	Slip Base Mounted
Cu	–	Copper
HV	–	High Voltage
LV	–	Low Voltage
SL	–	Street Lighting
XLPE	–	Cross-linked Polethylene
PVC	–	Polyvinyl Chloride
HRC	–	High Rupturing Capacity
HDUPVC	–	Heavy Duty Unplasticised Polyvinyl Chloride
FOC	–	Fibre Optic Core
BJ	–	Bell Joint
N	–	Neutral
TMR	–	Department of Transport and Main roads
Drg	–	Drawing

Street Lighting Certification

Vehicular lighting certified to comply with AS/NZS 1158.1.1.
Including the existing road features (overhead mains, driveways, culverts, underground services, signage) & maintenance area for equipment sites as per MRTS201.
This road lighting design is based on the following maintenance schedule:
- luminaires shall be cleaned, inspected and maintains at 6 year intervals (based on TN 158)
- maintenance factor = 0.80 (based on TMR standard specification MRTS94)
- vegetation to be kept clear of luminaire
- inspection patrols and spot lamp replacement to maintain service availability at min. 95%
- luminaires and lamps to be replaced with exact equivalents

Lighting designed to category V3.

ORIGINAL SIGNED
[person]
Date: 07/08/2020
RPEQ No. 16602

THIS DRAWING SET TO BE REPRODUCED IN COLOUR

Pits shown in this drawing are shown at true scale.

ENERGEX PROJECT No.: S3500143
PROJECT SUBURB: Logan Village
SHEET 01 of 09
CONTACT DETAILS
Jared Gallaty: (07) 5561 3750

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

Associated Job Nos:
Auxiliary Drg Nos:
Refer Drawing Index Drg. Series Number 01-01

Survey Data
Horiz. Datum: MGA94
Horiz. Grid: Zone 56
Height Datum: AHD Derived
Survey Books: MR101140

Scales
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4 RTI-4349 Page 331 of 3158			3.554	5A

Through Chainage from Start of Gazettal: 10.748km – 11.306km

RATE 3 ROAD LIGHTING
NOTES AND LEGEND

Drawn: P. Wyatt
Designed: J. Gallaty

ENGINEERING CERTIFICATION (RPEQ)

ENG. ARE	ME	SIGNATURE:	No.	DATE
ELECT	PE	ORIGINAL SIGNED	16602	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857942 A
Series Number	RL3-NL01 of 1

LAST MODIFIED — Aug 07, 2020 — 4:27pm
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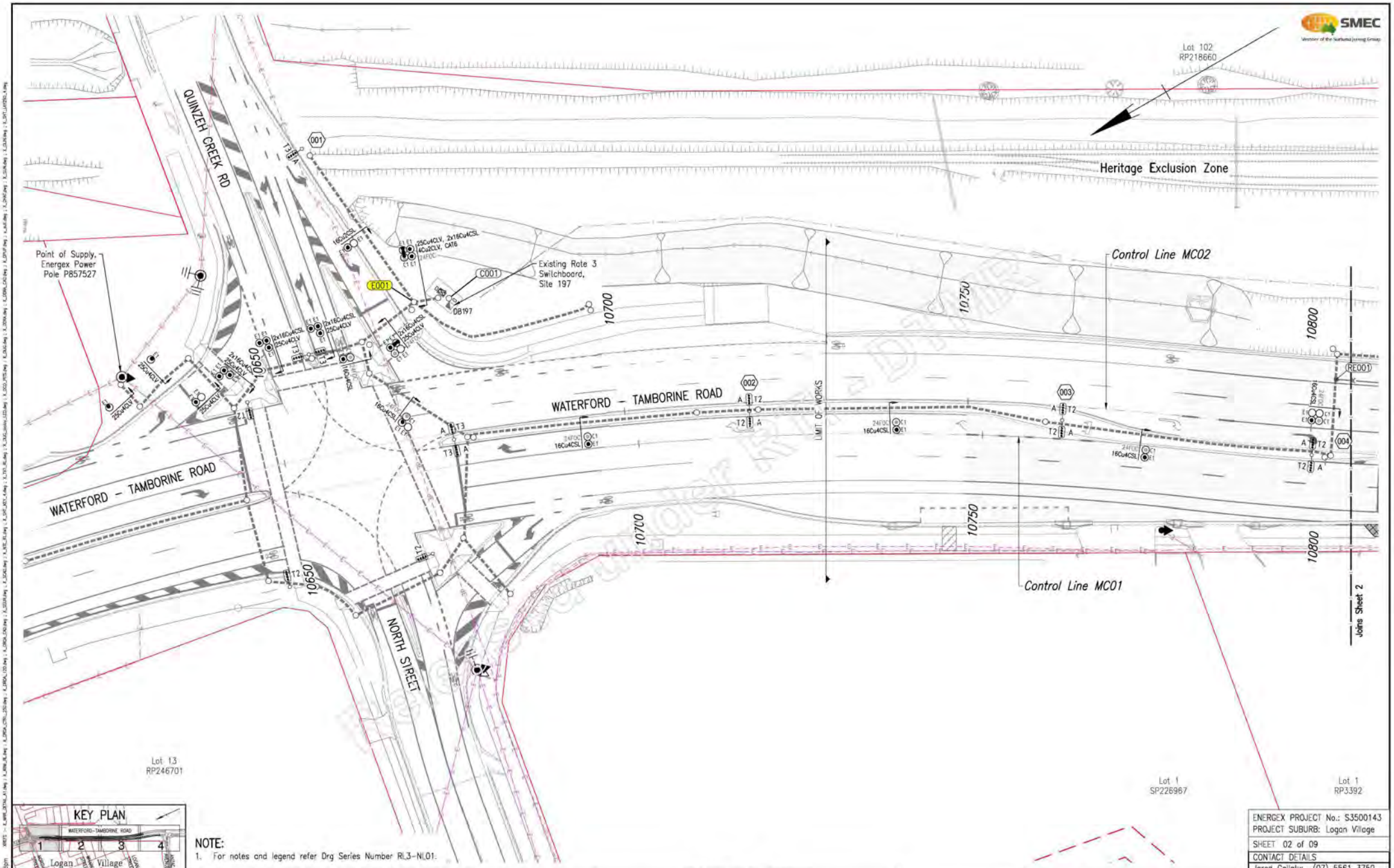


KEY PLAN

NOTE:
1. For notes and legend refer Drg Series Number RL3-NL01.

A	Issued For Construction			
Revisions/Descriptions		Name or RPEQ No.	Signature	Date

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\16_RL\30031795-V16-RL-1001.dwg

Associated Job Nos

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number D1-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: 0 2 4 6 8 10m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P. Wyatt
Designed: J. Gallaty

RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 1 OF 4

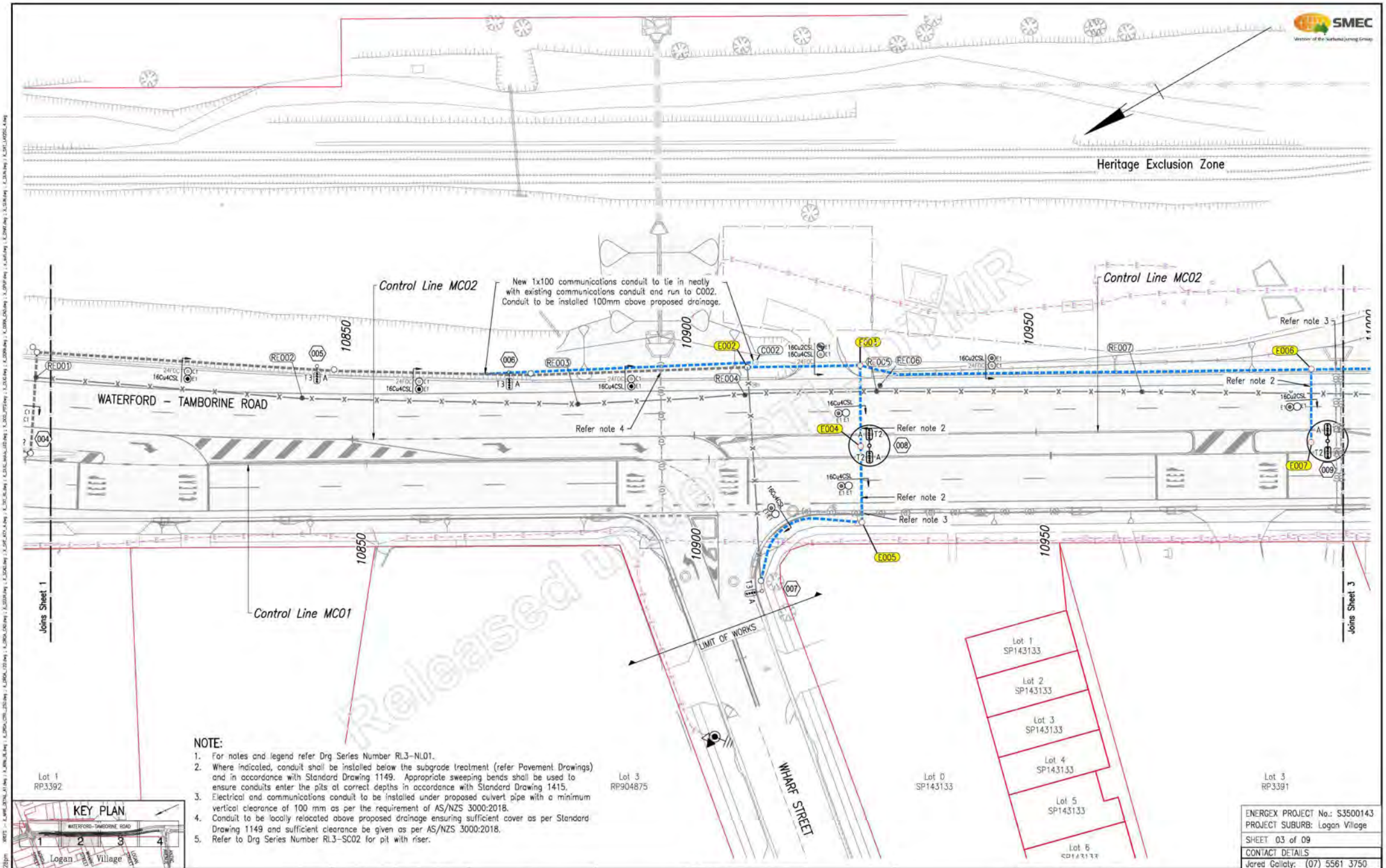
ENGINEERING CERTIFICATION (RPEQ)

ENG. ARE ELECT	ME	SIGNATURE: ORIGINAL SIGNED	No. 16602	DATE 07/08/2020

ENERGEX PROJECT No.: S3500143
PROJECT SUBURB: Logan Village
SHEET 02 of 09
CONTACT DETAILS
Jared Gallaty: (07) 5561 3750

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857943 A
Series Number	RL3-01 of 4



NOTE:

1. For notes and legend refer Drg Series Number RL3–NL01.
2. Where indicated, conduit shall be installed below the subgrade treatment (refer Pavement Drawings) and in accordance with Standard Drawing 1149. Appropriate sweeping bends shall be used to ensure conduits enter the pits at correct depths in accordance with Standard Drawing 1415.
3. Electrical and communications conduit to be installed under proposed culvert pipe with a minimum vertical clearance of 100 mm as per the requirement of AS/NZS 3000:2018.
4. Conduit to be locally relocated above proposed drainage ensuring sufficient cover as per Standard Drawing 1149 and sufficient clearance be given as per AS/NZS 3000:2018.
5. Refer to Drg Series Number RL3–SC02 for pit with riser.

KEY PLAN

WATERFORD–TAMBORINE ROAD 1 2 3 4 Logan Village

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\16_RL\30031795–V16–RL–1002.dwg

Associated Job Nos	Survey Data	
	Horiz. Datum	MGA94
Auxiliary Drg Nos Refer Drawing Index Drg. Series Number DI–01	Horiz. Grid	Zone 56
	Height Datum	AHD Derived
	Survey Books	MR101140

Scales: 0 2 4 6 8 10m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 2 OF 4

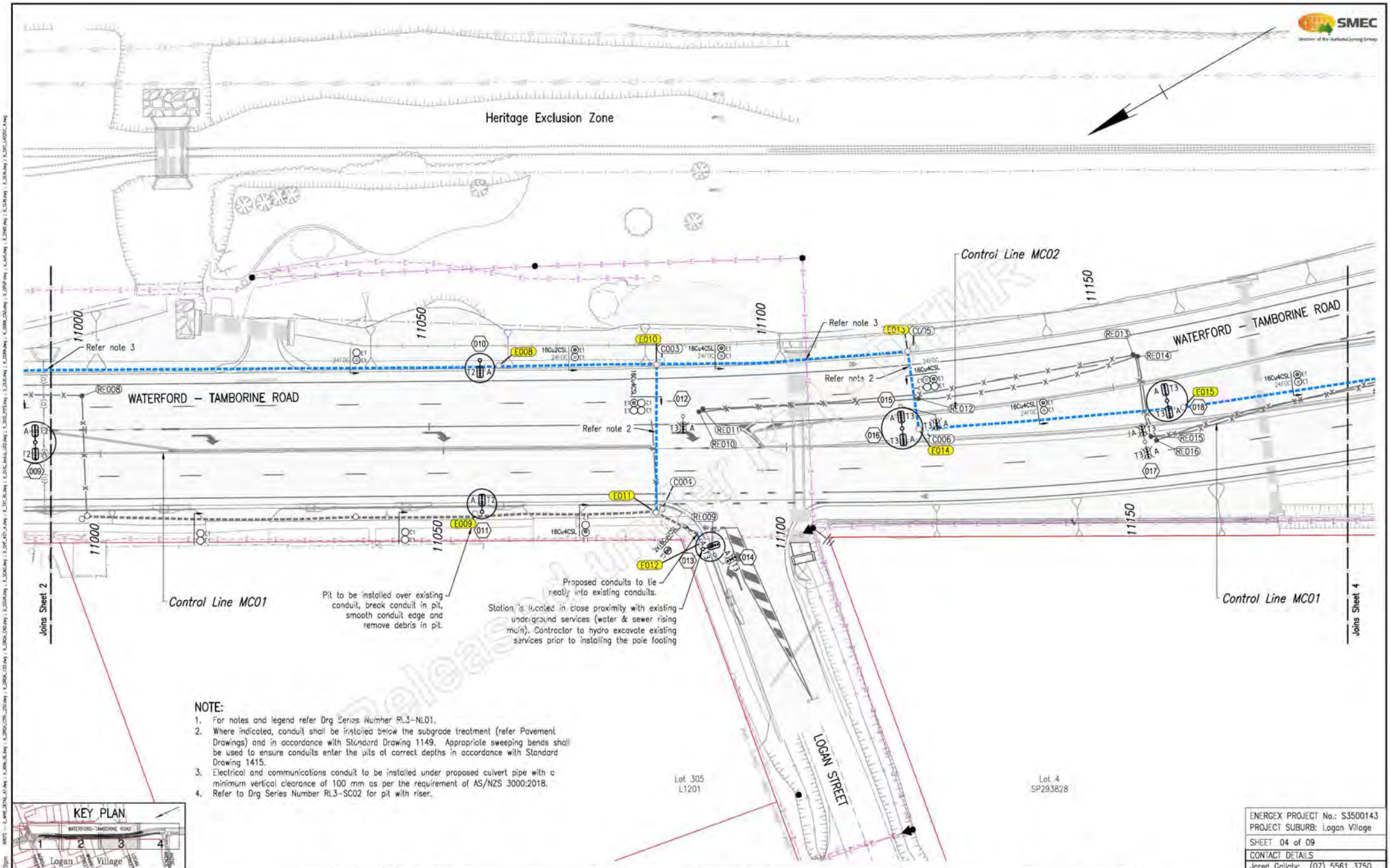
Drawn	ENGINEERING CERTIFICATION (RPEQ)				
P. Wyatt	ENG. AREA	NAME	SIGNATURE	No.	DATE
Designed	ELECT PI		ORIGINAL SIGNED	16602	07/08/2020
J. Gallaty					

ENERGEX PROJECT No.: S3500143
PROJECT SUBURB: Logan Village
SHEET 03 of 09
CONTACT DETAILS
Jared Gallaty: (07) 5561 3750

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857944 A
Series Number	RL3–02 of 4

Last Modified – Aug 07, 2020 – 4:28pm



NOTE:

1. For notes and legend refer Drg Series Number RL3-NL01.
2. Where indicated, conduit shall be installed below the subgrade treatment (refer Pavement Drawings) and in accordance with Standard Drawing 1149. Appropriate sweeping bends shall be used to ensure conduits enter the pits at correct depths in accordance with Standard Drawing 1415.
3. Electrical and communications conduit to be installed under proposed culvert pipe with a minimum vertical clearance of 100 mm as per the requirement of AS/NZS 3000:2018.
4. Refer to Drg Series Number RL3-SC02 for pit with riser.

KEY PLAN

WATERFORD–TAMBORINE ROAD

1 2 3 4

Logan Village

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES | V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\16_RL\30031795-V16-RL-1003.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

RATE 3 ROAD LIGHTING
LAYOUT PLAN
SHEET 3 OF 4

Drawn P. Wyatt
Designed J. Gallaty

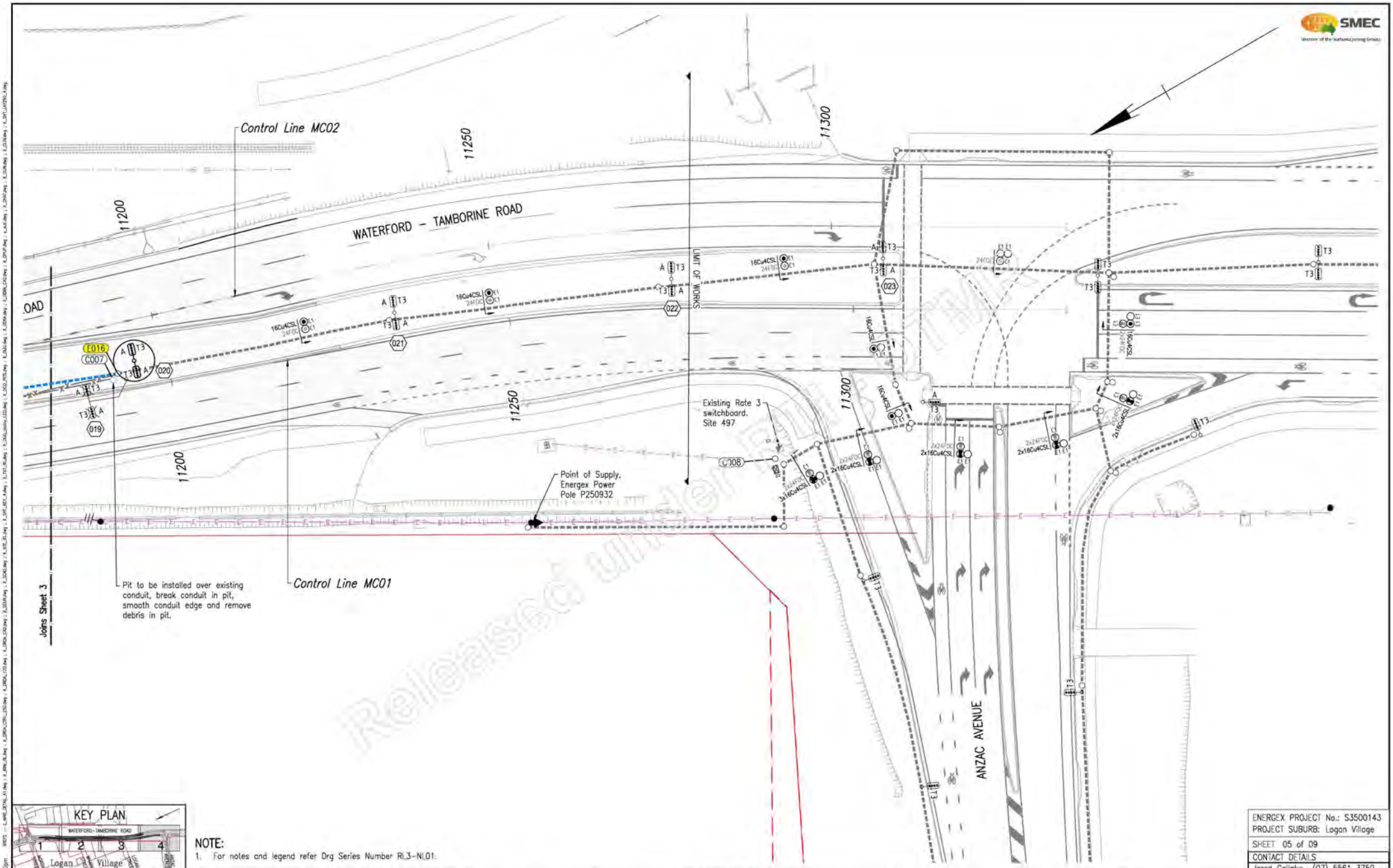
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
ELECT PI		ORIGINAL SIGNED	16602	07/08/2020

ENERGEX PROJECT No.: S3500143
PROJECT SUBURB: Logan Village
SHEET 04 of 09
CONTACT DETAILS
Jared Gallaty: (07) 5561 3750

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857945 A
Series Number	RL3-03 of 4



KEY PLAN

NOTE:
1. For notes and legend refer Drg Series Number RL3-NL01.

ENERGEX PROJECT No.: S3500143
PROJECT SUBURB: Logan Village
SHEET 05 of 09
CONTACT DETAILS
Jared Gallaty: (07) 5561 3750

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

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Associated Job Nos

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: 0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: G. Clarke
Designed: J. Gallaty

RATE 3 ROAD LIGHTING
LAYOUT PLAN
SHEET 4 OF 4

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA / ELECT	NAME: PI	SIGNATURE: ORIGINAL SIGNED	No.: 16602	DATE: 07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857946 A
Series Number	RL3-04 of 4

ROAD LIGHTING SCHEDULE

LOCATION	STN NO.	SITE ID (POLE NO.)	POLE OR COMPONENTS						LUMINAIRE							OUTREACH BRACKET				MOUNT HEIGHT (m)	REMARKS
			COMP ID.	EXIST (m)	RECOVER (m)	ERECT (m)	PART NO SD1699	POLE ALIGNMENT	COMP ID.	EXIST	RECOVER		ERECT		PART NO SD1699	EXIST (m)	RECOVER (m)	ERECT (m)	PART NO SD1699		
											LUMIN.	CUST.	LUMIN.	CUST.							
Waterford – Tamborine Road	008	W2194116	P01			10.0SBM	238	=	SL1 SL2				L198AM3 L198AM3	MRD	580 580			3.0D	226	12.0	Erect pole, double outreaches and T2 luminaires
Waterford – Tamborine Road	009	W2194117	P01			10.0SBM	238	=	SL1 SL2				L198AM3 L198AM3	MRD	580 580			3.0D	226	12.0	Erect pole, double outreaches and T2 luminaires
Waterford – Tamborine Road	010	W2194118	P01			10.0SBM	238	1.2ES	SL1				L198AM3	MRD	580			3.0S	227	12.0	Relocate pole and outreach from Station 012 (new pole number). Erect T2 luminaire
Waterford – Tamborine Road	011	W2194119	P01			10.0SBM	238	0.8KF	SL1				L198AM3	MRD	580			3.0S	227	12.0	Relocate outreach from station 015. Erect pole and T2 luminaire
Waterford – Tamborine Road	012	W1338536	P01	10.0SBM	10.0SBM				SL1	L19BAM3	L19BAM3	MRD				3.0S	3.0S			12.0	Existing pole, outreach and T3 luminaire to be removed, relocate T3 luminaire to Station 016, relocate pole and outreach to Station 010
Logan Street	013	W2193689	P01			10.0SBM	238	0.8KF	SL1				L198AM3	MRD	580			3.0S	227	12.0	Relocated pole, outreach, and T3 luminaire from station 014
Logan Street	014	W2193689	P01	10.0SBM	10.0SBM				SL1	L19BAM3	L198AM3	MRD				3.0S	3.0S			12.0	Relocate pole, outreach, and T3 luminaire to station 013
Waterford – Tamborine Road	015	W1338537	P01	10.0SBM	10.0SBM				SL1	L19BAM3	L198AM3	MRD				3.0S	3.0S			12.0	Existing pole, outreach and T3 luminaire to be removed, relocate pole and T3 luminaire to Station 016, relocate outreach to station 011
Waterford – Tamborine Road	016	W1338537	P01			10.0SBM	238	=	SL1 SL2				L198AM3 L198AM3	MRD	580 580			4.5D	226+2X 224	12.0	Relocated pole, T3 luminaire from Station 015 and T3 luminaire from Station 012, erect double outreaches
Waterford – Tamborine Road	017	W1338538	P01	10.0SBM	10.0SBM				SL1 SL2	L19BAM3 L19BAM3	L198AM3 L198AM3	MRD				4.5D	4.5D			12.0	Relocate pole, double outreaches, and T3 luminaires to station 018
Waterford – Tamborine Road	018	W1338538	P01			10.0SBM	238	=	SL1 SL2				L198AM3 L198AM3	MRD	580 580			4.5D	226+2X 224	12.0	Relocated pole, double outreaches, and T3 luminaires from station 017
Waterford – Tamborine Road	019	W1338539	P01	10.0SBM	10.0SBM				SL1 SL2	L19BAM3 L19BAM3	L198AM3 L198AM3	MRD				4.5D	4.5D			12.0	Relocate pole, double outreaches, and T3 luminaires to station 020
Waterford – Tamborine Road	020	W1338539	P01			10.0SBM	238	=	SL1 SL2				L198AM3 L198AM3	MRD	580 580			4.5D	226+2X 224	12.0	Relocated pole, double outreaches, and T3 luminaires from station 019

KF – Kerb Face
ES – Edge of Shoulder
= – Median Centre

POLE PLACEMENT SCHEDULE

LOCATION	STATION NO.	SITE ID	EASTING	NORTHING	FOOTING REMARKS
Waterford – Tamborine Road	008	W2194116	510640.506	6928495.701	New footing to be installed
Waterford – Tamborine Road	009	W2194117	510607.582	6928437.326	New footing to be installed
Waterford – Tamborine Road	010	W2194118	510585.541	6928375.230	New footing to be installed
Waterford – Tamborine Road	011	W2194119	510566.305	6928385.969	New footing to be installed
Logan Street	013	W2193689	510545.506	6928360.796	New footing to be installed
Waterford – Tamborine Road	016	W1338537	510546.172	6928326.893	New footing to be installed
Waterford – Tamborine Road	018	W1338538	510530.346	6928291.445	New footing to be installed
Waterford – Tamborine Road	020	W1338539	510516.307	6928255.183	New footing to be installed

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:\...\layout\Projects\378031295\CADD\MAR\D401\DWG\UR_RL1_300378295-V10-401-A01.dwg

Associated Job Nos:
Auxiliary Drg Nos: Refer Drawing Index
Drg. Series Number 01-01

Survey Data
Horiz. Datum: MGA94
Horiz. Grid: Zone 56
Height Datum: AHD Derived
Survey Books: MR101140

Scales: Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	1.888	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P. Wyatt
Designed: J. Gollay

RATE 3 ROAD LIGHTING SCHEDULE SHEET 1 OF 2

ENGINEERING CERTIFICATION (RPEQ)

ENG. ARE	AME	SIGNATURE: ORIGINAL SIGNED	No. 16802	DATE 07/08/2020
ELECT PI				

ENERGEX PROJECT No.: S3500143
PROJECT SUBURB: Logan Village
SHEET 06 of 09
CONTACT DETAILS
Jared Gollay: (07) 5561 3750

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857947 A
Series Number	RL3-SC01 of 2

PIT SCHEDULE

ID	EASTING	NORTHING	TYPE	USAGE	SURFACE	REMARKS
C001	510784.795	6928702.055	Circular	Communications	Concrete	Existing pit to remain
C002	510659.381	6928504.017	Circular	Communications	Earth	New pit to be installed
C003	510572.325	6928352.227	Circular	Communications	Earth	New pit to be installed with riser
C004	510553.517	6928363.024	Circular	Communications	Earth	Existing pit to be reinstalled with riser
C005	510555.457	6928319.635	Circular	Communications	Earth	New pit to be installed with riser
C006	510543.969	6928324.254	Circular	Communications	Earth	New pit to be installed with riser
C007	510515.397	6928259.248	Circular	Communications	Earth	* New pit to be installed in-line with existing conduit
C008	510457.335	6928181.577	Circular	Communications	Concrete	Existing pit to remain
E001	510786.855	6928706.725	Circular	Electrical	Earth	Existing pit to remain
E002	510659.362	6928505.411	Circular	Electrical	Earth	Existing pit to remain
E003	510651.341	6928491.009	Circular	Electrical	Earth	New pit to be installed with riser
E004	510641.036	6928496.848	Circular	Electrical	Concrete	New pit to be installed with riser
E005	510631.396	6928502.194	Circular	Electrical	Earth	New pit to be installed with riser
E006	510617.908	6928434.108	Circular	Electrical	Earth	New pit to be installed with riser
E007	510608.625	6928439.514	Circular	Electrical	Concrete	New pit to be installed with riser
E008	510583.509	6928373.217	Circular	Electrical	Earth	New pit to be installed
E009	510566.582	6928386.981	Circular	Electrical	Earth	* New pit to be installed in-line with existing conduit
E010	510572.142	6928353.254	Circular	Electrical	Earth	New pit to be installed with riser
E011	510553.534	6928364.058	Circular	Electrical	Earth	Existing pit to be reinstalled with riser
E012	510546.424	6928360.523	Circular	Electrical	Earth	New pit to be installed
E013	510555.514	6928320.589	Circular	Electrical	Earth	New pit to be installed with riser
E014	510544.890	6928324.837	Circular	Electrical	Earth	New pit to be installed with riser
E015	510528.325	6928289.856	Circular	Electrical	Earth	New pit to be installed
E016	510515.866	6928258.193	Circular	Electrical	Earth	Existing pit to remain

Note: Existing pit (Easting X and Northing Y) coordinates from this schedule are for reference only, they do not represent whether they have been surveyed.
* - Will be inactive only, subject to change to alter confirming where the existing conduits were installed.

REMOVAL PIT SCHEDULE

ID	EASTING	NORTHING	TYPE	USAGE	SURFACE	REMARKS
RE001	510710.082	6928596.228	Circular	Electrical	Earth	Existing pit to be removed
RE002	510688.013	6928564.041	Circular	Electrical	Earth	Existing pit to be removed
RE003	510667.069	6928529.567	Circular	Electrical	Earth	Existing pit to be removed
RE004	510658.007	6928507.751	Circular	Electrical	Earth	Existing pit to be removed
RE005	510646.852	6928490.815	Circular	Electrical	Earth	Existing pit to be removed
RE006	510647.354	6928489.944	Circular	Communications	Earth	Existing pit to be removed
RE007	510627.408	6928457.246	Circular	Electrical	Earth	Existing pit to be removed
RE008	510610.051	6928428.037	Circular	Electrical	Earth	Existing pit to be removed
RE009	510545.331	6928359.423	Circular	Electrical	Earth	Existing pit to be removed
RE010	510563.090	6928351.345	Circular	Electrical	Earth	Existing pit to be removed
RE011	510563.160	6928350.621	Circular	Communications	Earth	Existing pit to be removed
RE012	510548.750	6928322.693	Circular	Electrical	Earth	Existing pit to be removed
RE013	510538.644	6928292.363	Circular	Communications	Earth	Existing pit to be removed
RE014	510538.140	6928291.941	Circular	Electrical	Earth	Existing pit to be removed
RE015	510527.606	6928296.083	Circular	Communications	Earth	Existing pit to be removed
RE016	510526.134	6928295.673	Circular	Electrical	Earth	Existing pit to be removed

Rev	Issued For Construction	Name or RPEQ No.	Signature	Date
A				

CAD FILES: V:_Jacobs\Projects\378031295\CAD\3_SHEETS\DWG\LR_RL3_30037295-V16-RL-H032.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index

Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	10.748	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

RATE 3 ROAD LIGHTING SCHEDULE SHEET 2 OF 2

Drawn: P. Wyatt

Designed: A. Gallay

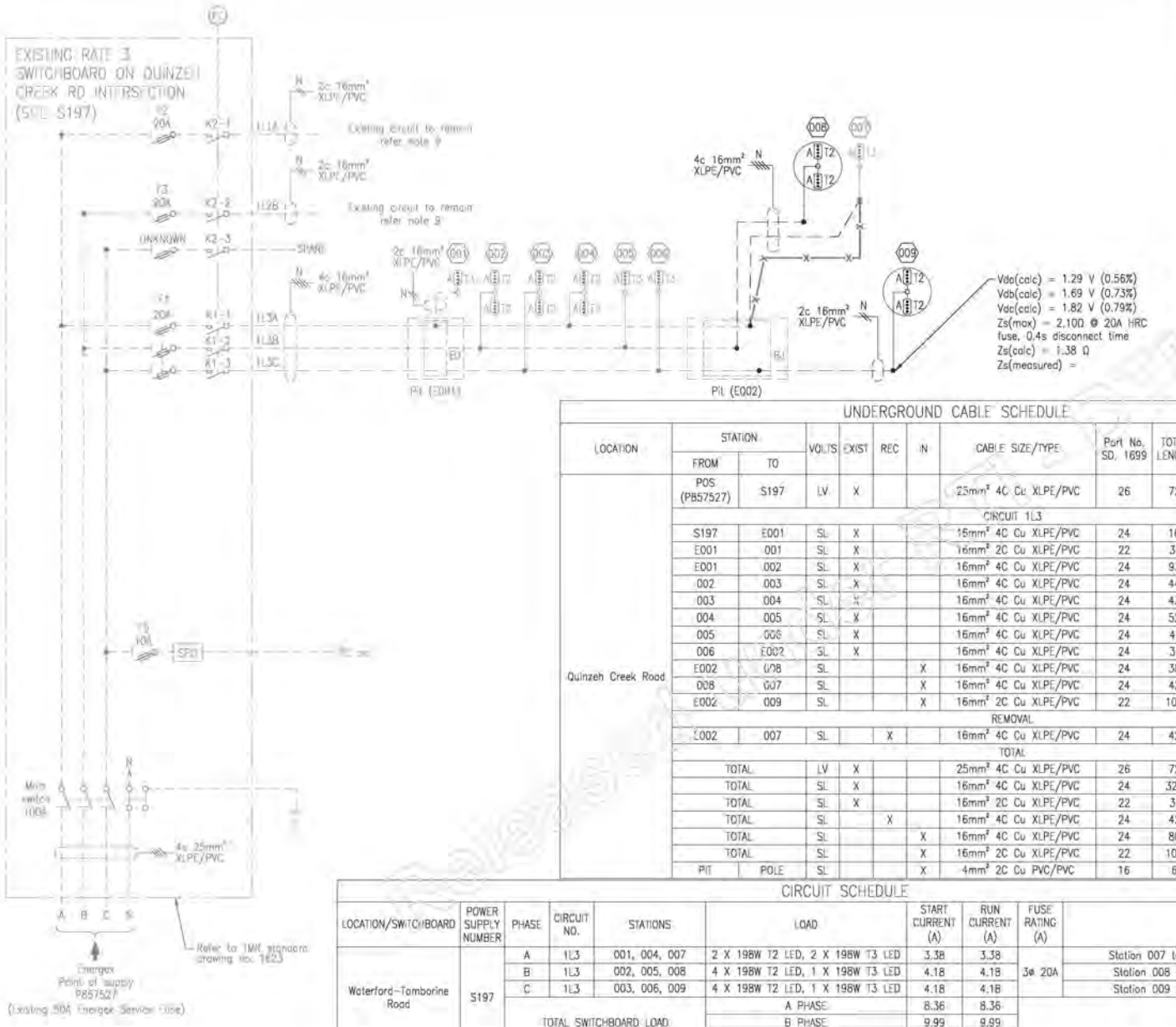
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AMC	SIGNATURE	No.	DATE
ELECT	PI	ORIGINAL SIGNED	16802	07/08/2020

ENERGEX PROJECT No.: S3500143
PROJECT SUBURB: Logan Village
SHEET 07 of 09
CONTACT DETAILS
Jared Gallaty: (07) 5561 3750

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857948 A
Series Number	RL3-SC02 of 2



ELECTRICAL NOTES:

1. Refer to TMR standard drawing no. 1636 for road lighting symbols.
2. All calculations based on 230V supply.
3. Fault loop impedance for new circuits is calculated using:
   When fuse is installed in
   a) 0.4 sec sec disconnect time switchboard to pit, pit as per SD1624/1625;
   b) 5.0 sec disconnect time pit to pit;
   c) 0.4 sec disconnect time pit to pole;
   to in accordance with AS/NZS 3000:2018;
   DIN rail mounted general purpose HRC fuse link to AS/NZS 60269.
4. Installation to comply with the requirements of AS/NZS 3000:2018.
5. Maximum size of fuse to comply with fault loop impedance requirements.
6. Voltage drop calculations based on the following run currents:
   Type 2: 0.83A
   Type 3: 0.86A
   Refer TN158 March 2017
7. Protective device for slip base and fixed based poles to be 10A HRC fuselink.
8. Provide Legrand 058-08 fuse switch or approved equivalent, for final sub-circuits.
9. Refer TMR Drg. No. 786095 for details on existing circuits.
10. According to TMR standard manual – Electrical Design for Roadside devices, a maximum of 50% LED load current of circuit protection devices is accepted by TMR.
11. The maximum Earth Fault Loop Impedance Zs(max) is calculated under the assumption that the operating temperature is 75°C. Contractor must measure the temperature of the conductor on site before testing and refer to TRUM Volume 4 Part 8 Table 5 to determine on-site Zs(max).

UNDERGROUND CABLE SCHEDULE

LOCATION	STATION FROM	STATION TO	VOLTS	EXIST	REC	IN	CABLE SIZE/TYPE	Port No. SD. 1699	TOTAL LENGTH	REMARKS
Quinzeh Creek Road	POS (PB57527)	S197	LV	X			25mm² 4C Cu XLPE/PVC	26	72	Existing cable to remain
	CIRCUIT 1L3									
	S197	E001	SL	X			16mm² 4C Cu XLPE/PVC	24	16	Existing cable to remain
	E001	001	SL	X			16mm² 2C Cu XLPE/PVC	22	31	Existing cable to remain
	E001	002	SL	X			16mm² 4C Cu XLPE/PVC	24	93	Existing cable to remain
	002	003	SL	X			16mm² 4C Cu XLPE/PVC	24	44	Existing cable to remain
	003	004	SL	X			16mm² 4C Cu XLPE/PVC	24	43	Existing cable to remain
	004	005	SL	X			16mm² 4C Cu XLPE/PVC	24	52	Existing cable to remain
	005	006	SL	X			16mm² 4C Cu XLPE/PVC	24	41	Existing cable to remain
	006	E002	SL	X			16mm² 4C Cu XLPE/PVC	24	31	Existing cable to remain
	E002	008	SL			X	16mm² 4C Cu XLPE/PVC	24	38	New cable to be installed
	008	007	SL			X	16mm² 4C Cu XLPE/PVC	24	42	New cable to be installed
	E002	009	SL			X	16mm² 2C Cu XLPE/PVC	22	109	New cable to be installed
	REMOVAL									
	E002	007	SL		X		16mm² 4C Cu XLPE/PVC	24	42	Existing cable to be recovered
	TOTAL									
	TOTAL		LV	X			25mm² 4C Cu XLPE/PVC	26	72	Existing cable to remain
	TOTAL		SL	X			16mm² 4C Cu XLPE/PVC	24	320	Existing cable to remain
	TOTAL		SL	X			16mm² 2C Cu XLPE/PVC	22	31	Existing cable to remain
	TOTAL		SL		X		16mm² 4C Cu XLPE/PVC	24	42	Existing cable to be recovered
	TOTAL		SL			X	16mm² 4C Cu XLPE/PVC	24	80	New cable to be installed
	TOTAL		SL			X	16mm² 2C Cu XLPE/PVC	22	109	New cable to be installed
	PIT	POLE	SL			X	4mm² 2C Cu PVC/PVC	16	6	New cable to be installed

CIRCUIT SCHEDULE

LOCATION/SWITCHBOARD	POWER SUPPLY NUMBER	PHASE	CIRCUIT NO.	STATIONS	LOAD	START CURRENT (A)	RUN CURRENT (A)	FUSE RATING (A)	REMARKS
Waterford-Tamborine Road	S197	A	1L3	001, 004, 007	2 X 198W T2 LED, 2 X 198W T3 LED	3.38	3.38	3ø 20A	Station 007 to be reinstalled on circuit.
		B	1L3	002, 005, 008	4 X 198W T2 LED, 1 X 198W T3 LED	4.18	4.18		Station 008 to be installed on circuit.
		C	1L3	003, 006, 009	4 X 198W T2 LED, 1 X 198W T3 LED	4.18	4.18		Station 009 to be installed on circuit.
		TOTAL SWITCHBOARD LOAD			A PHASE	8.36	8.36		
					B PHASE	9.99	9.99		
					C PHASE	4.18	4.18		
For all other circuit information refer TMR Drg. No. 786095									

LEGEND

- Existing single phase fuse switch
- Existing three phase combination fuse switch
- Existing three phase contactor
- SPD Existing surge protection device
- Existing main switch
- Earth
- Photoelectric Cell

ENERGEX PROJECT No.: S3500143
PROJECT SUBURB: Logan Village
SHEET 08 of 09
CONTACT DETAILS
Jared Gallaty: (07) 5561 3750

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_MR\CAD\DWG\16_RL\30031795-V16-RL-1041.dwg

Associated Job Nos:
Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: G. Clarke
Designed: J. Gallaty

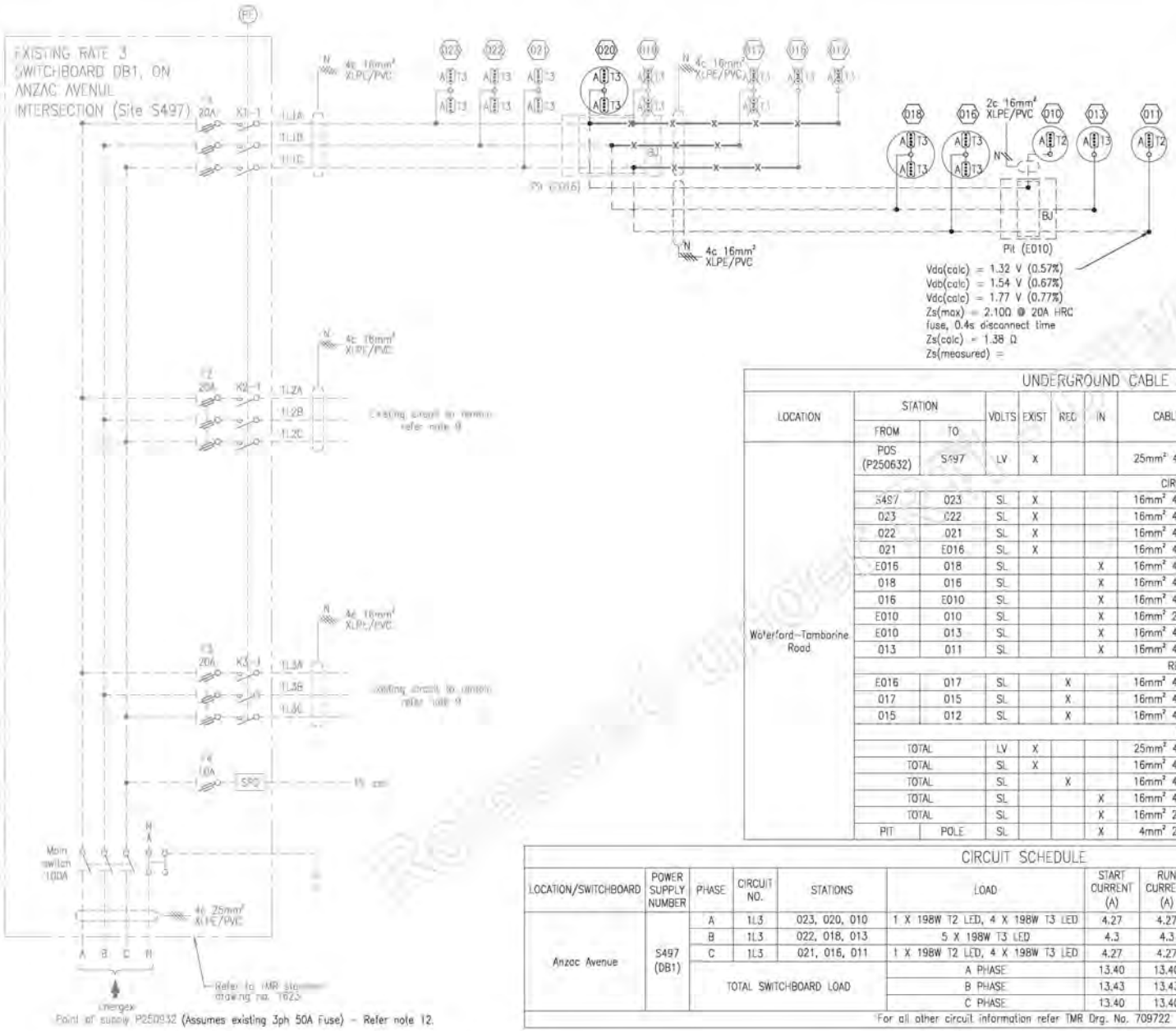
RATE 3 ROAD LIGHTING
SINGLE LINE DIAGRAMS
SHEET 1 OF 2

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA		SIGNATURE:	No.	DATE
ELECT	PI	ORIGINAL SIGNED	16602	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857949 A
Series Number	RL3-SL01 of 2



Point of supply P250932 (Assumes existing 3ph 50A Fuse) – Refer note 12.

ELECTRICAL NOTES:

1. Refer to TMR standard drawing no. 1636 for road lighting symbols.
2. All calculations based on 230V supply.
3. Fault loop impedance for new circuits is calculated using:
   When fuse is installed in pit as per SD1624/1625;
   a) 0.4 sec disconnect time switchboard to pit
   b) 5.0 sec disconnect time pit to pit;
   c) 0.4 sec disconnect time pit to pole;
   in accordance with AS/NZS 3000:2018;
   DIN rail mounted general purpose HRC fuse link to AS/NZS 60269.
4. Installation to comply with the requirements of AS/NZS 3000:2018.
5. Maximum size of fuse to comply with fault loop impedance requirements.
6. Voltage drop calculations based on the following run currents:
   Type 2: 0.83A
   Type 3: 0.86A
   Refer TN158 March 2017
7. Protective device for slip base and fixed based poles to be 10A HRC fuselink.
8. Provide Legrand 058-08 fuse switch or approved equivalent, for final sub-circuits.
9. Refer TMR Drg. No. 709722 for details on existing circuits.
10. According to TMR standard manual – Electrical Design for Roadside devices, a maximum of 50% LED load current of circuit protection devices is accepted by TMR.
11. The maximum Earth Fault Loop impedance Zs(max) is calculated under the assumption that the operating temperature is 75°C. Contractor must measure the temperature of the conductor on site before testing and refer to TRUM Volume 4 Part B Table 5 to determine on-site Zs(max).
12. Contractor to check and confirm existing fuse size on P250932, as per Earth Fault Loop Impedance and Voltage Drop calculations are based on assumption made from existing fuse to be 3phase 50A.

UNDERGROUND CABLE SCHEDULE

LOCATION	STATION FROM	STATION TO	VOLTS	EXIST	REC	IN	CABLE SIZE/TYPE	Part No. SD. 1699	TOTAL LENGTH	REMARKS
Waterford–Tamborine Road	POS (P250632)	S497	LV	X			25mm² 4C Cu XLPE/PVC	26	56	Existing cable to remain
	CIRCUIT 1L1									
	S497	023	SL	X			16mm² 4C Cu XLPE/PVC	24	60	Existing cable to remain
	023	022	SL	X			16mm² 4C Cu XLPE/PVC	24	32	Existing cable to remain
	022	021	SL	X			16mm² 4C Cu XLPE/PVC	24	44	Existing cable to remain
	021	E016	SL	X			16mm² 4C Cu XLPE/PVC	24	47	New cable to be installed
	E016	018	SL			X	16mm² 4C Cu XLPE/PVC	24	40	New cable to be installed
	018	016	SL			X	16mm² 4C Cu XLPE/PVC	24	45	New cable to be installed
	016	E010	SL			X	16mm² 4C Cu XLPE/PVC	24	60	New cable to be installed
	E010	010	SL			X	16mm² 2C Cu XLPE/PVC	22	32	Existing cable to remain
	E010	013	SL			X	16mm² 4C Cu XLPE/PVC	24	42	New cable to be installed
	013	011	SL			X	16mm² 4C Cu XLPE/PVC	24	48	New cable to be installed
	REMOVAL									
	E016	017	SL		X		16mm² 4C Cu XLPE/PVC	24	35	Existing cable to be recovered
	017	015	SL		X		16mm² 4C Cu XLPE/PVC	24	50	Existing cable to be recovered
	015	012	SL		X		16mm² 4C Cu XLPE/PVC	24	44	Existing cable to be recovered
	TOTAL									
	TOTAL		LV	X			25mm² 4C Cu XLPE/PVC	26	56	Existing cable to remain
	TOTAL		SL	X			16mm² 4C Cu XLPE/PVC	24	168	Existing cable to remain
	TOTAL		SL		X		16mm² 4C Cu XLPE/PVC	24	129	Existing cable to be recovered
	TOTAL		SL			X	16mm² 4C Cu XLPE/PVC	24	235	New cable to be installed
	TOTAL		SL			X	16mm² 2C Cu XLPE/PVC	22	32	New cable to be installed
	PIT	POLE	SL			X	4mm² 2C Cu PVC/PVC	16	18	New cable to be installed

CIRCUIT SCHEDULE

LOCATION/SWITCHBOARD	POWER SUPPLY NUMBER	PHASE	CIRCUIT NO.	STATIONS	LOAD	START CURRENT (A)	RUN CURRENT (A)	FUSE RATING (A)	REMARKS
Anzac Avenue	S497 (DB1)	A	1L3	023, 020, 010	1 X 198W T2 LED, 4 X 198W T3 LED	4.27	4.27	3ø 20A	Station 020 and 010 to be installed on circuit.
		B	1L3	022, 018, 013	5 X 198W T3 LED	4.3	4.3		Station 08 and 012 to be installed on circuit.
		C	1L3	021, 016, 011	1 X 198W T2 LED, 4 X 198W T3 LED	4.27	4.27		Station 016 and 011 to be installed on circuit.
		TOTAL SWITCHBOARD LOAD			A PHASE	13.40	13.40		
					B PHASE	13.43	13.43		
					C PHASE	13.40	13.40		

*For all other circuit information refer TMR Drg. No. 709722

ENERGEX PROJECT No.: S3500143
PROJECT SUBURB: Logan Village
SHEET 09 of 09

CONTACT DETAILS
Jared Gallaty: (07) 5561 3750

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

LAD FILES: V:_Vault\Projects\30031795\CADD_MAR\CAD\DWG\16_RL\30031795-V16-RL-1042.dwg

Associated Job Nos:
Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	3.550	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: C. Clarke
Designed: J. Gallaty

RATE 3 ROAD LIGHTING
SINGLE LINE DIAGRAMS
SHEET 2 OF 2

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AME	SIGNATURE:	No.	DATE
ELECT	PI	ORIGINAL SIGNED	16602	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857950 A
Series Number	RL3–SL02 of 2

DOCUMENTS – SPECIFICATIONS – DRAWINGS

It is the intent of the drawings and TMR specifications to provide for a completed, tested and commissioned installation to be handed over in a fully operational condition at the time of practical completion of the installation.

Any equipment, services or material not shown on drawings and specified in the TMR specifications or vice versa and any incidental equipment, service or material which may be necessary for the satisfactory operation of the completed installations, whether mentioned in the drawings and specifications or not, shall be supplied and installed and set to work the same as if specifically shown on the drawings or specified in the specifications.

Execute the work to the true intent of the drawings and specifications. If a discrepancy or ambiguity is found to occur in the drawings and/or specification, advise the Administrator in writing and the Administrator will provide a direction.

SERVICES LOCATION AND CONFLICTS NOTES

The information shown is not intended to provide the contractor with complete and accurate information concerning the location and extent of existing and new utility services. The contractor is to make enquiries to the relevant service authorities as to the location, depth and extent of the utility service prior to commencement of any work on site.

No work is to be carried out within 3 metres of any existing services without prior recorded consultation with the relevant service authority.

When an existing underground service not previously identified, is found during construction, the contractor is to immediately advise the Administrator and relevant service authority. Allow a hold time of two days for the service authority to witness and document the unidentified service.

The contractor is solely responsible for any damage incurred to existing services as a result of the execution of the work under the contract.

SUPPLY AUTHORITY

Perform the entire installation in accordance with the requirements of the statutory authority having jurisdiction. Submit requested forms to supply authority prior to commencement and obtain approval.

On completion of the work, lodge "ready for test" certificate with supply authority and obtain approval and submit evidence of approval of installation to Administrator.

Refer to road lighting (RL) drawing series for electrical points of supply.

ELECTRICAL ACTS AND REGULATIONS

Additional to TMR specifications and Australian standards, all communications & electrical work shall comply with current acts, regulations and codes of all statuary authorities having jurisdiction over the work. This shall include but not be limited to the following:

- Qld Electrical Act and Regulations
- Qld Electrical Safety Act and Regulations
- Qld Electrical Safety – Codes of Practice
- Qld Workplace Health and Safety Act and Regulations
- Qld Transport Operations Act
- Qld Transport Infrastructure Act
- AS/CA S008 Requirements for customer cabling products.
- AS/CA S009 Installation requirements for customer cabling (wiring rules)

PROPERTY BRAND NAME REFERENCES

Any reference in these drawings to proprietary brand names or to a particular manufactured product should not be interpreted to mean that the particular article of product is the only one to be supplied or used.

The reference is given as a requirement of the quality, class, performance, type and finish of the item to be used and as information to the tenderer's on the type and size on which the design is based.

The Principal and Administrator reserve the right to reject any proposed alternatives and require the specified item to be installed at no cost penalty.

DELIVERY, HANDLING AND STORAGE

Deliver, unload and store in a secure area, in accordance with manufacturers instructions where applicable, to prevent damage, deterioration and loss.

ADJUST AND CLEAN

Adjust installation of components to ensure proper fit and adjustment. Remedy items of sufficient operation or of non compliant performance. Clean visible items to original condition. Remove debris from installation in concealed spaces.

PROTECTION

Protect installed items from damage from any source until practical completion.

BALANCING OF ELECTRICAL LOAD

Balance the load as evenly as possible over all phases at practical completion, and again at the end of the defects liability period.

Measure the load on each phase at each switchboard and make circuit re-connections followed by further load measurement and re-connections. Provide amended as-constructed drawings, circuit schedules and labelling to reflect changes.

TESTING AND ACCEPTANCE

All electrical works to be installed and tested in accordance with AS/NZS 3000:2018.

Submit all notices and pay all fees due to all relevant authorities including Energex.

All telecommunications to be installed and tested in accordance with AS/CA S008 and AS/NZS 14763.3 for optical fibre.

Test certificates, dated and signed by a responsible person shall be supplied in duplicate to the Administrator.

Test the installation to the satisfaction of the Administrator and the statutory authorities prior to the acceptance of the installation and the commencement of the defects liability period. The tests shall comprise a thorough inspection of the entire installation and the operational and performance tests required to confirm compliance with the specification.

Supply the necessary faculties, labour, apparatus and instruments, properly calibrated, required for carrying out the tests, and give the Administrator five working days notice in writing of tests.

Do not energise any component of the installation until approval has been issued.

Tests shall include but not be limited to the following:

- Insulation resistance using 1,000 volt megger between each conductor and all others in the same cable, conduit or switchgear and between conductors and earth;
- Earth resistance tests in accordance with AS/NZS 3000:2018;
- Verification of polarity and phase rotation;
- Functional tests of controls and systems;

CERTIFICATION OF COMPLIANCE

Certify on completion that the works comply with the requirements of AS/NZS 3000:2018 and the supply authority regulations and any other applicable rules or regulations.
The certificate shall be in a form acceptable to the responsible authority and shall be addressed to them. Provide copies for the Administrator and the Principal.

COMPLETION AND CLEAN UP

Prior to practical completion and as others complete their work in each area, remove all tools and equipment and all debris associated with the work and clean all components of the installation including pits, cabinets, etc.

TOOLS AND SPARES

Supply one complete set of all special tools required for routine maintenance on all items of equipment as well as any particular tools or instruments specified. Label all items clearly with durable labels to indicate purpose.

EARTHING SYSTEM

Earth in accordance with requirements for MEN system and supply authority.

Earthing conductors to be run with all submains and circuits. A common earth conductor for a number of submains is not permitted.
Equipotential bonding: To AS/NZS 3000:2018 and AS/NZS 1768

Provide earth electrodes to all field cabinets and where required by AS/NZS 3000:2018.

Earth rods: 3000mm long, 19mm diameter hard drawn, copper rods with hardened tip driven to full depth, with 150 mm of top exposed in an earth electrode pit.

Earth electrode pits: Cellulose fibre cement or glass reinforced plastic construction, install flush with finished ground level. Lid label engraved "Main Earth".
Installation: Drill hole in ground, and fill with dry gypsum/bentonite mixture. Install electrode, compact mixture and wet mixture.
Label: Label electrode with brass label engraved "Main Earth – Do Not Disconnect".

Bond (Earth) all conductive parts that make up the electrical installation (i.e. cabinets, cabinet doors, poles, etc) in accordance with AS/NZS 3000:2018 and TMR specification.

Install sufficient earth electrodes at spacing of 3 m, bonded together, to achieve a resistance to earth not exceeding maximum stated in AS/NZS 3000:2018.

Test the resistance to earth of the earth electrode system to prove that earth resistance does not exceed maximum stated in AS/NZS 3000:2018.

CABLES

Cable lengths nominated on drawings and tables are approximate only. It is the contractors responsibility to measure and determine final lengths of cables. No cable joints in conduits will be accepted.

PITS

Refer to Road Lighting (RL) drawing series for pit schedules. Removal drawings are to be included in the RL set. For all installation refer to conduits and pits.

THIS DRAWING SET TO BE REPRODUCED IN COLOUR

Pits shown in this drawing are shown at true scale.

ACRONYMS	
AC	Alternative Current
BT	Bluetooth
CAT	Category
CCTV	Closed Circuit Television
CFS	Combination Fuse Switch
CH	Chainage
Cu	Copper
DB	Distribution Board
DC	Direct Current
Drg	Drawing
DP	Double Pole
TMR	Department of Transport and Main Roads
ELV	Extra Low Voltage
FC	Field Cabinet
FOBOT	Fibre Optic Break Out Tray (Includes Patch Panel)
FOC	Fibre Optic Cable
FOSC	Fibre Optic Splice Closure
FP	Field Processor
IEEE	Institute of Electrical and Electronics Engineers
IL	Induction Loop
IP	Ingress Protection
ITS	Intelligent Transport System
LAN	Local Area Network
LC	Loop Controller
MEN	Multiple Earthed Neutral
NS	Network Switch
PE	Polyethylene
POE	Power Over Ethernet
PTN	Principal's Telecommunication Network
PTZ	Pan Tilt Zoom
PVC	Polyvinyl Chloride
RCBO	Residual Current Circuit Breaker With Overcurrent Protection
RCD	Residual Current Device
SC	Standard Connector – Fibre Optic
SM	Single Mode
SP	Splice Pit
SMOF	Single Mode Optical Fibre
SW	Ethernet Switch
RU	Rack Unit
TSC	Traffic Signal Controller
UPS	Uninterruptible Power Supply
UG	Under Ground
VE	Video Encoder
VDS	Vehicle Detection Site

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Jaxa\Projects\30031295\CADD\MAR\CAD\DWG\18_ITS\30031295-ITS-IT-0001.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	1.000	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

INTELLIGENT TRANSPORT SYSTEMS
GENERAL NOTES
SHEET 1 OF 2

Drawn: C. Clarke
Designed: J. Gollay

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME	SIGNATURE: ORIGINAL SIGNED	No. 16602	DATE 07/08/2020
ELECT	PI			

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857956 A
Series Number	IT–NL01 of 2

ISSUED FOR CONSTRUCTION
30 July 2020

SMEC

LEGEND

- Existing property boundary
- Existing easement boundary
- Resumption boundary

Design Features Civil

- Control line
- 3500 Chainage (control)
- Kerb and channel
- Kerb
- Channel
- Fence
- Batter batter cut/fill slope

Existing Services

Aboveground Existing Services

- Electricity
- Stay Pole & Wire

Underground Existing Services

- Electricity
- Telecomms

Dial Before You Dig

- Electricity
- Telecomms
- Optic Fibre

Cadastral Boundaries

- Parish boundary
- Easment boundary

Proposed & Existing Drainage

Refer to (DD) Drg Series

Existing Features

Refer to (EF) Drg Series

Proposed & Existing Public Utility Plant

Refer to (PU) Drg Series

- Existing LV, HV, LV/HV and transformer power poles
- Denotes LV cable termination box
- Denotes HV cable termination box
- Denotes earth connection
- Existing stay wire

Intelligent Transport Systems

- Existing CCTV camera PTZ (pan tilt zoom)
- CCTV camera pole with dropdown direction
- Existing Traffic signal controller cabinet
- TSC-MXXXX Traffic signal controller label
- CCTV-XX Closed curcuit television label

Conduits and Pits

- Existing circular pit (Electrical/Comms pit denoted by tag)
- New electrical circular pit
- New communications circular pit
- New underground HDUPVC conduit
- Existing underground HDUPVC conduit to remain

- EXXX Electrical pit station number
- CXXX Communcations pit station number

Cable marker
E1 – Denotes 100mm dia. HD UPVC orange electrical conduit
C1 – Denotes 100mm dia. HD UPVC white communication conduit
16Cu2CSL – Denotes 16mm² copper cable 2 cores for street lighting
16Cu4CSL – Denotes 16mm² copper cable 4 cores for street lighting
24FOC – Denotes 24 core fibre optic cable

- Denotes new street lighting cable to be installed, when used in conjunction with cable marker symbol
- Denotes new fibre optic cable to be installed, when used in conjunction with cable marker symbol
- Denotes existing street lighting cable to remain, when used in conjunction with cable marker symbol
- Denotes existing fibre optic cable to remain, when used in conjunction with cable marker symbol

Optic Fibre Cable Route

- New 24 Core SMOF Cable (in comms. conduit)

Communications schematic

- Unterminated naked fibre
- Fusion splice (unused)
- Fusion splice
- FOC-XX Fibre optic cable identification
- 2/23 Cable termination cross reference i.e. series number IT-23, row 2
- Min 10m coil of spare fibre optic cable to be left in pit
- Fibre optic cable
- FP Field processor
- NS-L# Network switch # 2 – Layer 2, # 3 – Layer 3
- ISC Traffic Signal Controller
- FOBOT Fibre Optic Breakout Tray
- bT Bluetooth
- Microwave Antenna
- Fibre Optic Splice Closure
- Traffic Signal Lights

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Jaxul\Projects\30031795\CADD\MAR\CAD\DWG\18_IT\30031795-V18-IT-0012.dwg

Associated Job Nos:
Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	1.000	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: C. Clarke
Designed: J. Gollay

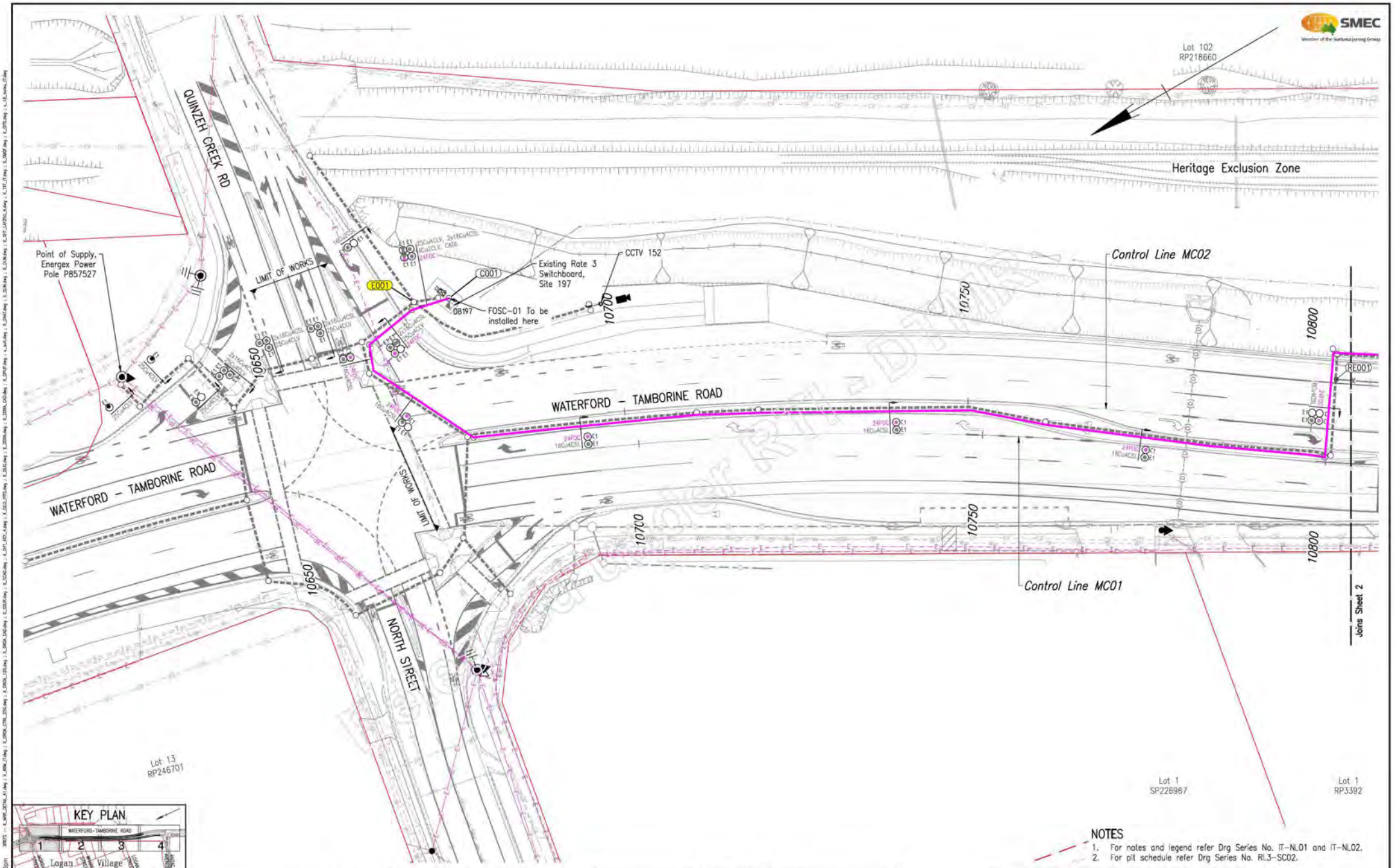
INTELLIGENT TRANSPORT SYSTEMS
LEGEND
SHEET 2 OF 2

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA		AME	SIGNATURE:	No.	DATE
ELECT	PI		ORIGINAL SIGNED	16802	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857957 A
Series Number	IT-NL02 of 2



Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\18_IT\30031795-V18-IT-1001.dwg

Last Modified – Aug 07, 2020 – 4:36pm

Associated Job Nos	Survey Data	
	Horiz. Datum	MGA94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number DI–01	Height Datum	AHD Derived
	Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

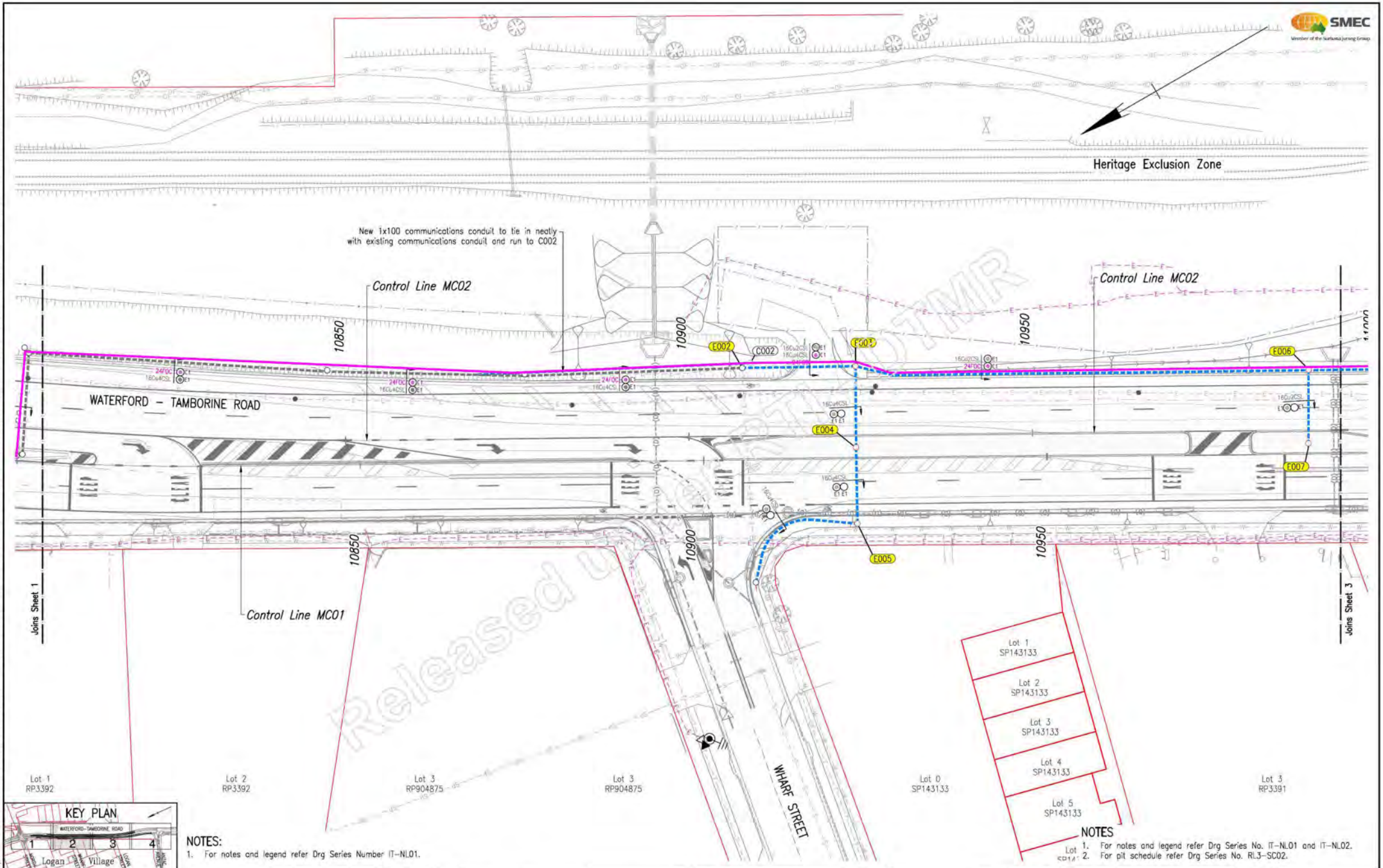
Drawn G. Clarke
Designed J. Gallaty

INTELLIGENT TRANSPORT SYSTEMS
LAYOUT PLAN
SHEET 1 OF 4

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME:	SIGNATURE:	No.	DATE
ELECT PI		ORIGINAL SIGNED	16602	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857958 A
Series Number	IT–01 of 4



Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\18_IT\30031795-V18-IT-1002.dwg

Last Modified – Aug 07, 2020 – 4:37pm

Associated Job Nos	Survey Data	
	Horiz. Datum	MGA94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number DI–01	Height Datum	AHD Derived
	Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn G. Clarke
Designed J. Gallaty

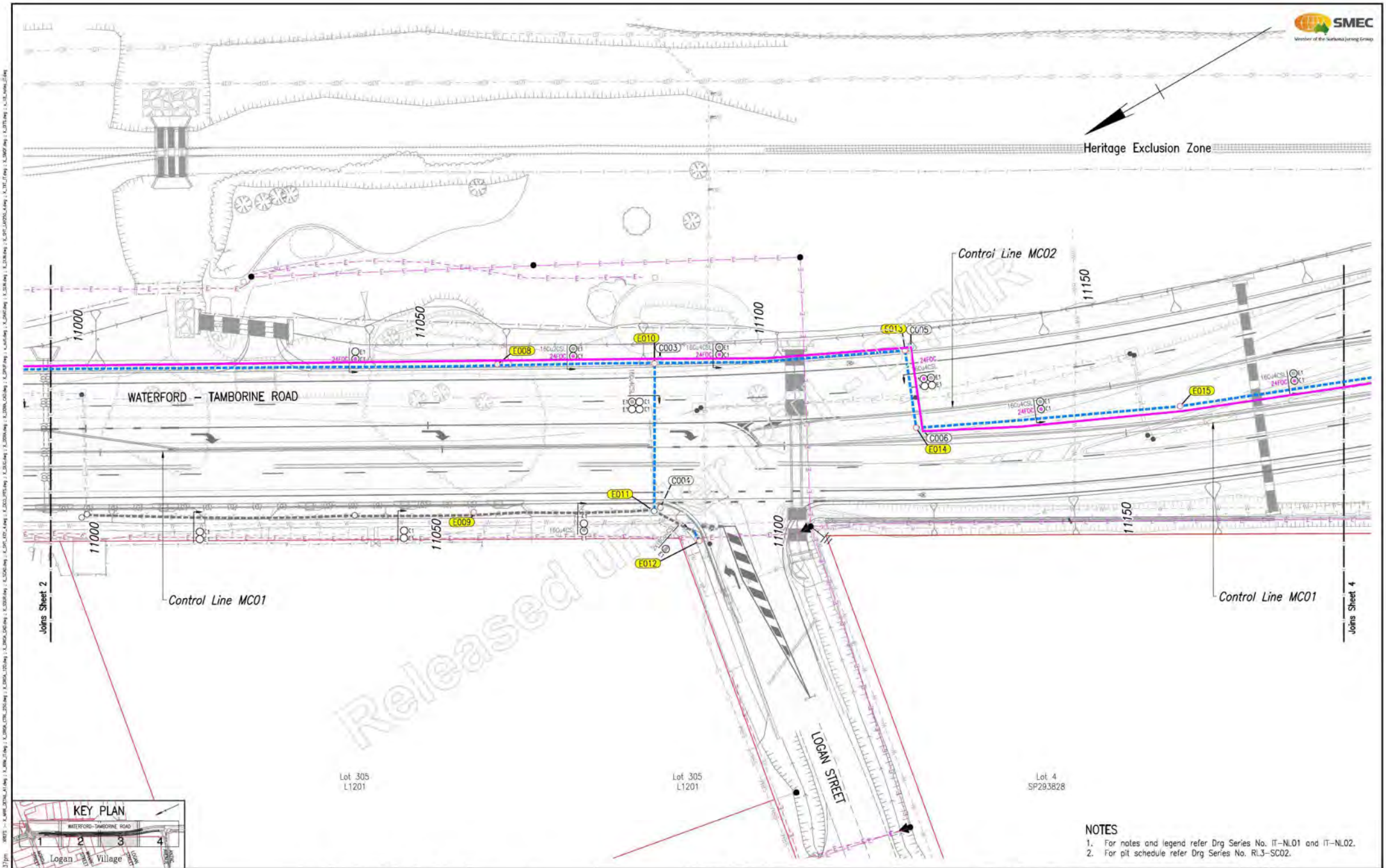
INTELLIGENT TRANSPORT SYSTEMS
LAYOUT PLAN
SHEET 2 OF 4

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
ELECT PI		ORIGINAL SIGNED	16602	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857959 A
Series Number	IT–02 of 4



NOTES
1. For notes and legend refer Drg Series No. IT–NL01 and IT–NL02.
2. For pit schedule refer Drg Series No. RL3–SC02.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\18_ITS\30031795–V18–IT–1003.dwg

Last Modified – Aug 07, 2020 – 4:37pm

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: 0 2 4 6 8 10m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: G. Clarke
Designed: J. Gallaty

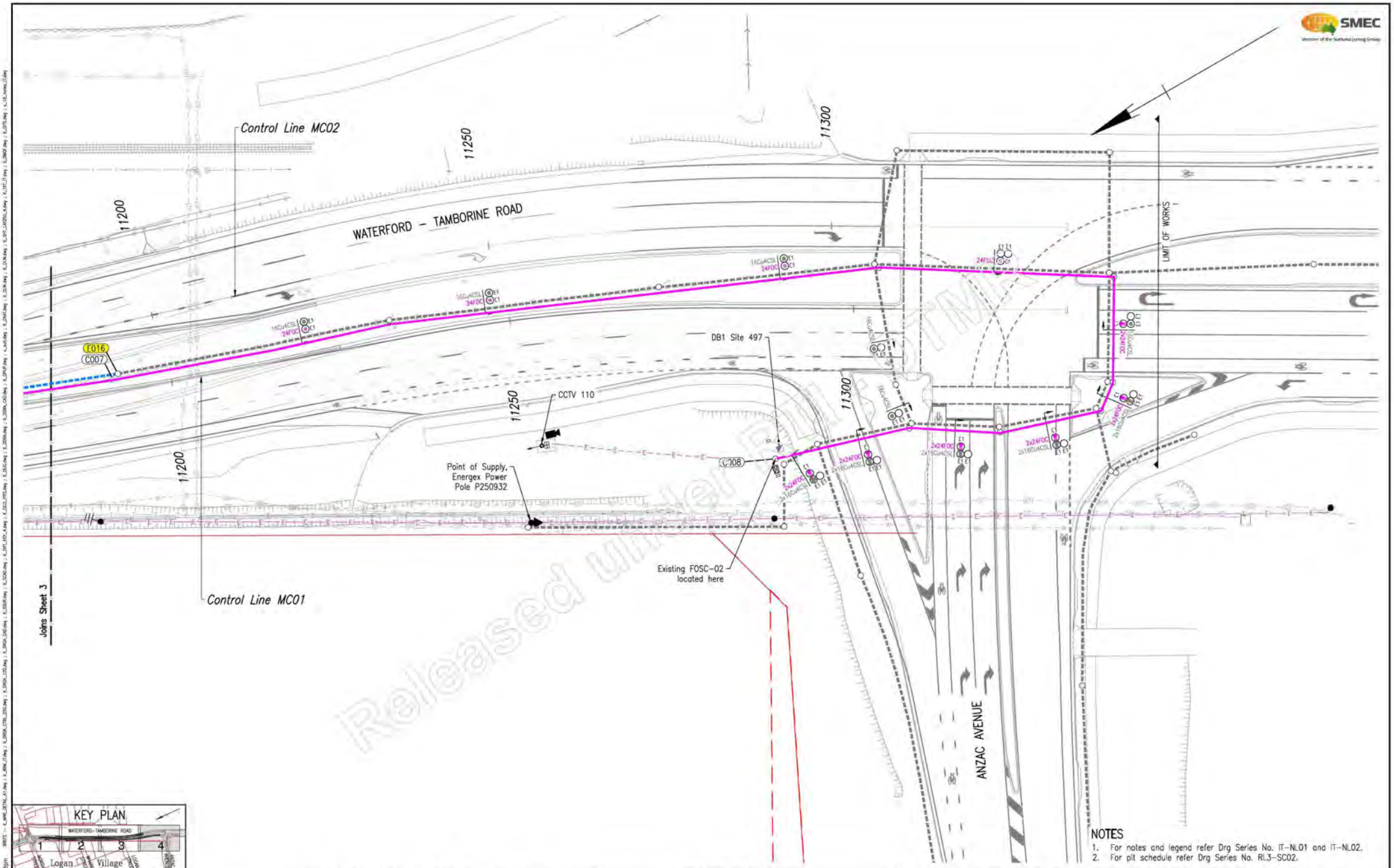
INTELLIGENT TRANSPORT SYSTEMS
LAYOUT PLAN
SHEET 3 OF 4

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
ELECT PI		ORIGINAL SIGNED	16602	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857960 A
Series Number	IT–03 of 4



KEY PLAN

WATERFORD–TAMBORINE ROAD

1 2 3 4

Logan Village

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\18_IT\30031795-V18-IT-1004.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index
Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	2.058	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn C. Clarke
Designed J. Gallaty

INTELLIGENT TRANSPORT SYSTEMS
LAYOUT PLAN
SHEET 4 OF 4

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
ELECT PI		ORIGINAL SIGNED	16602	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857961 A
Series Number	IT–04 of 4

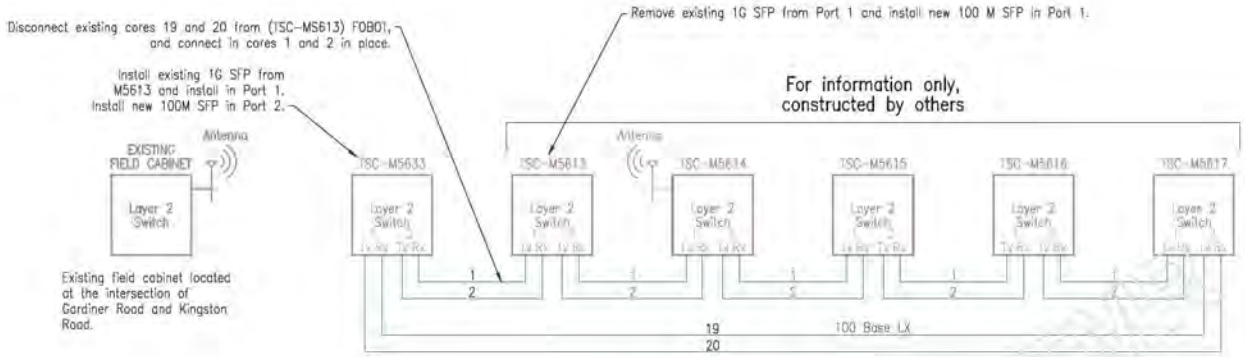


TABLE 1. NEW EQUIPMENT

Description	Make/Model	Number
SFP MODULE	CISCO GLC-FE-100LX-RGD	4

TABLE 2: CALCULATED BANDWIDTH USE

Item	Number	Bandwidth (Mbps)	Total Bandwidth (Mbps)
Field Processor	6	0.46	2.76
CCTV	4	3.2	12.8
Subtotal			15.56
Overhead		5.32%	0.828
Total (Note 1)			16.388

NOTES

1. The calculated bandwidth complies with MRTS245 for ethernet LAN connection at 100Mbps for ISO layer 2.
2. The PTN equipment shall comply with IEEE 802.3.
3. Maximum distance for 100 Base LX (fast ethernet) is 5Km and 1000 Base LX/LH (gigabit) is 10Km

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_WAR\CAD\DWG\18_ITS\30031795-V18-IT-102.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.888	9.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

INTELLIGENT TRANSPORT SYSTEMS
SYSTEM ARCHITECTURE

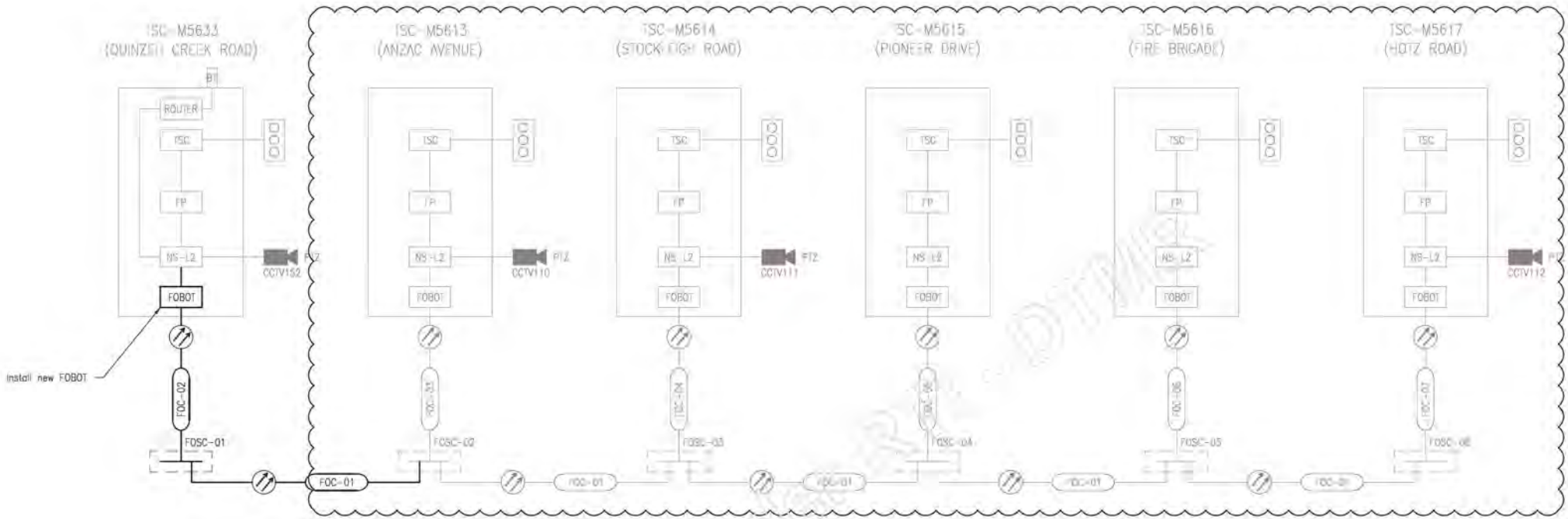
Drawn: C. Clarke
Designed: J. Gollaly

ENGINEERING CERTIFICATION (RPEQ)

ENG. ARE ELECT	NAME	SIGNATURE: ORIGINAL SIGNED	No. 16602	DATE 07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857962 A
Series Number	IT-SM01 of 5



For information only,
as constructed by others

NEW EQUIPMENT

Description	Make/Model	Number
24 PORT UNIVERSAL SC PATCH PANEL (FOBOT)	AFC with 2X12 port snap-in angle coupler	1
FOSC	TMR approved FOSC or FIST type	1

FOC Designation	Reference Point From	Reference Point To	Via (Reference Points) (Note 1)	Length (m)	Cable Size/Type	Comments
FOC-01	FOSC-01	FOSC-02		985	24 Core SMOF : GRP Armoured, rodent resistant and designed for outdoor and underground use in accordance with TMR specification MRS234	Optical fibre backbone. Allow for 15 metres of optic fibre cable either end side of the splice kit rolled up within each splice kit.
FOC-02	FOSC-01	TSC-M5633		10	24 Core SMOF : GRP Armoured, rodent resistant and designed for outdoor and underground use in accordance with TMR specification MRS234	Optical fibre pigtails spliced into new optical fibre backbone.

NOTE

1. Reference points column to be provided on As constructed drawings.

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD\MAR\CAD\DWG\18_ITS\30031795-ITS-IT-1021.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data

Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.000	3.554	5A	

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: G. Clarke
Designed: J. Gollaly

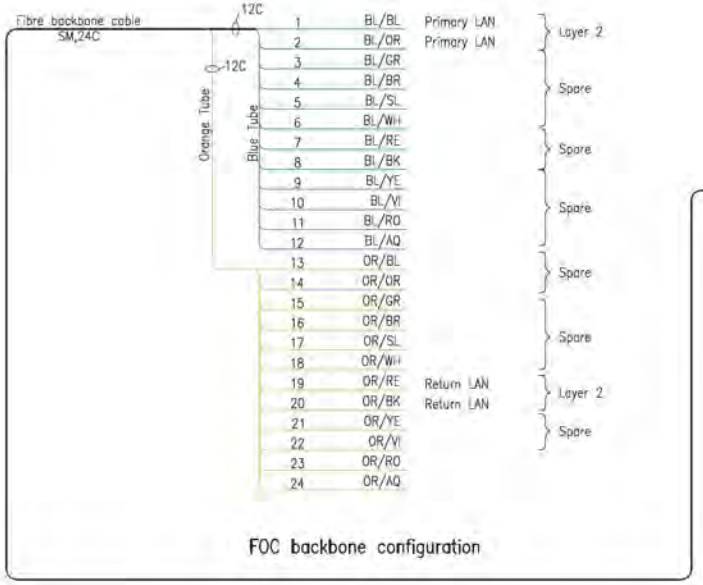
INTELLIGENT TRANSPORT SYSTEMS
SYSTEM CONNECTION DIAGRAM

ENGINEERING CERTIFICATION (RPEQ)

	NAME	SIGNATURE	No.	DATE
ENG. ARE ELECT	PJ	ORIGINAL SIGNED	16602	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857963 A
Series Number	IT-SM02 of 5



FOC backbone configuration

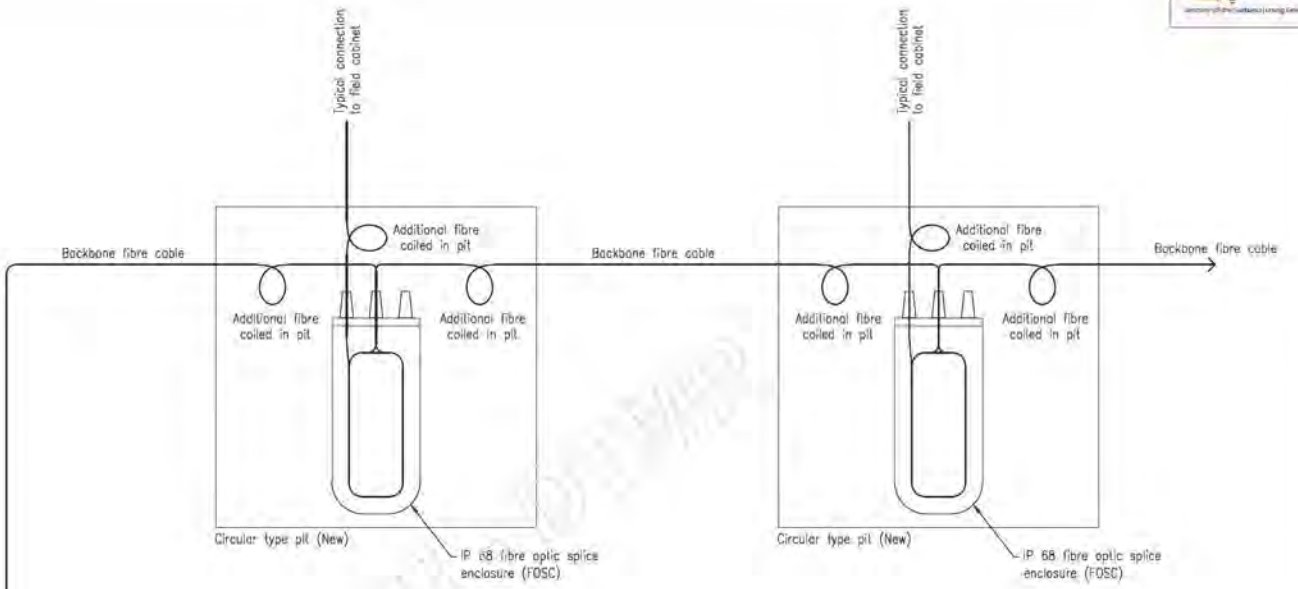


Table 1

Fibre optic sub-unit colour code table

FIBRE / TUBE NO.	COLOUR	ABBREVIATION
1	Blue	BL
2	Orange	OR
3	Green	GR
4	Brown	BR
5	Slate	SL
6	White	WH
7	Red	RE
8	Black	BK
9	Yellow	YE
10	Violet	VI
11	Rose	RO
12	Aqua	AQ

NOTES

1. For ITS notes and legend refer Drg Series No. IT-NL01 and IT-NL02.
2. Fibre optic cable shall be rodent resistant and have the characteristics stated in TMR technical specifications MRTS234.
3. Backbone fibre optic cable to be a minimum of 24C.
4. Fibre / Tube colour coding to comply with TIA/EIA-598, table 1.
5. IP rated splice enclosure shall meet the following requirements:
   - IP rating – IP68
   - NEMA rating – 6P
   - Performance TIA 568 – C.3
   - Minimum of four separate splice trays
   - Each splice tray minimum capacity for 24 splices
6. Fibre optic cables shall only be spliced with other fibre optic cables of matching size and index type.
7. No section of the fibre cores shall be exposed outside of the sealed splice enclosure.
8. Any exposed, unused or unterminated fibre optic cables shall be sealed as a secondary protection against possible ingress of moisture and other foreign material.
9. For FOC cable schedules refer Drg Series No. IT-SM02.
10. For FOC backbone termination schematics refer Drg Series No. IT-SM04.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Jaual\Projects\30331795\CADD\MAR\CAD\DWG\18_ITS\30331795-V18-IT-1022.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	1.000	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: C. Clarke
Designed: J. Gollay

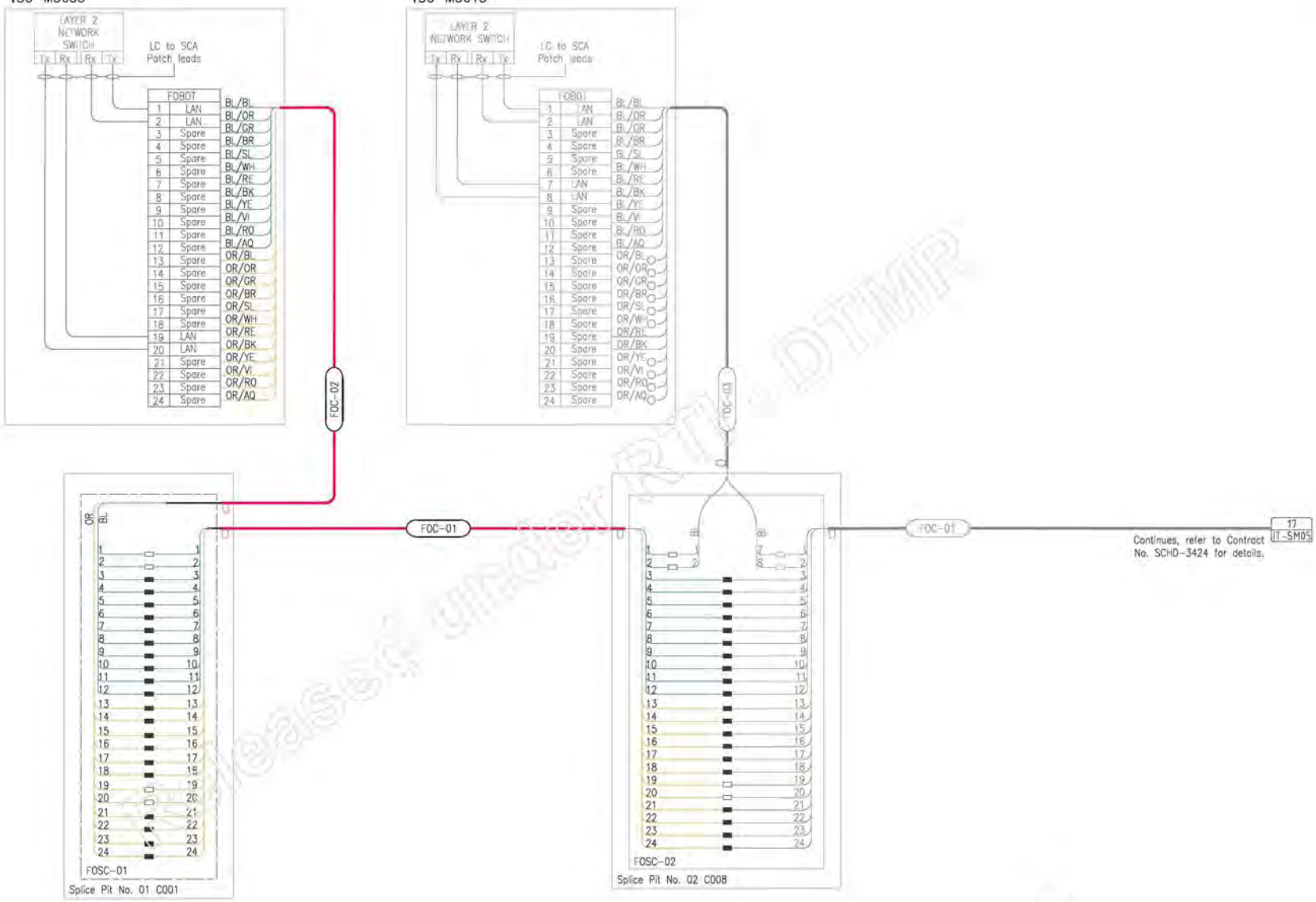
INTELLIGENT TRANSPORT SYSTEMS
FIBRE OPTIC BACKBONE DETAILS

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
ELECT PI		ORIGINAL SIGNED	16802	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857964 A
Series Number	IT-SM03 of 5



NOTES

1. For ITS notes and legend refer Drg Series No. IT–NL01 and IT–NL02.
2. For fibre optic backbone details Drg Series No. IT–SM03.
3. For fibre optic cable schedule refer Drg Series No. IT–SM02.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30331795\CADD_WAR\CAD\DWG\18_ITS\30331795–V18–IT–1023.dwg

Last Modified: Aug 07, 2020 – 9:40pm

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.668	3.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: G. Clarke
Designed: J. Gollaty

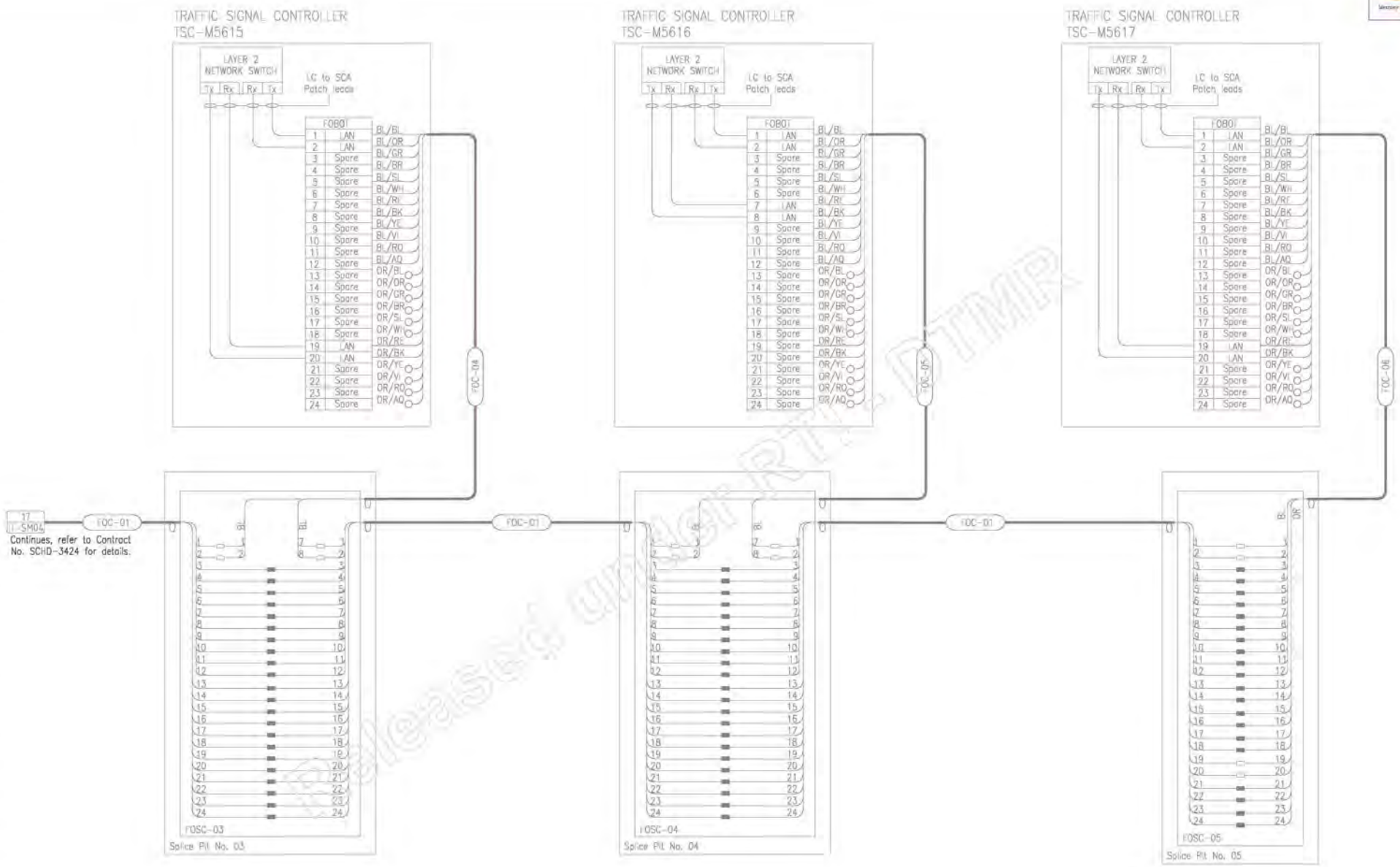
INTELLIGENT TRANSPORT SYSTEMS
FOC TERMINATION SCHEMATIC
SHEET 1 OF 2

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	AME	SIGNATURE:	No.	DATE
ELECT PI		ORIGINAL SIGNED	16602	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857965 A
Series Number	IT–SM04 of 5



FOR INFORMATION ONLY CONSTRUCTED BY OTHERS, REFER TO CONTRACT NO. SCHD-3424 FOR DETAILS

NOTES

1. For ITS notes and legend refer Drg Series No. IT-NL01 and IT-NL02.
2. For fibre optic backbone details refer Drg Series No. IT-SM03.
3. For fibre optic cable schedule refer Drg Series No. IT-SM02.

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_WAR\CAD\DWG\18_ITS\30031795-V18-IT-1024.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.668	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: G. Clarke
Designed: J. Gollaty

INTELLIGENT TRANSPORT SYSTEMS
FOC TERMINATION SCHEMATIC
SHEET 2 OF 2

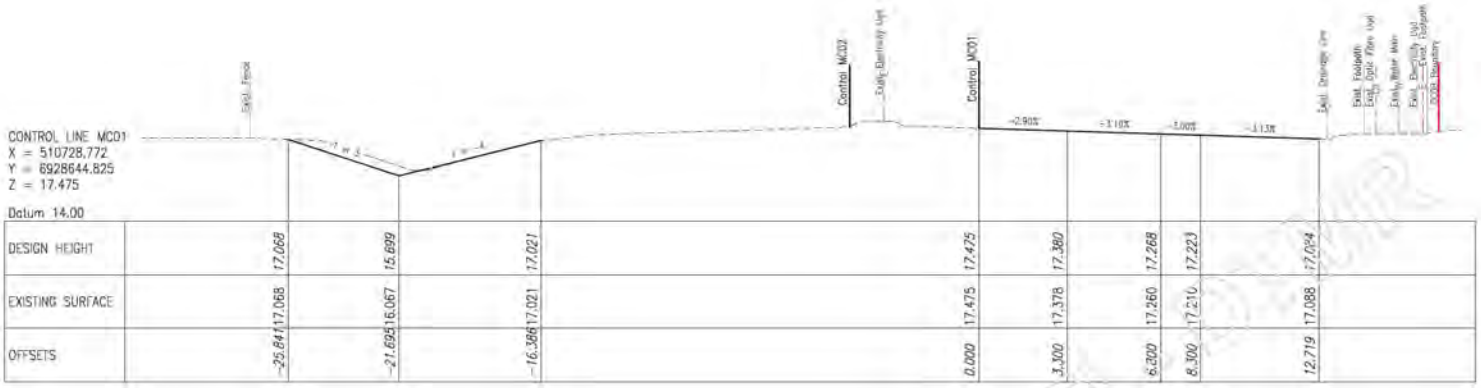
ENGINEERING CERTIFICATION (RPEQ)

ENG. ARE ELECT	NAME	SIGNATURE: ORIGINAL SIGNED	No. 16602	DATE 07/08/2020

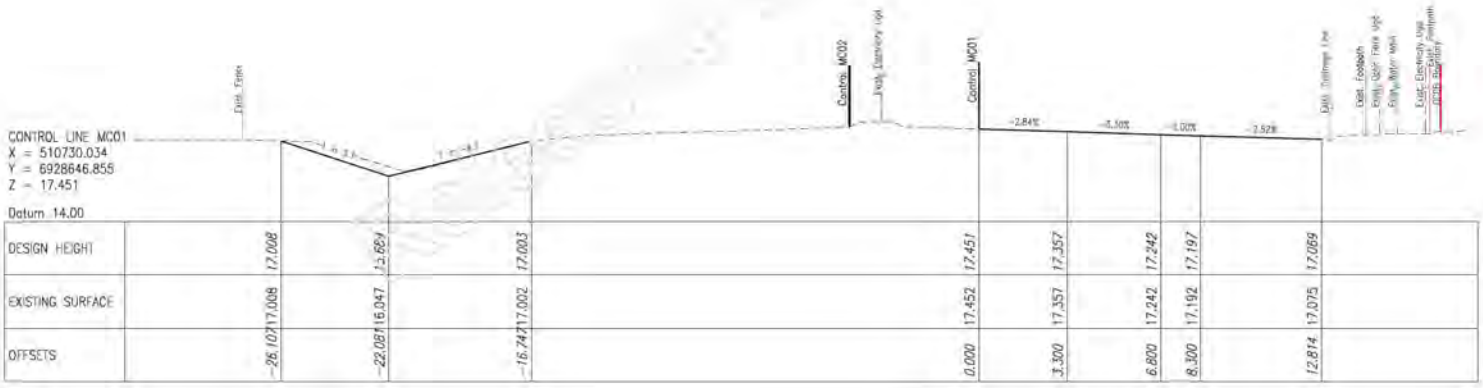
Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857966 A
Series Number	IT-SM05 of 5

Last Modified: Aug 07, 2020 – 4:47pm



CHAINAGE 10750.000



CHAINAGE 10747.610

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_Jobs\Projects\37631295\CADD\MAR\DGN\DWG\16_XS\30037295-V19-XS-0101.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: 0 1 2 3 4m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	1.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: L.S

ANNOTATED CROSS SECTIONS
CONTROL LINE MC01
SHEET 1

ENGINEERING CERTIFICATION (RPEQ)

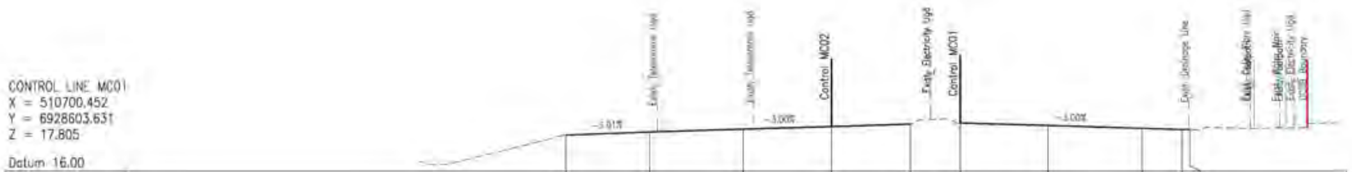
ENG. ARE. CIVIL	ME	SIGNATURE: ORIGINAL SIGNED	No. 15348	DATE 07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857967 A
Series Number	XS-01 of 10

CONTROL LINE MC01
X = 510700.452
Y = 6928603.631
Z = 17.805

Datum 16.00



DESIGN HEIGHT	17.342	17.465	17.570	17.669	17.758	17.805	17.706	17.601	17.556	17.562
EXISTING SURFACE	17.342	17.442	17.551	17.639	17.753	17.781	17.691	17.598	17.564	17.562
OFFSETS	-14.753	-11.612	-8.112	-4.812	-1.861	0.000	3.300	6.800	8.300	8.591

CHAINAGE 10800.000

CONTROL LINE MC01
X = 510712.762
Y = 6928621.121
Z = 17.708

Datum 14.00

DESIGN HEIGHT	17.381	15.817	17.181	17.299	17.392	17.497	17.600	17.681	17.708	17.603	17.504	17.459	17.348
EXISTING SURFACE	17.381	16.318	17.181	17.299	17.392	17.497	17.600	17.631	17.680	17.581	17.472	17.421	17.347
OFFSETS	-25.383	-20.691	-15.235	-14.641	-11.623	-8.123	-4.823	-1.842	0.000	3.300	6.800	8.300	10.387

CHAINAGE 10778.610

CONTROL LINE MC01
X = 510714.873
Y = 6928624.050
Z = 17.686

Datum 14.00

DESIGN HEIGHT	17.339	15.832	17.177	17.686	17.587	17.482	17.437	17.322
EXISTING SURFACE	17.340	16.329	17.177	17.686	17.560	17.452	17.401	17.322
OFFSETS	-25.313	-20.703	-15.203	0.000	3.300	6.800	8.300	10.943

CHAINAGE 10775.000

Rev.	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES V:_vault\Projects\30031795\CADD_VAP\CAD\DWG\19_XS\30031795-V19-XS-0102.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index
Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 1 2 3 4m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.886	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

ANNOTATED CROSS SECTIONS
CONTROL LINE MC01
SHEET 2

Drawn P.W
Designed L.S

ENGINEERING CERTIFICATION (RPEQ)

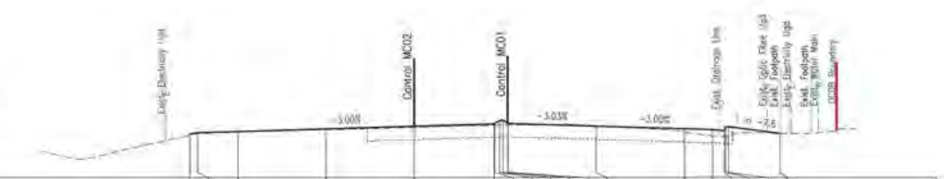
ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	[redacted]	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857968 A
Series Number	XS-02 of 10

CONTROL LINE MC01
X = 510662.736
Y = 6928538.827
Z = 18.030

Datum 16.00

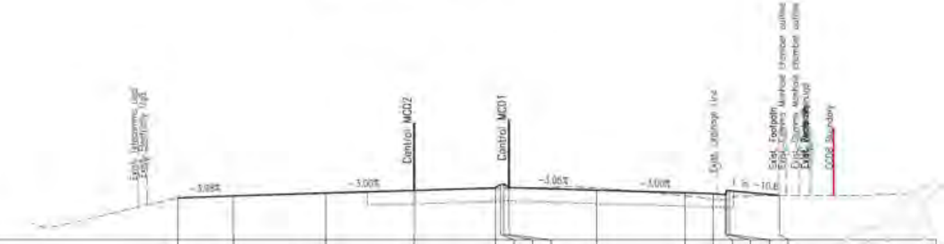


OFFSETS	EXISTING SURFACE	DESIGN HEIGHT
-11.900	17.597	17.640
-11.600	17.645	17.680
-10.100	17.705	17.725
-6.800	17.795	17.824
-3.500	17.881	17.923
-0.500	17.959	18.013
-0.499	17.959	18.027
-0.310	17.961	18.138
-0.190	17.963	18.155
-0.001	17.965	18.044
0.000	17.965	18.030
3.300	17.941	17.930
6.600	17.721	17.831
7.650	17.569	17.799
8.100	17.548	17.759
8.140	17.546	17.909
8.250	17.540	17.909
10.178	17.656	17.656

CHAINAGE 10875.000

CONTROL LINE MC01
X = 510674.984
Y = 6928560.621
Z = 17.957

Datum 16.00

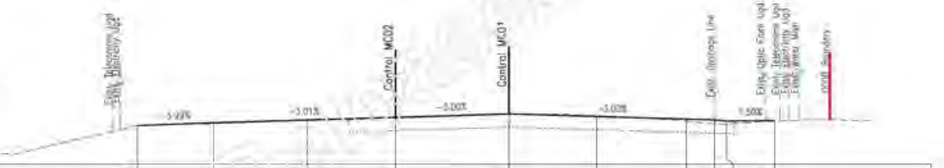


OFFSETS	EXISTING SURFACE	DESIGN HEIGHT
-12.378	17.563	17.563
-10.295	17.635	17.646
-6.837	17.732	17.750
-3.537	17.834	17.849
-0.500	17.918	17.940
-0.310	17.922	18.065
-0.190	17.924	18.082
-0.001	17.928	17.971
3.300	17.936	17.856
6.600	17.648	17.757
7.650	17.522	17.726
8.100	17.505	17.686
8.140	17.503	17.836
8.250	17.496	17.836
10.118	17.660	17.660

CHAINAGE 10850.000

CONTROL LINE MC01
X = 510687.260
Y = 6928582.400
Z = 17.880

Datum 16.00



OFFSETS	EXISTING SURFACE	DESIGN HEIGHT
-13.888	17.435	17.435
-11.044	17.521	17.548
-7.541	17.630	17.654
-4.239	17.720	17.753
0.000	17.853	17.880
3.300	17.814	17.781
6.642	17.605	17.681
7.692	17.505	17.650
8.142	17.487	17.610
9.942	17.604	17.637

CHAINAGE 10825.000

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

Associated Job Nos
Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data

Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 1 2 3 4m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.886	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

RTI-4349 1 Page 353 of 375

ANNOTATED CROSS SECTIONS
CONTROL LINE MC01
SHEET 3

Drawn P.W
Designed L.S

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	[redacted]	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857969 A
Series Number	XS-03 of 10

CAD FILES V:_vault\Projects\30031795\CADD_VAP\CAD\DWG\19_XS\30031795-V19-XS-0103.dwg

Last Modified — Aug 07, 2020 — 4:42pm

SMEC

CONTROL LINE MC01
X = 510625.979
Y = 6928473.452
Z = 17.935

Datum 16.00

DESIGN HEIGHT	EXISTING SURFACE	OFFSETS
17.608	17.608	-13.933
17.283	17.468	-12.956
17.547	17.385	-11.900
17.587	17.392	-11.600
17.632	17.421	-10.100
17.731	17.762	-6.800
17.830	17.960	-3.500
17.844	17.960	-3.499
17.955	17.967	-3.310
18.060	18.016	-0.190
17.949	18.019	-0.001
17.935	18.019	0.000
17.835	17.975	3.300
17.736	17.827	6.600
17.705	17.763	7.650
17.665	17.723	8.100
17.815	17.745	8.140
17.815	17.844	8.250
17.894	17.894	9.940

CHAINAGE 10950.000

CONTROL LINE MC01
X = 510638.239
Y = 6928495.239
Z = 17.945

Datum 16.00

DESIGN HEIGHT	EXISTING SURFACE	OFFSETS
17.494	17.494	-12.755
17.408	17.486	-12.497
17.557	17.485	-11.900
17.597	17.484	-11.600
17.642	17.484	-10.100
17.741	17.732	-6.800
17.840	17.945	-3.500
17.854	17.945	-3.499
17.965	17.952	-3.310
18.070	18.016	-0.190
17.959	18.016	-0.001
17.945	18.016	0.000
17.846	17.963	3.300
17.747	17.774	6.600
17.716	17.677	7.650
17.676	17.640	8.100
17.826	17.660	8.140
17.826	17.755	8.250
17.855	17.855	9.936

CHAINAGE 10925.000

CONTROL LINE MC01
X = 510650.488
Y = 6928517.033
Z = 18.020

Datum 16.00

DESIGN HEIGHT	EXISTING SURFACE	OFFSETS
16.442	17.085	-16.660
17.632	17.582	-11.900
17.572	17.649	-11.600
17.717	17.721	-10.100
17.816	17.810	-6.800
17.915	17.905	-3.500
18.020	17.995	0.000
17.921	17.984	3.300
17.822	17.853	6.600
17.790	17.804	7.650
17.771	17.787	8.400
17.786	17.787	8.401
17.901	17.787	8.591
17.854	17.839	11.329
17.739	17.817	11.519
17.727	17.923	12.921
17.741	17.923	12.922
17.856	17.926	13.115
17.861	17.931	13.399
17.751	17.937	13.807
17.736	17.937	13.809
17.788	17.853	16.426
17.791	17.856	16.621

CHAINAGE 10900.000

A	Issued For Construction		
	Revisions/Descriptions	Name or RPEQ No. Signature	Date

CAD FILES V:_vault\Projects\30031795\CAD\DWG\19_XS\30031795-V19-XS-310F.dwg

Associated Job Nos	Survey Data	
	Horiz. Datum	MGA94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number DI-01	Height Datum	AHD Derived
	Survey Books	MR101140

Scales
0 1 2 3 4m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	[illegible]	[illegible]	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

ANNOTATED CROSS SECTIONS
CONTROL LINE MC01
SHEET 4

Drawn P.W
Designed L.S

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	SIGNATURE	No.	DATE
CIVIL [redacted] ME	ORIGINAL SIGNED	15348	07/08/2020

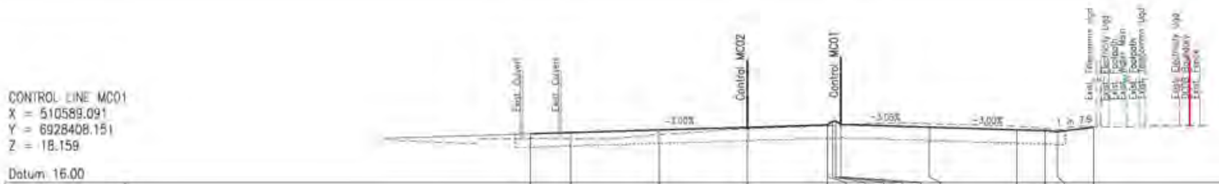
Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857970 A
Series Number	XS-04 of 10

SMEC

CONTROL LINE MC01
X = 510589.091
Y = 6928408.151
Z = 18.159

Datum 16.00



DESIGN HEIGHT	17.809	17.854	17.953	18.052	18.142	18.156	18.267	18.284	18.173	18.159	18.058	17.959	17.927	17.887	18.058
EXISTING SURFACE	17.639	17.630	17.780	17.998	18.118	18.118	18.127	18.133	18.142	18.142	18.188	18.086	18.005	17.963	18.086
OFFSETS	-11.600	-10.100	-6.800	-3.500	-0.500	-0.499	-0.310	-0.190	-0.001	0.000	3.300	6.600	7.650	8.100	9.455

CHAINAGE 11025.000

CONTROL LINE MC01
X = 510601.387
Y = 6928429.918
Z = 18.082

Datum 16.00

DESIGN HEIGHT	17.684	16.683	17.694	17.734	17.779	17.878	17.977	18.015	18.029	18.140	18.207	18.096	18.082	17.983	17.884	17.852	17.812	17.962	17.962	17.882
EXISTING SURFACE	17.684	17.648	17.000	16.963	16.964	17.744	17.935	17.993	17.993	18.003	18.053	18.056	18.056	18.072	17.958	17.866	17.833	17.830	17.849	17.882
OFFSETS	-20.933	-17.929	-11.900	11.600	-10.100	-6.800	-3.500	-2.212	-2.211	-2.022	-0.190	-0.001	0.000	3.300	6.600	7.650	8.100	8.140	8.250	10.119

CHAINAGE 11000.000

CONTROL LINE MC01
X = 510613.683
Y = 6928451.665
Z = 18.007

Datum 16.00

DESIGN HEIGHT	17.768	17.147	17.619	17.659	17.704	17.803	17.902	17.916	18.027	18.132	18.021	18.007	17.908	17.809	17.777	17.737	17.845
EXISTING SURFACE	17.768	17.543	17.182	17.177	17.269	17.686	17.934	17.934	17.944	18.049	18.049	18.049	18.029	17.906	17.813	17.770	17.845
OFFSETS	-15.649	-13.786	-11.900	-11.600	-10.100	-6.800	-3.500	-3.499	-3.310	-0.190	-0.001	0.000	3.300	6.600	7.650	8.100	9.900

CHAINAGE 10975.000

A	Issued For Construction		
Revisions/Descriptions	Name or RPEQ No.	Signature	Date

CAD FILES V:_vault\Projects\30031795\CADD_VWP\CAD\DWG\19_XS\30031795-V19-XS-0105.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index
Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 1 2 3 4m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	[illegible]	[illegible]	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

ANNOTATED CROSS SECTIONS
CONTROL LINE MC01
SHEET 5

Drawn P.W
Designed LS

ENGINEERING CERTIFICATION (RPEQ)

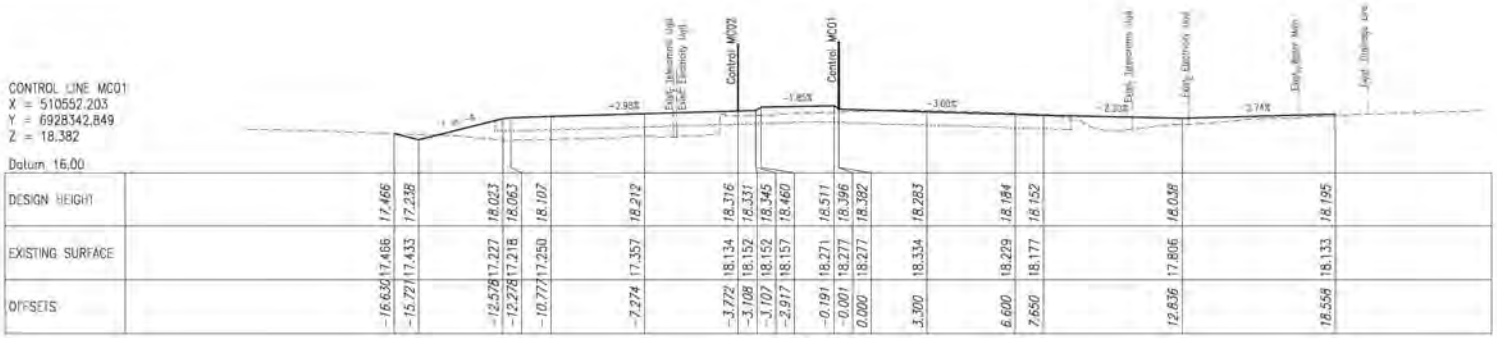
		SIGNATURE	No.	DATE
ENG. ARE CIVIL	[redacted] ME	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857971 A
Series Number	XS-05 of 10

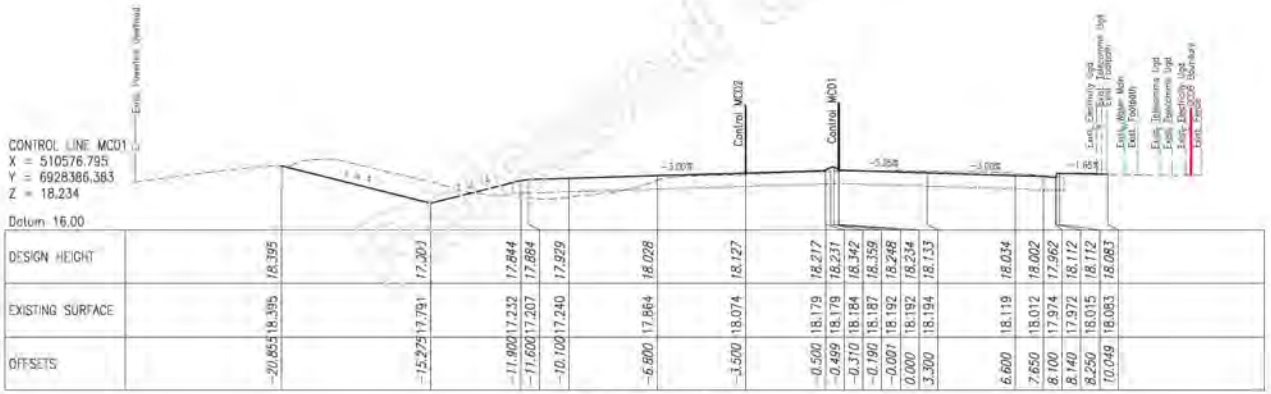
SMEC

Last Modified :- Aug 07, 2020 – 4:43pm



CHAINAGE 11100.000

CHAINAGE 11075.000



CHAINAGE 11050.000

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30231795\CAD_pw\CAD\DWG\19_ES\30231795-Y19-XS-3108.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MRT01140

Scales
0 1 2 3 4m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.000	3.554	5A	

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn P.W
Designed L.S

ANNOTATED CROSS SECTIONS
CONTROL LINE MC01
SHEET 6

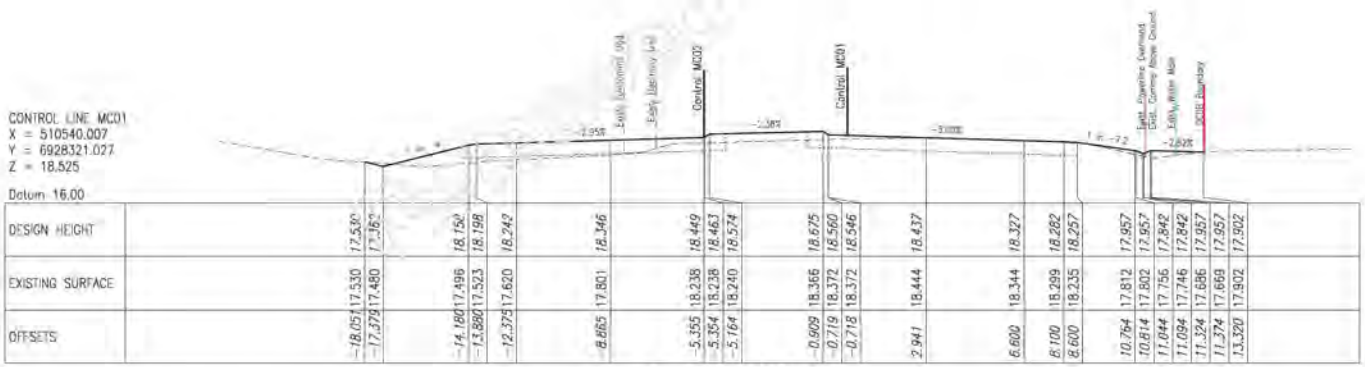
ENGINEERING CERTIFICATION (RPEQ)					
ENG. AREA	ME	SIGNATURE	No.	DATE
CIVIL	[redacted]	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857972 A
Series Number	XS–06 of 10

CHAINAGE 11175.000

CHAINAGE 11150.000



CHAINAGE 11125.000

A	Issued For Construction						
	Revisions/Descriptions	Name or RPEQ No.	Signature	Date			

CAD FILES: V:_vault\Projects\30231795\CAD_pwf\Cad\DWG\119_xs\30231795-119-xs-370.dwg

Associated Job Nos

Auxiliary Drg Nos

Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MRT01140

Scales

0 1 2 3 4m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.446	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn P.W

Designed L.S

ANNOTATED CROSS SECTIONS
CONTROL LINE MC01
SHEET 7

ENGINEERING CERTIFICATION (RPEQ)

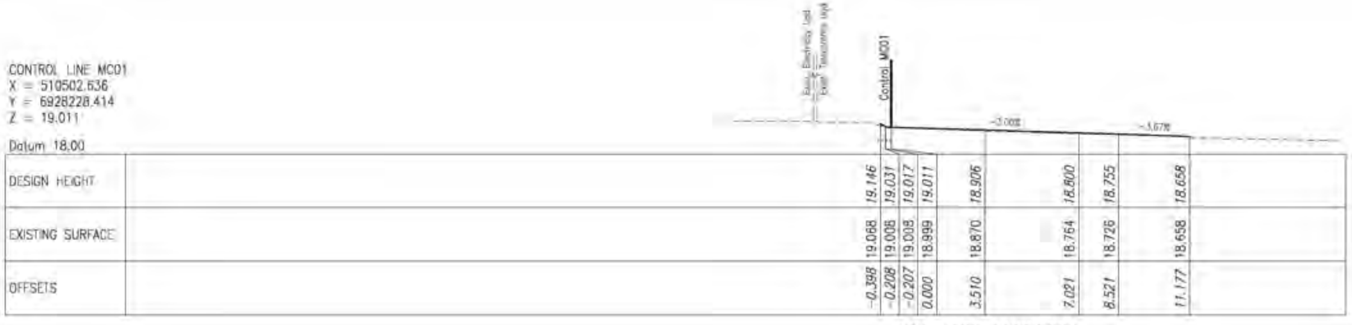
ENG, ARE, CIVIL		SIGNATURE ORIGINAL SIGNED	No. 15348	DATE 07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857973 | A
Series Number	XS–07 of 10

CONTROL LINE MC01
X = 510502.636
Y = 6928228.414
Z = 19.011

Datum 18.00



DESIGN HEIGHT	19.146	19.031	19.017	19.011	18.906	18.800	18.755	18.658
EXISTING SURFACE	19.068	19.008	19.008	18.999	18.870	18.764	18.726	18.658
OFFSETS	-0.398	-0.208	-0.207	0.000	3.510	7.021	8.521	11.177

CHAINAGE 11225.000

CONTROL LINE MC01
X = 510503.541
Y = 6928231.006
Z = 19.003

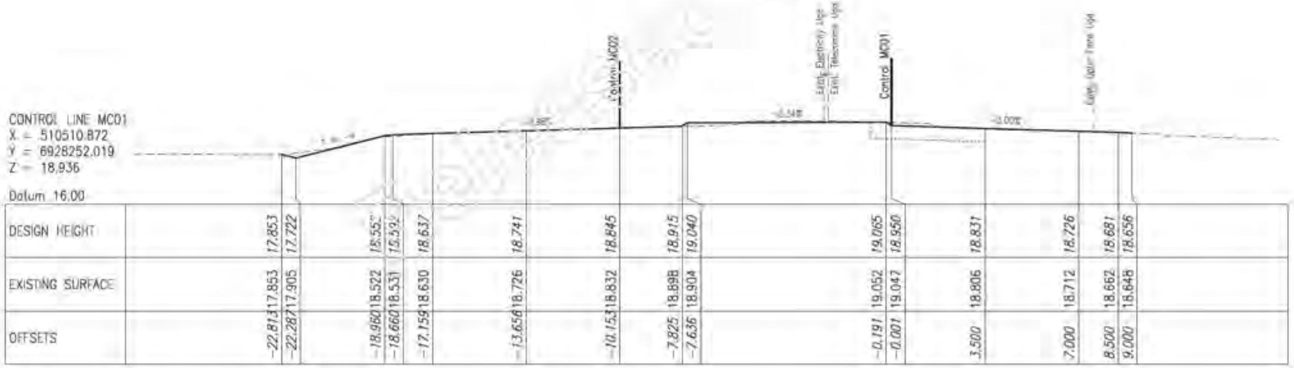
Datum 18.00

DESIGN HEIGHT	18.708	18.766	18.858	18.973	19.078	19.092	19.202	19.136	19.021	19.003	18.808	18.793	18.748	18.641
EXISTING SURFACE	18.699	18.766	18.858	18.973	19.083	19.083	19.143	19.085	19.030	19.001	18.862	18.759	18.723	18.664
OFFSETS	-20.005	-18.027	-14.524	-11.022	-7.519	-7.518	-7.329	-0.341	-0.151	0.000	3.500	7.000	8.500	10.639

CHAINAGE 11222.255

CONTROL LINE MC01
X = 510510.872
Y = 6928252.019
Z = 18.936

Datum 16.00



DESIGN HEIGHT	17.853	17.722	18.552	18.532	18.637	18.741	18.845	18.915	19.040	19.065	18.950	18.831	18.726	18.681	18.656
EXISTING SURFACE	17.853	17.905	18.522	18.531	18.630	18.726	18.832	18.898	18.904	19.052	19.047	18.806	18.712	18.662	18.648
OFFSETS	-22.813	-22.287	-18.960	-18.660	-17.159	-13.656	-10.153	-7.825	-7.636	-0.191	-0.001	3.500	7.000	8.500	9.000

CHAINAGE 11200.000

A	Issued For Construction			
	Revisions/Descriptions	Name or RPEQ No.	Signature	Date

CAD FILES V:_Vault\Projects\30031785\CADD_WR\CAD\DWG\19_XS\30031785-V19-XS-0108.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index
Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 1 2 3 4m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.[illegible]	0.556	3.554	5A

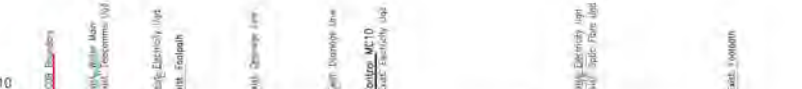
Through Chainage from Start of Gazettal 10.748km – 11.306km

ANNOTATED CROSS SECTIONS
CONTROL LINE MC01
SHEET 8

Drawn	ENGINEERING CERTIFICATION (RPEQ)				
P.W.	ENG. ARC	ME	SIGNATURE	No.	DATE
Designed	CIVIL [redacted]		ORIGINAL SIGNED	15348	07/08/2020
LS					

Queensland Government

Job No.	489244	
Contract No.	CN-14898	
Drawing No.	857974	A
Series Number	XS-08 of 10	



CHAINAGE 18.000

CHAINAGE 4.250

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES: V:_Jacobs\Projects\30031295\CADD\MAR\Civil\DWG\16_XS\30031295-V19-XS-1001.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 1 2 3 4m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	0.000	3.559	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn P.W
Designed L.S

ANNOTATED CROSS SECTIONS
CONTROL LINE MC10
SHEET 1

ENGINEERING CERTIFICATION (RPEQ)
ENG. ARE... CIVIL
SIGNATURE: ORIGINAL SIGNED
No. 15348
DATE 07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857975 A
Series Number	XS–09 of 10

CONTROL LINE MC20
X = 510525.110
Y = 6928357.215
Z = 18.422

Datum 16.00

DESIGN HEIGHT				18.332			18.422			18.208		
EXISTING SURFACE				18.306			18.401			18.208		
OFFSETS				-3.355			0.000			5.808		

CHAINAGE 25.000

CONTROL LINE MC20
X = 510539.022
Y = 6928355.649
Z = 18.271

Datum 16.00

DESIGN HEIGHT		17.834		18.080	18.109		18.271		18.097	18.057	18.207	18.328
EXISTING SURFACE		17.834		17.975	18.068		18.258		18.119	18.243	18.245	18.252	18.328
OFFSETS		-11.943		-5.339	-4.643		0.000		4.927	5.378	5.418	5.528	6.560

CHAINAGE 11.000

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A	Issued For Construction			

CAD FILES: V:_cloud\Projects\310312915\CADD\MAR\D401\DWG\119_XS_30037295-YTY-XS-2001.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number 01-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 1 2 3 4m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: L.S

ANNOTATED CROSS SECTIONS
CONTROL LINE MC20
SHEET 1

ENGINEERING CERTIFICATION (RPEQ)
ENG. AREA: CIVIL | ME | SIGNATURE: ORIGINAL SIGNED | No. 15348 | DATE 07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857976 A
Series Number	XS-10 of 10

SMEC
Member of the Surbana Jurong Group

NOTES:
GENERAL

1. Any required variations to pole locations shown on this drawing are to be confirmed with the designer prior to installation.
2. The Contractor shall ensure existing lighting levels remain during construction
3. Existing luminaire and pole details obtained from survey and site inspection.
4. Contractor to reinstate any pole numbers within project boundaries that are not legible. Contractor to confirm site ids with ENERGEX.
5. This project is to finalise works that were not completed under Energex project number S3500105 and to be completed in this new project.

RPEQ

ASBESTOS PITS AND CONDUITS

1. All work associated with asbestos pits and conduits are to be conducted according to the Qld. Work Place Health and Safety Regulation (Act) 2011 and in particular "How to Safely Remove Asbestos" Code of Practise 2011.
2. The testing, removal and disposal of asbestos infrastructure shall be performed by an accredited licensed operator as specified under the Workplace Health and Safety section of the Qld. Department of Justice and Attorney-General.
3. Suspected asbestos fibro cement cable pits require formal identification before removal of existing pits can take place. Samples shall be tested at an approved NATA-accredited laboratory to confirm the presence of asbestos before all related work can proceed.
4. If removal of electrical cabling and electrical cable joints is required before the removal of the pits takes place, the Contractor shall perform this operation such that the existing pit is not disturbed (ie. become broken or collapsed), avoiding the release of asbestos fibres. If deemed unavoidable, the removal of electrical equipment shall be done with the presence of a licensed asbestos removal operator to ensure WHS procedures are followed.
5. Once the removal work has been completed, a clearance inspection shall take place by an independent licensed asbestos assessor before the specific site can be re-occupied.
6. Existing asbestos fibro cement conduits are also suspected on site. At the approval of the Administrator, these conduits should be recovered.
7. If flushing or clearing of conduits is required, seek the approval of the Administrator before commencing this operation. No flushing and clearing of asbestos conduits is permitted without the written approval of the Administrator. All WHS procedures must be followed in this instance to ensure asbestos fibres are not released.

CIVIL CONTRACTOR

CARE! Lighting of new or altered existing roads will not comply with specified standards until new road lighting has been commissioned. Warning signs and speed restrictions may be required.

ON-SITE SERVICES CHECKS

SMEC gives no warranty regarding the presence or location of buried services. Contractors shall be responsible to identify and locate existing services. Initial identification can be obtained from Queensland DIAL BEFORE YOU DIG SERVICE

TELEPHONE 1100
FAX 1300 652 077
On-line enquiries can be made at www.1100.com.au

Having determined which services may be present, on-site locations should then be arranged with the relevant service authorities.

All unused / deleted cable, conduits and pits to be recovered.

LEGEND

- Existing 125W MV Luminaire to be recovered
- Existing 250W HPS Luminaire to be recovered
- Existing 70W HPS Luminaire to remain (power pole mounted)
- Existing 80W MV Luminaire to remain (power pole mounted)
- Existing 150W HPS Luminaire to remain (power pole mounted)
- Existing 250W HPS Luminaire to remain (power pole mounted)
- Existing 125W MV Luminaire to remain (power pole mounted)
- Existing 198 LED Rate 3 Luminaire
- A — Denotes Aero type Luminaire (when used with luminaire symbol)
- XXX — Luminaire station number
- Existing Street Lighting Pole
- Existing LV power pole
- Existing wood lighting pole to be recovered
- Existing LV/HV power pole
- Existing Energex service pillar
- Denotes LV cable termination box (when used with power pole)
- Denotes HV cable termination box (when used with power pole)
- Denotes LV closed break in conductor (when used with power pole)
- Denotes earth connection (when used with power pole)
- Denotes power pole stay wire
- Transformer
- Existing Energex overhead service to remain
- Existing underground road lighting cable/conduit to remain
- Existing underground road lighting cable/conduit to be removed
- Property Boundary
- Cable laid in conduit to remain
- 16 Cu 2C:Sl — Cable laid in conduit to be recovered

THIS DESIGN PACKAGE MUST BE APPROVED BY ENERGEX.
NO ELECTRICAL WORK IS TO BE UNDERTAKEN UNTIL ENERGEX APPROVAL FOR CONSTRUCTION AND CONNECTION TO SUPPLY IS RECEIVED.

SITE CONTACT DETAILS:		ALIGNMENTS:		STORMWATER:	DBYD:	LOTS:	–
NAME: KEMAL SARAC		ENERGEX OH:	3.075m CENTRE FROM RP ALIGN	SEWERAGE:	DBYD:	CANCELLING LOTS:	–
COMPANY:		ENERGEX UG:	0 – 900mm FROM RP ALIGN	OTHER:	DBYD:		
DTMR:		TELSTRA:	DBYD			LOCAL AUTHORITY:	LCC
PHONE: (07) 55636589		GAS:	DBYD	WORKS CO-ORDINATOR:	–	UBD REF:	MAP 303, G-2
MOBILE:		H.P.GAS:	DBYD	CONST. PROJECT NO:	–	PEGGED?	ON REQUEST
		WATER:	DBYD	WORK REQUEST NO:	–		

ENERGEX PROJECT No.: S3500141
PROJECT SUBURB: LOGAN VILLAGE
SHEET 01 of 05
DESIGNER DETAILS
J. Gallety: Office (07) 5567 3750

No.	Revisions/Descriptions	Certification	Date	Microfilm
02	ISSUED FOR ENERGEX APPROVAL	ORIGINAL SIGNED	07.08.20	
01	DETAILED DESIGN	M.W.	15.07.20	
N/A	Issued For Construction			

CAD FILES: V:_Vault\Projects\30037795\CADD_VAR\CAD\DWG\16_RL\30037795-V16-RL-1100.dwg

Last Modified – Aug 07, 2020 – 4:33pm

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Datum	MGA 94
Horiz. Grid	Zone 56
Height Origin	AHD Derived
Survey Books	MR100787

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	0.388	0.558	3.554	5A

through Chainage from Start of Gazettal 10.748km – 11.306km

ROAD LIGHTING RATE 2 REMOVAL
NOTES AND LEGEND

Drawn: G. Clarke
Designed: J. Gallety

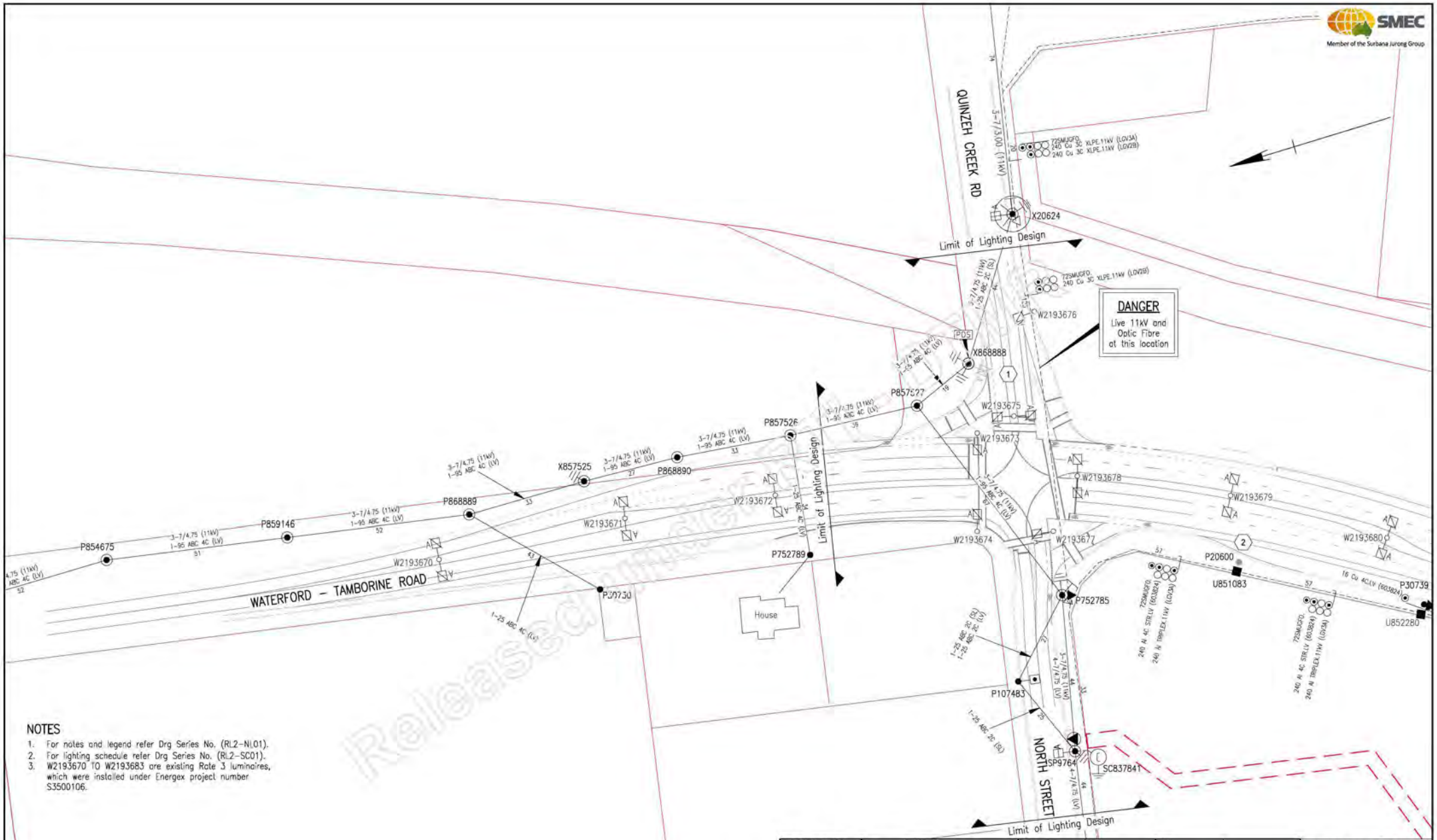
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
ELECT PI			16602	

Queensland Government

Job No.	489244
Contract. No.	CN-14898
Drawing No.	857951 02
Series Number	RL2-NL01 1

MRR Detail (02/14)



NOTES

1. For notes and legend refer Drg Series No. (RL2-N101).
2. For lighting schedule refer Drg Series No. (RL2-SC01).
3. W2193670 TO W2193683 are existing Rate 3 luminaires, which were installed under Energex project number S3500106.

SITE CONTACT DETAILS		ALIGNMENTS		STORMWATER	DBYD	LOTS	–
NAME	KEMAL SARAC	ENERGEX OH	3.075m CENTRE FROM RP ALIGN	SEWERAGE	DBYD	CANCELLING LOTS	–
COMPANY		ENERGEX UG	0 – 900mm FROM RP ALIGN	OTHER	DBYD		
DTMR		TELSTRA	DBYD			LOCAL AUTHORITY	LCC
PHONE	(07) 55636589	GAS	DBYD	WORKS CO-ORDINATOR	–	LIBD REF:	MAP 303, G-2
MOBILE		H.P.GAS	DBYD	CONST PROJECT NO.	–	PEGGED?	DN REQUEST
		WATER	DBYD	WORK REQUEST NO.	–		

ENERGEX PROJECT No.:S3500141
PROJECT SUBURB:LOGAN VILLAGE
SHEET 02 of 05
DESIGNER DETAILS
J. Galaty: Office (07) 5567 3750

02	ISSUED FOR ENERGEX APPROVAL	ORIGINAL SIGNED	07.08.20
01	DETAILED DESIGN	M.W.	15.07.20
A	Issued For Construction		
Revisions/Descriptions		Certification	Date

Microfiled

CAD FILES V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\16_RL\30031795-V16-RL-1101.dwg

Last Modified: – Aug 07, 2020 – 4:33pm

Associated Job Nos	Survey Data	
	Datum	MGA 94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number DI-01	Height Origin	AHD Derived
	Survey Books	MR100787

Scales
0 5 10 15 20m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	0.388	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

ROAD LIGHTING RATE 2 REMOVAL LAYOUT PLAN SHEET 1 OF 2

Drawn: G. Clarke
Designed: J. Galaty

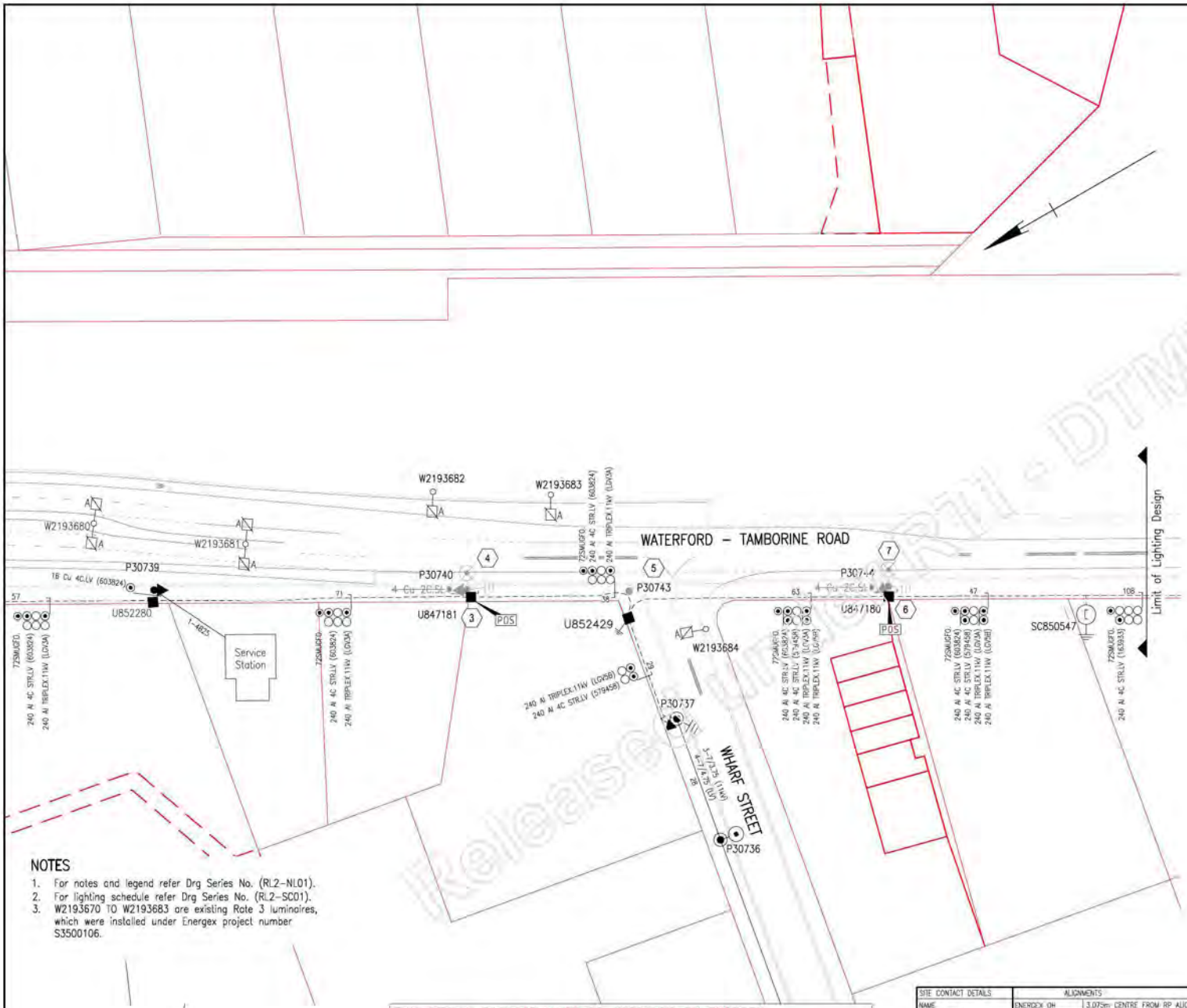
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
ELECT	PI		16602	

Queensland Government

Job No.	489244
Contract. No.	CN-14898
Drawing No.	857952 02
Series Number	RL2-01 2

MRR Detail (02/14)



NOTES

1. For notes and legend refer Drg Series No. (RL2–NL01).
2. For lighting schedule refer Drg Series No. (RL2–SC01).
3. W2193670 TO W2193683 are existing Rate 3 luminaires, which were installed under Energex project number S3500106.

THIS DESIGN PACKAGE MUST BE APPROVED BY ENERGEX.
NO ELECTRICAL WORK IS TO BE UNDERTAKEN UNTIL ENERGEX APPROVAL FOR CONSTRUCTION AND CONNECTION TO SUPPLY IS RECEIVED.

SITE CONTACT DETAILS		ALIGNMENTS		STORMWATER:	DBYD	LOTS:	–	ENERGEX PROJECT No.: S3500141
NAME: KEMAL SARAC		ENERGEX OH:	3.075m CENTRE FROM RP ALIGN	SEWERAGE:	DBYD	CANCELLING LOTS:	–	PROJECT SUBURB: LOGAN VILLAGE
COMPANY: DTMR		ENERGEX UG:	0 – 900mm FROM RP ALIGN	OTHER:	DBYD			SHEET 03 of 05
PHONE: (07) 55636589		TELSTRA:	DBYD			LOCAL AUTHORITY:	LCC	DESIGNER DETAILS
MOBILE:		GAS:	DBYD	WORKS CO–ORDINATOR:	–	LIBD REF:	MAP 303, G–2	J. Gallaty: Office (07) 5567 3750
		H.P.GAS:	DBYD	CONST PROJECT NO.:	–	PEGGED?	ON REQUEST	
		WATER:	DBYD	WORK REQUEST NO.:	–			

Revisions/Descriptions	Certification	Date	Microfiled
02 ISSUED FOR ENERGEX APPROVAL	ORIGINAL SIGNED	07.08.20	
01 DETAILED DESIGN	M.W.	15.07.20	
A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\16_RL\30031795–V16–RL–1102.dwg

Last Modified – Aug 07, 2020 – 4.33pm

Associated Job Nos	Survey Data	
	Datum	MGA 94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number DI–01	Height Origin	AHD Derived
	Survey Books	MR100787

Scales: 0 5 10 15 20m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	3.388	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

ROAD LIGHTING RATE 2 REMOVAL LAYOUT PLAN SHEET 2 OF 2

Drawn: G. Clarke
Designed: J. Gallaty

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
ELECT	PI		16602	

Queensland Government

Job No.	489244
Contract. No.	CN–14898
Drawing No.	857953 02
Series Number	RL2–02 2

MRR_Detail (02/14)

SMEC
Member of the Surbana Jurong Group

RATE 2 ROAD LIGHTING SCHEDULE

LOCATION	STN NO.	SITE ID (POLE NO.)	POLE OR COMPONENTS						LUMINAIRE								OUTREACH BRACKET				MOUNT HEIGHT (m)	REMARKS
			COMP ID.	EXIST (m)	REC (m)	ERECT (m)	SLM or IIN	ALIGN (m)	COMP ID.	EXIST	RECOVER LUMIN.	RECOVER CUST.	DATE DE-ENERG	ERECT LUMIN.	ERECT CUST.	DATE ENERG	SLM or IIN	EXIST (m)	REC (m)	ERECT (m)	SLM or IIN		
Quinzeh Creek Rd	1	X868888	P01	P14/12				EX	SLI	S250AM2	SZ50AM2	MRD						MA4	MA4			EX	Recover outreach & luminaire
Waterford–Tamborine Rd	4	P30740	P01	WOOD	WOOD			EX	SLI	M125DM1	M125DM1	MRD						MI3	MI3			EX	Recover pole, outreach & luminaire
Waterford–Tamborine Rd	7	P30744	P01	WOOD	WOOD			EX	SLI	M125DM1	M125DM1	MRD						MI3	MI3			EX	Recover pole, outreach & luminaire

OVERHEAD WORKS SCHEDULE

LOCATION	STN NO.	SITE ID (POLE NO.)	POLES												CONSTRUCTIONS (NOTE: KBS IS TOP KB TO TOP KB)							REMARKS
			EDT ANG	EDT kN	SST kN	LST kN	EXISTING	RECOVER	ERECT	SINK	FOOT	COMP ID.	ALIGN	LCC	EXISTING	RECOVER	ERECT	NO.	KBS	ANG	LCC	
Waterford–Tamborine Rd	1	X868888	EX	EX	EX	EX	P14/12–22			EX	EX	P01	EX		11LBSPTFFIS			1				
															11SC/SMOS			1	EX	34°		
															LVABC/T			1	EX	T		
															SL S250A	SL S250A		–1				Recover outreach and luminaire
															MENLVABC			1				
															HVEC			1				
	2	P20600	EX	EX	EX	EX	P14/8	P14/8		EX	EX	P01	EX									Recover pole
							(LOPPED)															
	4	P30740	EX	EX	EX	EX	40' M	40' M		EX	EX	P01	EX		SL M125	SL M125		–1				Recover pole, outreach and luminaire
							(LOPPED)								SLUGT04/2	SLUGT04/2		–1				
	5	307043	EX	EX	EX	EX	45' H (LOPPED)	45' H		EX	EX	P01	EX									Recover pole
	7	P30744	EX	EX	EX	EX	P14/8	P14/8		EX	EX	P01	EX		SL M125	SL M125		–1				Recover pole, outreach and luminaire
							(LOPPED)								SLUGT04/2	SLUGT04/2		–1				

COPPER CONDUCTOR AND CABLE RECOVERY

	TYPE	*TOTAL LENGTH (m) (FOR OH SERVICES – ONLY NUMBER REQUIRED, NOT LENGTH)*
OH	7/.064 OR 7/16 conductor	
	7/.080 OR 7/14 conductor	
	7/.104 OR 7/12 conductor	
	19/.083 OR 9/14 conductor	
	19/.101 OR 9/12 conductor	
	OH service (any type)	
UG	16mm² 2 OR 4 core cable	
	185mm² 3.5 core (LV) cable	
	185mm² 3 core (HV) cable	
	240mm² 3 core cable	
	300mm² 3 core cable	
	300mm² 1 core cable	
	0.25in² 3 core (HV) cable	
	0.25in² 3.5 core (LV) cable	
	Other cable type – specify	20m x 4mm² Cu 2C PVC/PVC

RETURN CONFIRMED BY: ..... DATE: __/__/__

UNDERGROUND CABLE SCHEDULE

LOCATION	STATIONS FROM–TO	VOLTS	EXIST	TRF	REC	INSTALL	CABLE SIZE/TYPE	MODEL ID	ROUTE LENGTH (m)	CABLE LENGTH (m) NEW	CABLE LENGTH (m) REC	LCC	REMARKS
Waterford–Tamborine Rd	3 – 4	SL	*		*		4mm² Cu 2C PVC/PVC	LVC24PVPV	2		10		Includes length up pole at Str 4
Waterford–Tamborine Rd	6 – 7	SL	*		*		4mm² Cu 2C PVC/PVC	LVC24PVPV	2		10		Includes length up pole at Str 7

THIS DESIGN PACKAGE MUST BE APPROVED BY ENERGEX.
NO ELECTRICAL WORK IS TO BE UNDERTAKEN UNTIL ENERGEX APPROVAL FOR CONSTRUCTION AND CONNECTION TO SUPPLY IS RECEIVED.

SITE CONTACT DETAILS:		ALIGNMENTS:		STORMWATER:	DBYD:	LOTS:	–	ENERGEX PROJECT No.: S3500141
NAME: KEMAL SARAC		ENERGEX OH:	3.075m CENTRE FROM RP ALIGN	SEWERAGE:	DBYD:	CANCELLING LOTS:	–	PROJECT SUBURB: LOGAN VILLAGE
COMPANY: DTMR		ENERGEX UG:	0 – 900mm FROM RP ALIGN	OTHER:	DBYD:			SHEET 04 of 05
PHONE: (07) 55636569		TELSTRA:	DBYD			LOCAL AUTHORITY:	LCC:	DESIGNER DETAILS
MOBILE:		GAS:	DBYD	WORKS CO–ORDINATOR:	–	UBD REF:	MAP 303, G–2	J. Gallety: Office (07) 5567 3750
		H.P.GAS:	DBYD	CONST. PROJECT NO.:	–	PEGGED?	ON REQUEST	
		WATER:	DBYD	WORK REQUEST NO.:	–			

Revisions/Descriptions	Certification	Date	Microfilm
02 ISSUED FOR ENERGEX APPROVAL	ORIGINAL SIGNED	07.08.20	
01 DETAILED DESIGN	M.W.	15.07.20	
N/A Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\Dwg\16_RL\30031795-V16-RL-1331.dwg

Last Modified – Aug 07, 2020 – 4:34pm

Associated Job Nos	Survey Data	
	Datum	MGA 94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number 01–01	Height Origin	AHD Derived
	Survey Books	MR100787

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	0.388	3.554	0.558	5A

through Chainage from Start of Gazettal 10.748km – 11.306km

ROAD LIGHTING RATE 2 REMOVAL SCHEDULES

Drawn: G. Clarke

Designed: J. Gallety

ENGINEERING CERTIFICATION (RPEQ)

ENG. ARE ELECT	NAME	SIGNATURE	NO.	DATE
PI			16602	

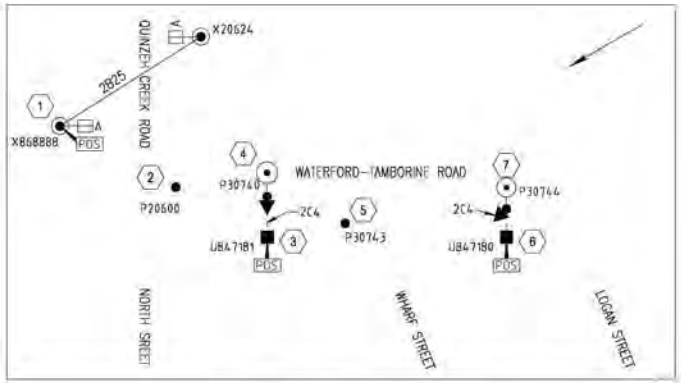
Queensland Government

Job No.	489244
Contract. No.	CN–14898
Drawing No.	857954 02
Series Number	RL2–SC01 2
	MRR Detail (02/14)

SMEC
Member of the Surbana Jurong Group

EQUIPMENT SCHEDULE

LOCATION	STN No.	SITE ID	EXIST	REC	INSTALL	SIZE & DESCRIPTION	IIN	COMP ID	PLANT No.	MODEL ID	QTY.	LCC	REMARKS
Waterford–Tamborine Rd	3	U847181	*			2–WAY URD PILLAR + SL				LVSP4–6SL			(2x240, 1xS/L) Recover SL cable to P30740 / Stn 4
Waterford–Tamborine Rd	6	U847180	*			2–WAY URD PILLAR + SL				LVSP4–6SL			(2x240, 1xS/L) Recover SL cable to P30744 / Stn 7



EXISTING STREETLIGHT SCHEMATIC
STN Nos: 1 to 7
(NOT TO SCALE)

PROPOSED STREETLIGHT SCHEMATIC
STN Nos: 1, 3, 5
(NOT TO SCALE)

PROPOSED COMMISSIONING PLAN (TENTATIVE ONLY)

Subject to amendment by Energex's outage co–ordinator.

1. Confirm all required documentation is present and has been completed prior to commissioning.
2. Confirm points of supply are correct as per workspan.
3. Disconnet single light at the following location:
   X868888 (Quinzeh Creek Rd)
4. Disconnect S/L circuit at the following point of supply:
   P30740 (Waterford–Tamborine Rd)
   P30744 (Waterford–Tamborine Rd).
5. Prove that all points are isolated prior to recovery.
6. Update workspan including streetlight de–energised date.

Where interruptions to existing consumers are required, they shall be notified inline with Energex's policies.

SITE CONTACT DETAILS:		ALIGNMENTS:		STORMWATER:	DBYD:	LOTS:	–	ENERGEX PROJECT No.: S3500141
NAME: KEMAL SARAC		ENERGEX OH:	3.075m CENTRE FROM RP ALIGN	SEWERAGE:	DBYD:	CANCELLING LOTS:	–	PROJECT SUBURB: LOGAN VILLAGE
COMPANY:		ENERGEX UG:	0 – 900mm FROM RP ALIGN	OTHER:	DBYD:			SHEET 05 of 05
DTMR:		TELSTRA:	DBYD			LOCAL AUTHORITY:	LCC:	DESIGNER DETAILS
PHONE: MOBILE:	(07) 55636589	GAS:	DBYD	WORKS CO–ORDINATOR:	–	UBD REF:	MAP 303, G–2	J. Gallety: Office (07) 5567 3750
		H.P.GAS:	DBYD	CONST. PROJECT NO.:	–	PEGGED?	ON REQUEST	
		WATER:	DBYD	WORK REQUEST NO.:	–			

No.	Revisions/Descriptions	Certification	Date	Microfilm
02	ISSUED FOR ENERGEX APPROVAL	ORIGINAL SIGNED	07.08.20	
01	DETAILED DESIGN	M.W.	15.07.20	
N/A	Issued For Construction			

CAD FILES: V:_Vault\Projects\30037795\CADD_VAR\CAD\DWG\16_RL\30037795–V16–RL–1332.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI–01

Survey Data	
Datum	MGA 94
Horiz. Grid	Zone 56
Height Origin	AHD Derived
Survey Books	MR100787

Scales: NTS

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	0.388	0.558	3.554	5A

through Chainage from Start of Gazettal 10.748km – 11.306km

ROAD LIGHTING RATE 2 REMOVAL SCHEDULES & SCHEMATICS

Drawn: G. Clarke
Designed: J. Gallety

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
ELECT	PI		16602	

Queensland Government

Job No.	489244
Contract. No.	CN–14898
Drawing No.	857955 02
Series Number	RL2–SC02 2
	MRR Detail (02714)

Last Modified – Aug 07, 2020 – 4:34pm

Drawing Number	Revision	Series Number	Drawing Description
857878	A	LP-01	COVER SHEET LOCALITY AND SITE PLAN
857879	B ⚠	DI-01	DRAWING INDEX
857880	A	DK-01	DRAWING SHEET KEY
857881	A	TC-01	TYPICAL CROSS SECTIONS SHEET 1 OF 3
857882	A	TC-02	TYPICAL CROSS SECTIONS SHEET 2 OF 3
857883	A	TC-03	TYPICAL CROSS SECTIONS SHEET 3 OF 3
857884	A	GD-01	GENERAL DETAILS SHEET 1 OF 3
857885	A	GD-02	GENERAL DETAILS SHEET 2 OF 3
857886	A	GD-03	GENERAL DETAILS SHEET 3 OF 3
857887	A	CL-NL01	CONTROL LINE SETOUT NOTES AND LEGEND
857888	A	CL-01	CONTROL LINE SETOUT LAYOUT PLAN SHEET 1 OF 4
857889	A	CL-02	CONTROL LINE SETOUT LAYOUT PLAN SHEET 2 OF 4
857890	A	CL-03	CONTROL LINE SETOUT LAYOUT PLAN SHEET 3 OF 4
857891	A	CL-04	CONTROL LINE SETOUT LAYOUT PLAN SHEET 4 OF 4
857892	A	CL-TA01	CONTROL LINE SETOUT TABLES
857893	A	GA-NL01	GENERAL ARRANGEMENT NOTES AND LEGEND
857894	A	GA-01	GENERAL ARRANGEMENT LAYOUT PLAN SHEET 1 OF 3
857895	A	GA-02	GENERAL ARRANGEMENT LAYOUT PLAN SHEET 2 OF 3
857896	A	GA-03	GENERAL ARRANGEMENT LAYOUT PLAN SHEET 3 OF 3
857897	A	GA-DE01	GENERAL ARRANGEMENT KERB RAMP DETAILS AND SETOUT
857898	A	EF-NL01	EXISTING FEATURES NOTES AND LEGEND
857899	A	EF-1001	EXISTING FEATURES LAYOUT PLAN SHEET 1 OF 3
857900	A	EF-1002	EXISTING FEATURES LAYOUT PLAN SHEET 2 OF 3
857901	A	EF-1003	EXISTING FEATURES LAYOUT PLAN SHEET 3 OF 3
857902	A	PU-NL01	PUBLIC UTILITY PLANT NOTES AND LEGEND AND POTHOLE TABLE
857903	A	PU-01	PUBLIC UTILITY PLANT LAYOUT PLAN SHEET 1 OF 3
857904	A	PU-02	PUBLIC UTILITY PLANT LAYOUT PLAN SHEET 2 OF 3
857905	A	PU-03	PUBLIC UTILITY PLANT LAYOUT PLAN SHEET 3 OF 3
857906	A	PU-TA01	PUBLIC UTILITY PLANT CONFLICTS REGISTER
857907	A	LS-01	LONGITUDINAL SECTION CONTROL LINE MC01
857908	A	LS-02	LONGITUDINAL SECTION CONTROL LINE MC02
857909	A	LS-03	LONGITUDINAL SECTION CONTROL LINE MC10
857910	A	LS-04	LONGITUDINAL SECTION CONTROL LINE MC20
857911	A	DD-NL01	DRAINAGE NOTES AND LEGEND SHEET 1 OF 2
857912	A	DD-NL02	DRAINAGE NOTES AND LEGEND SHEET 2 OF 2
857913	A	DD-DT01	DRAINAGE GENERAL DETAILS SHEET 1 OF 5
857914	A	DD-DT02	DRAINAGE GENERAL DETAILS SHEET 2 OF 5
857915	A	DD-DT03	DRAINAGE GENERAL DETAILS SHEET 3 OF 5
857916	A	DD-DT04	DRAINAGE GENERAL DETAILS SHEET 4 OF 5
857917	A	DD-DT05	DRAINAGE GENERAL DETAILS SHEET 5 OF 5
857918	A	DD-01	DRAINAGE LAYOUT PLAN SHEET 1 OF 3
857919	A	DD-02	DRAINAGE LAYOUT PLAN SHEET 2 OF 3
857920	B ⚠	DD-03	DRAINAGE LAYOUT PLAN SHEET 3 OF 3
857921	A	DD-LS01	DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 2
857922	A	DD-LS02	DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 2
857923	A	DD-XS01	DRAINAGE CULVERT SECTIONS
857924	A	DD-ST01	DRAINAGE CULVERT 02 INLET STRUCTURE DETAILS SHEET 1 OF 3
857925	A	DD-ST02	DRAINAGE CULVERT 02 INLET STRUCTURE DETAILS SHEET 2 OF 3
857926	A	DD-ST03	DRAINAGE CULVERT 02 INLET STRUCTURE DETAILS SHEET 3 OF 3
857927	A	PD-NL01	PAVEMENT AND LANDSCAPING NOTES AND LEGEND SHEET 1 OF 2
857928	A	PD-NL02	PAVEMENT AND LANDSCAPING NOTES AND LEGEND SHEET 2 OF 2
857929	A	PD-DT01	PAVEMENT AND LANDSCAPING INTERFACE DETAILS SHEET 1 OF 3
857930	A	PD-DT02	PAVEMENT AND LANDSCAPING INTERFACE DETAILS SHEET 2 OF 3
857931	A	PD-DT03	PAVEMENT AND LANDSCAPING INTERFACE DETAILS SHEET 3 OF 3
857932	A	PD-01	PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 1 OF 3
857933	A	PD-02	PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 2 OF 3
857934	A	PD-03	PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 3 OF 3
857935	A	SL-NL01	SIGNS AND PAVEMENT MARKINGS NOTES AND LEGEND
857936	A	SL-01	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 1 OF 4
857937	A	SL-02	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 2 OF 4
857938	A	SL-03	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 3 OF 4
857939	A	SL-04	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 4 OF 4
857940	A	SL-SC01	SIGNS AND PAVEMENT MARKINGS SIGN SCHEDULES SHEET 1 OF 2
857941	A	SL-SC02	SIGNS AND PAVEMENT MARKINGS SIGN SCHEDULES SHEET 2 OF 2
857942	A	RL3-NL01	RATE 3 ROAD LIGHTING NOTES AND LEGEND
857943	A	RL3-01	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 1 OF 4
857944	A	RL3-02	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 2 OF 4
857945	A	RL3-03	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 3 OF 4
857946	A	RL3-04	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 4 OF 4
857947	A	RL3-SC01	RATE 3 ROAD LIGHTING SCHEDULE SHEET 1 OF 2
857948	A	RL3-SC02	RATE 3 ROAD LIGHTING SCHEDULE SHEET 2 OF 2
857949	A	RL3-SL01	RATE 3 ROAD LIGHTING SINGLE LINE DIAGRAMS SHEET 1 OF 2
857950	A	RL3-SL02	RATE 3 ROAD LIGHTING SINGLE LINE DIAGRAMS SHEET 2 OF 2
857951	02	RL2-NL01	ROAD LIGHTING RATE 2 REMOVAL NOTES AND LEGEND
857952	02	RL2-01	ROAD LIGHTING RATE 2 REMOVAL LAYOUT PLAN SHEET 1 OF 2
857953	02	RL2-02	ROAD LIGHTING RATE 2 REMOVAL LAYOUT PLAN SHEET 2 OF 2
857954	02	RL2-SC01	ROAD LIGHTING RATE 2 REMOVAL SCHEDULES
857955	02	RL2-SC02	ROAD LIGHTING RATE 2 REMOVAL SCHEDULES & SCHEMATICS
857956	A	IT-NL01	INTELLIGENT TRANSPORT SYSTEMS GENERAL NOTES SHEET 1 OF 2
857957	A	IT-NL02	INTELLIGENT TRANSPORT SYSTEMS LEGEND SHEET 2 OF 2
857958	A	IT-01	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 1 OF 4
857959	A	IT-02	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 2 OF 4
857960	A	IT-03	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 3 OF 4
857961	A	IT-04	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 4 OF 4
857962	A	IT-SM01	INTELLIGENT TRANSPORT SYSTEMS SYSTEM ARCHITECTURE
857963	A	IT-SM02	INTELLIGENT TRANSPORT SYSTEMS SYSTEM CONNECTION DIAGRAM
857964	A	IT-SM03	INTELLIGENT TRANSPORT SYSTEMS FIBRE OPTIC BACKBONE DETAILS
857965	A	IT-SM04	INTELLIGENT TRANSPORT SYSTEMS FOC TERMINATION SCHEMATIC SHEET 1 OF 2
857966	A	IT-SM05	INTELLIGENT TRANSPORT SYSTEMS FOC TERMINATION SCHEMATIC SHEET 2 OF 2
857967	A	XS-01	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 1
857968	A	XS-02	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 2
857969	A	XS-03	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 3
857970	A	XS-04	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 4
857971	A	XS-05	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 5
857972	A	XS-06	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 6
857973	A	XS-07	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 7
857974	A	XS-08	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 8
857975	A	XS-09	ANNOTATED CROSS SECTIONS CONTROL LINE MC10 SHEET 1
857976	B ⚠	XS-10	ANNOTATED CROSS SECTIONS CONTROL LINE MC20 SHEET 1

TOTAL NUMBER OF DRAWINGS = 99

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
B	Drainage channels added	*SMA		25.09.20
A	Issued For Construction			

CAD FILES: V:_Jobs\Projects\3RD17955\CAD\3_MEV\2-01\DWG\02_DI\3RD17955-MEV2-01-DI01.dwg

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales: Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

DRAWING INDEX

Drawn: P.B

Designed: L.S

ENGINEERING CERTIFICATION (RPEQ)

ENG. AR. / CIVIL	SIGNATURE: ORIGINAL SIGNED	No. 15348	DATE 07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857879 B
Series Number	DI-01 of 1

Drawing Number	Revision	Series Number	Drawing Description
857878	A	LP-01	COVER SHEET LOCALITY AND SITE PLAN
857879	B ⚠	DI-01	DRAWING INDEX
857880	A	DK-01	DRAWING SHEET KEY
857881	A	TC-01	TYPICAL CROSS SECTIONS SHEET 1 OF 3
857882	A	TC-02	TYPICAL CROSS SECTIONS SHEET 2 OF 3
857883	A	TC-03	TYPICAL CROSS SECTIONS SHEET 3 OF 3
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857887	A	CL-NL01	CONTROL LINE SETOUT NOTES AND LEGEND
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857889	A	CL-02	CONTROL LINE SETOUT LAYOUT PLAN SHEET 2 OF 4
857890	A	CL-03	CONTROL LINE SETOUT LAYOUT PLAN SHEET 3 OF 4
857891	A	CL-04	CONTROL LINE SETOUT LAYOUT PLAN SHEET 4 OF 4
857892	A	CL-TA01	CONTROL LINE SETOUT TABLES
857893	A	GA-NL01	GENERAL ARRANGEMENT NOTES AND LEGEND
857894	A	GA-01	GENERAL ARRANGEMENT LAYOUT PLAN SHEET 1 OF 3
857895	A	GA-02	GENERAL ARRANGEMENT LAYOUT PLAN SHEET 2 OF 3
857896	A	GA-03	GENERAL ARRANGEMENT LAYOUT PLAN SHEET 3 OF 3
857897	A	GA-DE01	GENERAL ARRANGEMENT KERB RAMP DETAILS AND SETOUT
857898	A	EF-NL01	EXISTING FEATURES NOTES AND LEGEND
857899	A	EF-1001	EXISTING FEATURES LAYOUT PLAN SHEET 1 OF 3
857900	A	EF-1002	EXISTING FEATURES LAYOUT PLAN SHEET 2 OF 3
857901	A	EF-1003	EXISTING FEATURES LAYOUT PLAN SHEET 3 OF 3
857902	A	PU-NL01	PUBLIC UTILITY PLANT NOTES AND LEGEND AND POTHOLE TABLE
857903	A	PU-01	PUBLIC UTILITY PLANT LAYOUT PLAN SHEET 1 OF 3
857904	A	PU-02	PUBLIC UTILITY PLANT LAYOUT PLAN SHEET 2 OF 3
857905	A	PU-03	PUBLIC UTILITY PLANT LAYOUT PLAN SHEET 3 OF 3
857906	A	PU-TA01	PUBLIC UTILITY PLANT CONFLICTS REGISTER
857907	A	LS-01	LONGITUDINAL SECTION CONTROL LINE MC01
857908	A	LS-02	LONGITUDINAL SECTION CONTROL LINE MC02
857909	A	LS-03	LONGITUDINAL SECTION CONTROL LINE MC10
857910	A	LS-04	LONGITUDINAL SECTION CONTROL LINE MC20
857911	A	DD-NL01	DRAINAGE NOTES AND LEGEND SHEET 1 OF 2
857912	A	DD-NL02	DRAINAGE NOTES AND LEGEND SHEET 2 OF 2
857913	A	DD-DT01	DRAINAGE GENERAL DETAILS SHEET 1 OF 5
857914	A	DD-DT02	DRAINAGE GENERAL DETAILS SHEET 2 OF 5
857915	A	DD-DT03	DRAINAGE GENERAL DETAILS SHEET 3 OF 5
857916	A	DD-DT04	DRAINAGE GENERAL DETAILS SHEET 4 OF 5
857917	A	DD-DT05	DRAINAGE GENERAL DETAILS SHEET 5 OF 5
857918	A	DD-01	DRAINAGE LAYOUT PLAN SHEET 1 OF 3
857919	A	DD-02	DRAINAGE LAYOUT PLAN SHEET 2 OF 3
857920	B ⚠	DD-03	DRAINAGE LAYOUT PLAN SHEET 3 OF 3
857921	A	DD-LS01	DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 2
857922	A	DD-LS02	DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 2
857923	A	DD-XS01	DRAINAGE CULVERT SECTIONS
857924	A	DD-ST01	DRAINAGE CULVERT 02 INLET STRUCTURE DETAILS SHEET 1 OF 3
857925	A	DD-ST02	DRAINAGE CULVERT 02 INLET STRUCTURE DETAILS SHEET 2 OF 3
857926	A	DD-ST03	DRAINAGE CULVERT 02 INLET STRUCTURE DETAILS SHEET 3 OF 3
857927	A	PD-NL01	PAVEMENT AND LANDSCAPING NOTES AND LEGEND SHEET 1 OF 2
857928	A	PD-NL02	PAVEMENT AND LANDSCAPING NOTES AND LEGEND SHEET 2 OF 2
857929	A	PD-DT01	PAVEMENT AND LANDSCAPING INTERFACE DETAILS SHEET 1 OF 3
857930	A	PD-DT02	PAVEMENT AND LANDSCAPING INTERFACE DETAILS SHEET 2 OF 3
857931	A	PD-DT03	PAVEMENT AND LANDSCAPING INTERFACE DETAILS SHEET 3 OF 3
857932	A	PD-01	PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 1 OF 3
857933	A	PD-02	PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 2 OF 3
857934	A	PD-03	PAVEMENT AND LANDSCAPING LAYOUT PLAN SHEET 3 OF 3
857935	A	SL-NL01	SIGNS AND PAVEMENT MARKINGS NOTES AND LEGEND
857936	A	SL-01	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 1 OF 4
857937	A	SL-02	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 2 OF 4
857938	A	SL-03	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 3 OF 4
857939	A	SL-04	SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN SHEET 4 OF 4
857940	A	SL-SC01	SIGNS AND PAVEMENT MARKINGS SIGN SCHEDULES SHEET 1 OF 2
857941	A	SL-SC02	SIGNS AND PAVEMENT MARKINGS SIGN SCHEDULES SHEET 2 OF 2
857942	A	RL3-NL01	RATE 3 ROAD LIGHTING NOTES AND LEGEND
857943	A	RL3-01	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 1 OF 4
857944	A	RL3-02	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 2 OF 4
857945	A	RL3-03	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 3 OF 4
857946	A	RL3-04	RATE 3 ROAD LIGHTING LAYOUT PLAN SHEET 4 OF 4
857947	A	RL3-SC01	RATE 3 ROAD LIGHTING SCHEDULE SHEET 1 OF 2
857948	A	RL3-SC02	RATE 3 ROAD LIGHTING SCHEDULE SHEET 2 OF 2
857949	A	RL3-SL01	RATE 3 ROAD LIGHTING SINGLE LINE DIAGRAMS SHEET 1 OF 2
857950	A	RL3-SL02	RATE 3 ROAD LIGHTING SINGLE LINE DIAGRAMS SHEET 2 OF 2
857951	02	RL2-NL01	ROAD LIGHTING RATE 2 REMOVAL NOTES AND LEGEND
857952	02	RL2-01	ROAD LIGHTING RATE 2 REMOVAL LAYOUT PLAN SHEET 1 OF 2
857953	02	RL2-02	ROAD LIGHTING RATE 2 REMOVAL LAYOUT PLAN SHEET 2 OF 2
857954	02	RL2-SC01	ROAD LIGHTING RATE 2 REMOVAL SCHEDULES
857955	02	RL2-SC02	ROAD LIGHTING RATE 2 REMOVAL SCHEDULES & SCHEMATICS
857956	A	IT-NL01	INTELLIGENT TRANSPORT SYSTEMS GENERAL NOTES SHEET 1 OF 2
857957	A	IT-NL02	INTELLIGENT TRANSPORT SYSTEMS LEGEND SHEET 2 OF 2
857958	A	IT-01	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 1 OF 4
857959	A	IT-02	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 2 OF 4
857960	A	IT-03	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 3 OF 4
857961	A	IT-04	INTELLIGENT TRANSPORT SYSTEMS LAYOUT PLAN SHEET 4 OF 4
857962	A	IT-SM01	INTELLIGENT TRANSPORT SYSTEMS SYSTEM ARCHITECTURE
857963	A	IT-SM02	INTELLIGENT TRANSPORT SYSTEMS SYSTEM CONNECTION DIAGRAM
857964	A	IT-SM03	INTELLIGENT TRANSPORT SYSTEMS FIBRE OPTIC BACKBONE DETAILS
857965	A	IT-SM04	INTELLIGENT TRANSPORT SYSTEMS FOC TERMINATION SCHEMATIC SHEET 1 OF 2
857966	A	IT-SM05	INTELLIGENT TRANSPORT SYSTEMS FOC TERMINATION SCHEMATIC SHEET 2 OF 2
857967	A	XS-01	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 1
857968	A	XS-02	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 2
857969	A	XS-03	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 3
857970	A	XS-04	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 4
857971	A	XS-05	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 5
857972	A	XS-06	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 6
857973	A	XS-07	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 7
857974	A	XS-08	ANNOTATED CROSS SECTIONS CONTROL LINE MC01 SHEET 8
857975	A	XS-09	ANNOTATED CROSS SECTIONS CONTROL LINE MC10 SHEET 1
857976	B ⚠	XS-10	ANNOTATED CROSS SECTIONS CONTROL LINE MC20 SHEET 1

TOTAL NUMBER OF DRAWINGS = 99

Rev	Description	Name or RPEQ No.	Signature	Date
B	Drainage channels added	*SMA		25.09.20
A	Issued For Construction			

CAD FILES: V:_Jobs\Projects\3RD17955\CAD_SMEV3-01\DWG\02_DI\300317955-V02-DI-DI01.dwn

Associated Job Nos:

Auxiliary Drg Nos: Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales:

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL

WATERFORD – TAMBORINE ROAD (207)

CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	1.858	3.658	3.554	5A

Through Chainage from Start of Gazette: 10.748km – 11.306km

DRAWING INDEX

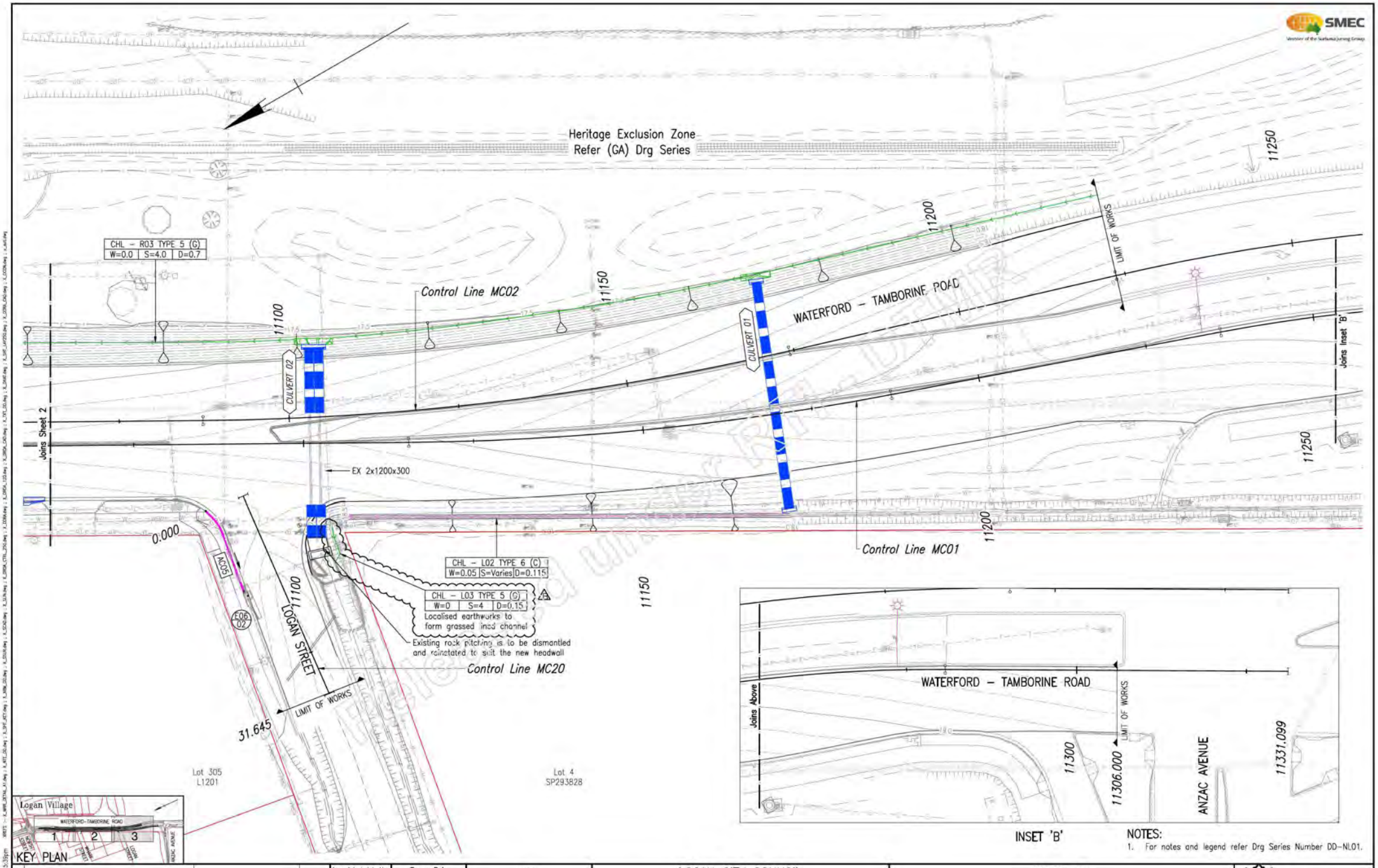
Drawn: P.B

Designed: L.S

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	P.I	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN-14898
Drawing No.	857879 B
Series Number	DI-01 of 1



NOTES:
1. For notes and legend refer Drg Series Number DD-NL01.

Rev	Revisions/Descriptions	Name or RPEQ No.	Signature	Date
B	DRAINAGE CHANNEL ADDED	15348		22.09.20
A	Issued For Construction			

CAD FILES: V:_Vault\Projects\30031795\CADD_VAR\CAD\DWG\12_DD\30031795-V12-DD-1063.dwg

Last Modified – Sep 22, 2020 – 3:39pm

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
0 2 4 6 8 10m
Dimensions shown in millimeters except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.488	9.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn P.W
Designed M.M

DRAINAGE
LAYOUT PLAN
SHEET 3 OF 3

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	14093	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857920 B
Series Number	DD–03 of 3

CONTROL LINE MC20
X = 510525.110
Y = 6928357.215
Z = 18.422

Datum 16.00

DESIGN HEIGHT			18.332		18.422		18.208		
EXISTING SURFACE		18.306		18.401		18.208			
OFFSETS		-3.355		0.000		5.808			

CHAINAGE 25.000

CONTROL LINE MC20
X = 510539.022
Y = 6928355.649
Z = 18.271

Datum 16.00

DESIGN HEIGHT		17.834			18.080	18.109		18.271		18.097	18.057	18.207	18.207	18.328
EXISTING SURFACE		17.834		17.975	18.068		18.258		18.119	18.243	18.245	18.252	18.328	
OFFSETS	-11.943		-5.339	-4.643		0.000		4.927	5.378	5.418	5.528	6.560		

CHAINAGE 11.000

D	DRAINAGE CHANNEL ADDED	*SMW	22.09.20
A	Issued For Construction		
Revisions/Descriptions	Name or RPEQ No.	Signature	Date

CAD FILES: V:_Jacobs\Projects\30037295\CADD\MAR\CAD\DWG\16_XS\30037295-YTR-XS-2001.dwg

Associated Job Nos	Survey Data	
	Horiz. Datum	MGA94
Auxiliary Drg Nos	Horiz. Grid	Zone 56
Refer Drawing Index Drg. Series Number 01-01	Height Datum	AHD Derived
	Survey Books	MR101140

Scales: 0 1 2 3 4m

Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points				
Preceding RP	Dist. to start of job (km)	From start to end of job	From end to following RP	Following RP
4	0.000	3.554	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

Drawn: P.W
Designed: L.S

ANNOTATED CROSS SECTIONS
CONTROL LINE MC20
SHEET 1

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME	SIGNATURE	No.	DATE
CIVIL	PJ	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857976 B
Series Number	XS–10 of 10

SMEC
Member of the Surbana Jurong Group

Revisions/Descriptions	Name or RPEQ No.	Signature	Date
A Issued For Construction			

CAD FILES | V:_Vault\Projects\30031795\CADD_WAR\CAD\DWG\02_D\30031795-W02-DI-0021.dwg

Associated Job Nos

Auxiliary Drg Nos
Refer Drawing Index Drg. Series Number DI-01

Survey Data	
Horiz. Datum	MGA94
Horiz. Grid	Zone 56
Height Datum	AHD Derived
Survey Books	MR101140

Scales
A 0 10 20 30 40m
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10747.610 – 11306.000

Reference Points

Preceding RP	Dist. to start of Gazettal	From start to next RP	From end to Following RP	Following RP
4	1.388	0.558	3.554	5A

Through Chainage from Start of Gazettal 10.748km – 11.306km

RTI-4349 Page 370 of 375

Drawn P.W
Designed L.S

DRAWING SHEET KEY

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA		SIGNATURE	No.	DATE
CIVIL	PI	ORIGINAL SIGNED	15348	07/08/2020

Queensland Government

Job No.	489244
Contract No.	CN–14898
Drawing No.	857880 | A
Series Number	DK–01 of 1

Last Modified :- Aug 07, 2020 - 3:54pm

41/30673
GHD Pty Ltd
Level 13 - The Rocket, 203 Robina Town Centre Dr
Robina Qld 4226
Telephone: 5557 1000
Facsimile: 5557 1099

Waterford-Tamborine Road Upgrade (Quinzeh Creek Rd to Anzac Ave)

Department of Transport and Main Roads

Contract Notice

CN No: 40001

Contractor: The Project Manager
Allroads Pty Ltd

Contract: CN-14898

Date: 12/03/2021

Attn: PI

Fax:

Author: PI

Description: POSSESSION OF SITE

Pursuant to Clause 27.1 of the General Conditions of Contract, Possession of the Site is granted for the purpose of executing all works under the Contract CN-14898 Waterford Tamborine Road Upgrade (Quinzeh Creek Road to Anzac Avenue).

The Date of Letter of Acceptance is 16 February 2021.

The Date of Possession of Site is 12 March 2021.

If this Contract Notice **does not** *detail that the direction is a variation and the Contractor is of the belief that it is, the Contractor is advised to comply with any notification clauses within the Contract.*

ACKNOWLEDGEMENT CONTRACTOR

Contractor's Representative	Signature	Date

SUPERINTENDENT

Superintendent's Representative	Signature	Date
PI	NR	12/03/2021

MEDIA STATEMENT

Subject	Waterford-Tamborine Road – North Street to Anzac Avenue		
Due date (expiry date for release or embargo date)	23 February 2021	**DocTrak ID**	MS9907
Written by	Name – Jamie Hall Position – Communications Officer Division/Region – PDO South Coast Region Date – 18 February 2021	**Approved by**	Name – Paul Noonan Position – Regional Director Division/Region – PDO South Coast Region Date – 22 February 2021
For release by	☒ Minister for Transport and Main Roads ☐ Department	**Media and Issues contact**	Belinda Gatz TMR Media Unit (07) 3066 7255
Distribution	Logan Media Outlets		
Background	$13.23 million has been committed by the Queensland Government in Queensland Transport and Roads Investment Program to upgrade Waterford-Tamborine Road and North Street intersection and approximately 300 metres of Waterford-Tamborine Road between Anzac Avenue to North Street from two to four lanes.		
Funding	☒ State Government ☐ Federal Government - Has federal approval been received for release of media statement? Yes/No ☐ Regional Council Details: (Please include project value and relevant breakdown if jointly funded)		
Impacted stakeholders			
Electorate/s	Division 4 (Logan City Council); Logan; Wright		

SOCIAL MEDIA PITCH (if approved, email social media pitch and photo/video to social.media@tmr.qld.gov.au and media@tmr.qld.gov.au)	
Opportunity	☐ Facebook ☐ Twitter ☐LinkedIn
Proposed copy:	
Photo/Video:	[insert photo if available otherwise provide a description of the visual accompaniment] (Videos will need to be emailed to social.media@tmr.qld.gov.au and media@tmr.qld.gov.au separately with the MS number and title).

18 February 2021

Contractor appointed to begin works at Logan Village

Upgrades to Waterford-Tamborine Road at Logan Village are a step closer today with a contractor now appointed to begin construction on the busy stretch of road.

Minister for Transport and Main Roads Mark Bailey said Allroads had been appointed to undertake the works, which will reduce congestion and create a safer driving environment.

"Transport and Main Roads have worked closely with the Logan Village community and their feedback was incorporated in the final design," Mr Bailey said.

"The final design supports local traffic movements through three U-turn facilities at North Street, Anzac Avenue and Logan Street, and dedicated right-turn lanes into Wharf Street and Logan Street.

"This will maintain access for local commuters accessing businesses and shops in Logan Village, while ensuring a safe driving environment is also provided for the local community and commuters," Mr Bailey said.

Mr Bailey said he thanked the community for their patience during the planning and delivery of this important upgrade.

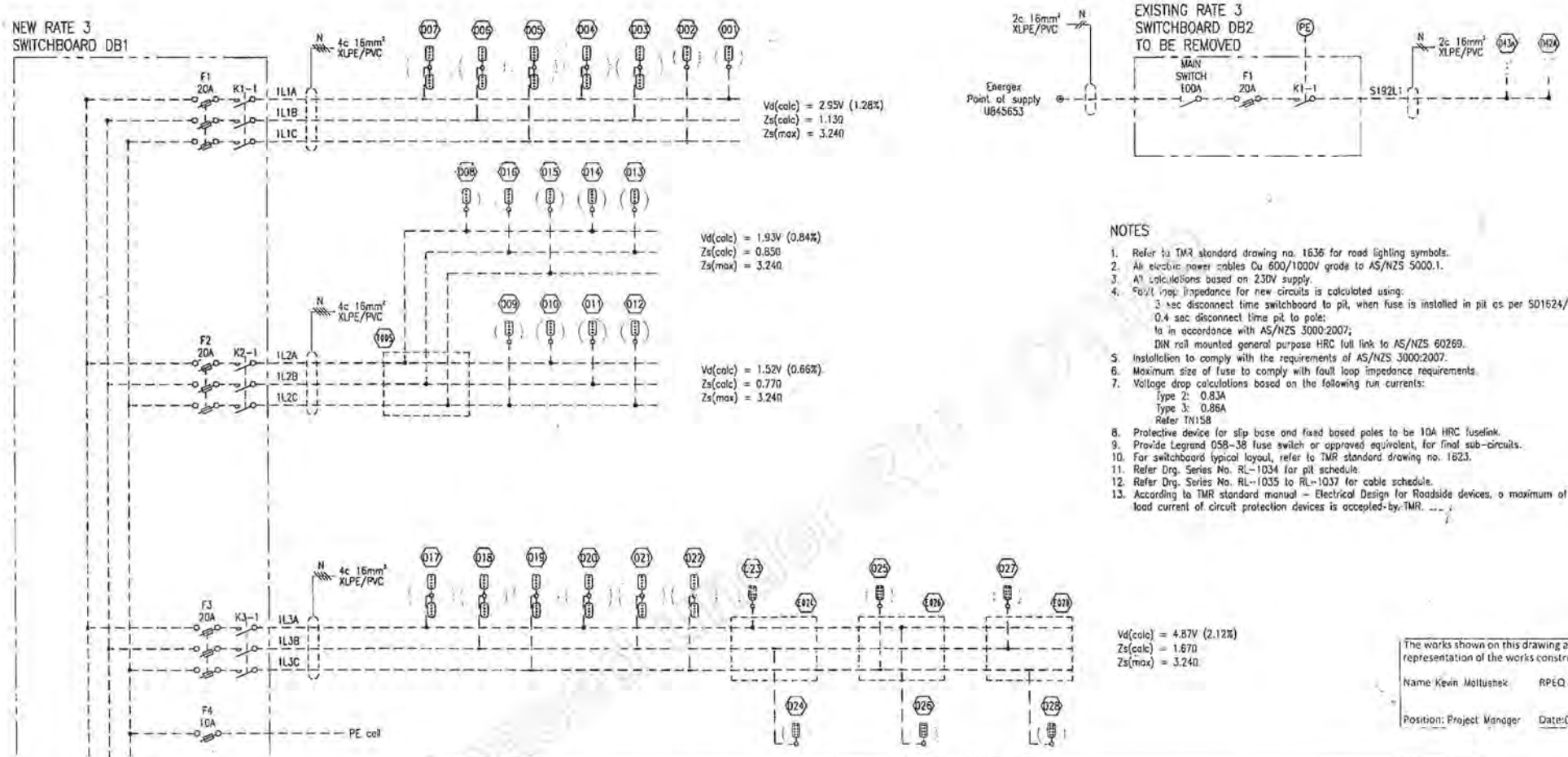
"TMR looks forward to working with the community as we work towards a safer and more efficient journey for road users."

It is expected that Allroads will mobilise equipment and commence early works in the coming weeks, with construction expected to be complete by late-2021, weather and site conditions permitting.

ENDS

Media contact: Name, phone number

SMEC



NOTES

1. Refer to TMR standard drawing no. 1636 for road lighting symbols.
2. All electric power cables Cu 600/1000V grade to AS/NZS 5000.1.
3. All calculations based on 230V supply.
4. Fault loop impedance for new circuits is calculated using:
   0.4 sec disconnect time switchboard to pit, when fuse is installed in pit as per SD1624/1625;
   0.4 sec disconnect time pit to pole;
   to in accordance with AS/NZS 3000:2007;
   DIN rail mounted general purpose HRC full link to AS/NZS 60269.
5. Installation to comply with the requirements of AS/NZS 3000:2007.
6. Maximum size of fuse to comply with fault loop impedance requirements.
7. Voltage drop calculations based on the following run currents:
   Type 2: 0.83A
   Type 3: 0.86A
   Refer TN158
8. Protective device for slip base and fixed based poles to be 10A HRC fuselink.
9. Provide Legrand 058-38 fuse switch or approved equivalent, for final sub-circuits.
10. For switchboard typical layout, refer to TMR standard drawing no. 1623.
11. Refer Drg. Series No. RL-1034 for pit schedule.
12. Refer Drg. Series No. RL-1035 to RL-1037 for cable schedule.
13. According to TMR standard manual – Electrical Design for Roadside devices, a maximum of 80% load current of circuit protection devices is accepted by TMR.

The works shown on this drawing are a factual representation of the works constructed

Name Kevin Maltushek RPEQ No: 0744

Position: Project Manager Date: 07/02/2019

CIRCUIT SCHEDULE

LOCATION/SWITCHBOARD	POWER SUPPLY NUMBER	PHASE	CIRCUIT NO.	STATIONS	LOAD	START CURRENT (A)	RUN CURRENT (A)	MCB RATING (A)	MINIMUM CONDUCTOR SIZE	REMARKS
WATERFORD-TAMBORINE ROAD	DB1	A	1L1A	007, 004, 001	6x198W LED		4.98	3φ 20A	16mm² 4c XLPE/PVC	New lights to be installed on new circuit
		B	1L1B	006, 003	4x198W LED		3.32		16mm² 4c XLPE/PVC	New lights to be installed on new circuit
		C	1L1C	005, 002	4x198W LED		3.32		16mm² 4c XLPE/PVC	New lights to be installed on new circuit
		A	1L2A	008, 014, 010	3x198W LED		2.49	3φ 20A	16mm² 4c XLPE/PVC	New lights to be installed on new circuit
		B	1L2B	016, 013, 011	3x198W LED		2.49		16mm² 4c XLPE/PVC	New lights to be installed on new circuit
		C	1L2C	015, 009, 012	3x198W LED		2.49		16mm² 4c XLPE/PVC	New lights to be installed on new circuit
		A	1L3A	017, 020, 023, 026	8x198W LED		6.64	3φ 20A	16mm² 4c XLPE/PVC	New lights to be installed on new circuit
		B	1L3B	018, 021, 024, 027	8x198W LED		6.64		16mm² 4c XLPE/PVC	New lights to be installed on new circuit
		C	1L3C	019, 022, 025, 028	8x198W LED		6.64		16mm² 4c XLPE/PVC	New lights to be installed on new circuit

ENERGEX PROJECT No.: S3500078
PROJECT SUBURB: LOGAN VILLAGE
SHEET 26 OF 29

CONTACT DETAIL
NEAL DIGBY: Office (07)3029 6783

Rev	Revisions/Descriptions	Certification	Date	Microfilm
B	As Constructed	GE.C	01/05/19	
A	Issued For Construction			

CAD FILES: V:\Youth\Projects\30031576\CAD\DWG\16_RL\30031576-16-RL-10x1.dwg

Associated Job Nos:
Auxiliary Drg Nos: Refer Index Series No. DI-01 – DI-04

Survey Data	
Datum	MGA 94
Horiz. Grid	Zone 56
Height Origin	AHD Derived
Survey Peaks	MR94021

Scales: NTS
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 11105 – 13700 (MCA1)

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	1.72	2.62	1.15	SA

Through Chainage from 9.36km to 14.85km

ROAD LIGHTING RATE 3
SINGLE LINE DIAGRAMS
SHEET 1 OF 4

Drawn: Adrian Lally
Designed: Jonathan Wong

ENGINEERING CERTIFICATION (RPEQ)

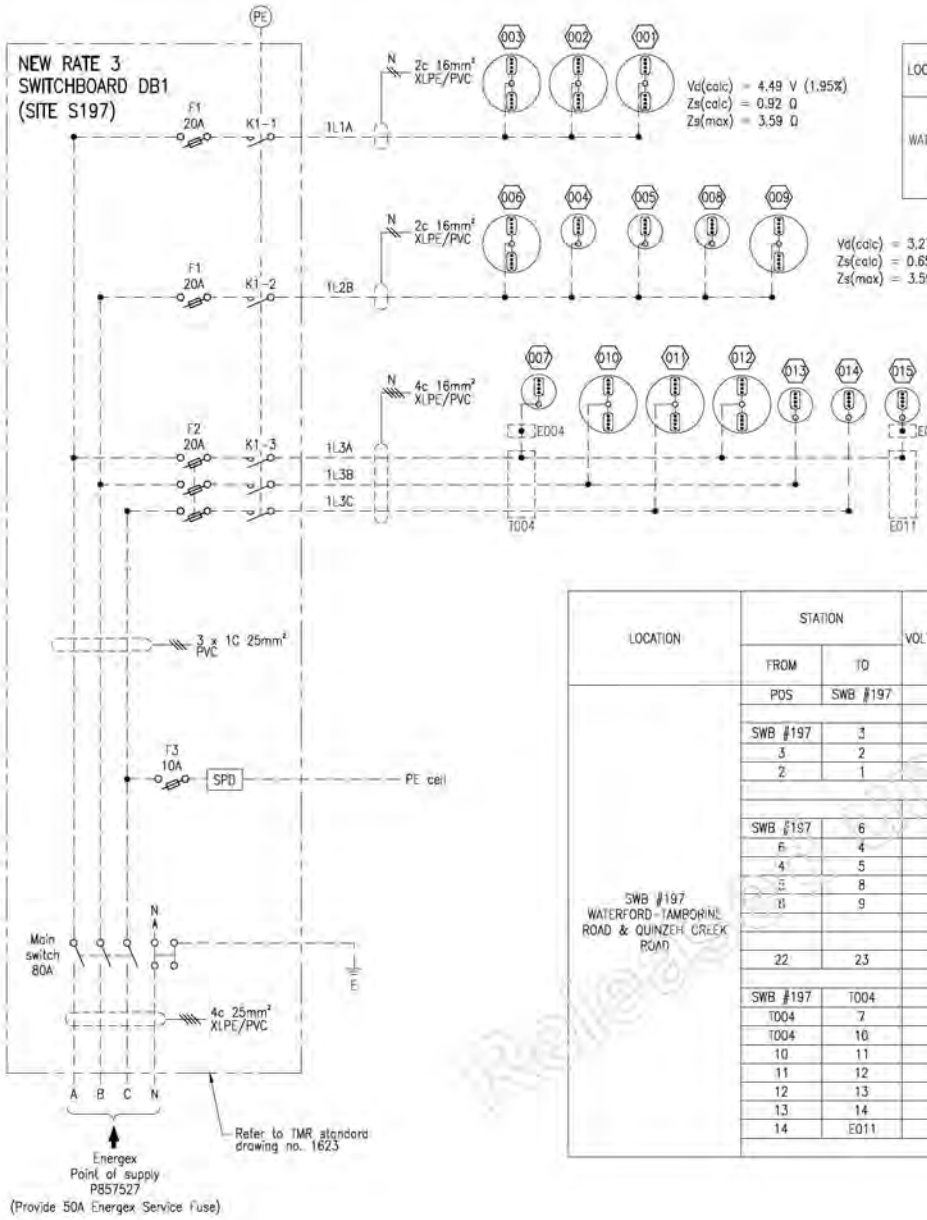
	ENG. AREA	NAME	SIGNATURE	NO.	DATE
	ELECTRICAL	PI	ORIGINAL SIGNED	9350	14/09/17

Queensland Government

Job No.	240/2075
Contract No.	SCHD-3424
Drawing No.	709722 B
Series Number	RL3-SL01 of 4

MRR_Detail (02/14)

May 01, 2019 - 7:18pm
Carl Mulcahy



CIRCUIT SCHEDULE

LOCATION/SWITCHBOARD	POWER SUPPLY NUMBER	PHASE	CIRCUIT NO.	STATIONS	LOAD	START CURRENT (A)	RUN CURRENT (A)	FUSE RATING (A)	REMARKS
WATERFORD–TAMBORINE ROAD	DB1	A	1L1A	003,002,001	6 X 198W LED	4.98	4.98	20A	New lights to be installed on new circuit
		B	1L2B	006,004,005,008,009	7 X 198W LED	5.81	5.81	20A	New lights to be installed on new circuit
		A	1L3A	007,012,015	4 X 198W LED	3.32	3.32	20A	New lights to be installed on new circuit
		B	1L3B	010,013	3 X 198W LED	2.4	2.4		New lights to be installed on new circuit
		C	1L3C	011,014	3 X 198W LED	2.4	2.4		New lights to be installed on new circuit

NOTES

1. The maximum Earth Fault Loop Impedance Zs(max) is calculated under the assumption that the operating temperature is 75°C. Contractor must measure the temperature of the conductor on site before testing and refer to TRUM Volume 4 Part B Table 5 to determine on-site Zs(max).

UNDERGROUND CABLE SCHEDULE

LOCATION	STATION FROM	STATION TO	VOLTS	EXIST	REC	INSTALL	CABLE SIZE/MODEL/LENGTH (m) S/L CABLE 25mm² 4C Cu XLPE/PVC	16mm² 4C Cu XLPE/PVC	16mm² 2C Cu XLPE/PVC	REMARKS
SWB #197 WATERFORD-TAMBORINE ROAD & QUINZEH CREEK ROAD	POS	SWB #197				X	84			New cable (Mains)
							CIRCUIT 1			
	SWB #197	3				X			136	New cable
	3	2				X			56	New cable
	2	1				X			58	New cable
					TOTAL				218	
							CIRCUIT 2			
	SWB #197	6				X			40	New cable
	6	4				X			18	New cable
	4	5				X			29	New cable
	5	8				X			34	New cable
	8	9				X			24	New cable
					TOTAL				135	
							REMOVAL			
	22	23			X			34		Remove existing cable
							CIRCUIT 3			
	SWB #197	T004				X		16		New cable
	T004	7				X			31	New cable
	T004	10				X		93		New cable
	10	11				X		44		New cable
	11	12				X		43		New cable
	12	13				X		63		New cable
	13	14				X		32		New cable
	14	E011				X		38		New cable
					TOTAL			329	60	

The works shown on the drawing are a factual representation of works constructed.
Signature: Original Marked-up As Constructed Drawings Signed By:

Date: 09/10/2019
Name: Henk Booysen
Title: Project Manager

AS CONSTRUCTED DRAWINGS DISCLAIMER
SMEC HAS PREPARED THESE DRAWINGS FROM MARKED-UP AS CONSTRUCTED DRAWINGS PROVIDED BY THE CONTRACTOR. SMEC HAVE UPDATED THE ELECTRONIC DRAWINGS WITH THE INFORMATION PROVIDED ON THE MARKED-UP AS CONSTRUCTED DRAWINGS. SMEC HAVE NOT CHECKED OR VERIFIED THE ACCURACY OF THE INFORMATION CONTAINED ON THE MARKED-UP DRAWINGS. THE CONTRACTOR HEREBY CERTIFIES THAT WORKS SHOWN ON THIS DRAWING ARE A FACTUAL REPRESENTATION OF THE WORKS CONSTRUCTED.

ENERGEX PROJECT No.: S3500105
PROJECT SUBURB: LOGAN VILLAGE
SHEET 8 of 8

CONTACT DETAIL:
KHAN KHAMSONE: Office (07) 5578 0206

E	As Constructed	RPEQ 18602 MR	10/06/20	
D	Cable length changes	RPEQ 9350 DR	29/05/19	
C	Note added	RPEQ 9350 DR	16/04/19	
B	Redesign issued for Construction	RPEQ 9350 DR	02/04/19	
A	Issued For Construction			
	Revisions/Descriptions	Certification	Date	Microfilm

CAD FILES: V:_Vault\Projects\30031795\CADD_LV\CAD\DWG\16_RL\30031795-16-RL-1041.dwg
Last Modified – Jul 21, 2020 – 12:45pm

Associated Job Nos:
Auxiliary Drg Nos: Refer Index Drawing No. 786029

Survey Data	
Datum	MGA 94
Horiz. Grid	Zone 56
Height Origin	AHD Derived
Survey Books	MR100787

Scales: NTS
Dimensions shown in metres except where shown otherwise

LOGAN CITY COUNCIL
WATERFORD – TAMBORINE ROAD (207)
CTL CHGE 10381 – 11100 (MCA1)

Reference Points

Preceding RP	Dist. to start of job (km)	From start to end of job	From end to Following RP	Following RP
4	0.024	0.719	3.76	5A

through Chainage from 9.36km to 14.86km

Drawn: G. Clarke
Designed: T. Murphy

ROAD LIGHTING RATE 3
SINGLE LINE DIAGRAMS
SHEET 1 OF 2

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	SIGNATURE	NO.	DATE
ELECTRICAL	ORIGINAL SIGNED	16172	5/02/19

Queensland Government

Job No.	240/207/5
Contract. No.	SCHD-3424
Drawing No.	786095 E
Series Number	RL3-SL01 of 02
	MRR Detail (02/14)