

ROADS AND MARITIME SERVICES (RMS)

QA SPECIFICATION G10

TRAFFIC MANAGEMENT

NOTICE

This document is a Roads and Maritime Services QA Specification. It has been developed for use with roadworks and bridgeworks contracts let by Roads and Maritime Services or by local councils in NSW. It is not suitable for any other purpose and must not be used for any other purpose or in any other context.

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REVISION REGISTER

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
Ed 3/Rev 0	1.1	Complete revision, most previous requirements either replaced or incorporated into the Traffic Control at Work Sites Manual. Work to comply with the RTA Traffic Control at Work Sites Manual.	GM, RNIC	03.12.98
Ed 3/Rev1	1.3 4.1	References to AS 1742.3 deleted and replaced with: - reference to RTA Traffic Control at Work Sites Manual; - definition of Regulatory Traffic Control Device.	GM, RNIC	26.02.99
Ed 3/Rev 2	1.6.2, 1.6.3 2.7, 3.4 3.3 3.1 Annexure G10/3	Changes to safety clothing. New heading, clarified use of the Works. New clause for removal of pavement markings. Work adjacent to traffic added. Schedule of Identified Records added.	GM, RNIC	19.04.00
Ed 3/Rev 3	1.6.1	Use of vests at night clarified.	GM, RNIC	29.03.01
Ed 3/Rev 4	1.2 1.2, 3.1 1.3 1.7 3.3	Currency of reference documents remains. Placing temporary pavement markings on the final wearing course is conditional Six week Period of notice for Regulatory Traffic Control Devices deleted Requirement for temporary speed zoning during the work to be indicated. Treatment of redundant markings outside the limits of work added.	GM, RNIC	30.09.02
	3.4	Minor editorial change.		

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
	4.1 Annexure G10/1	Last sentence. Six weeks changed to two weeks. Heading changed. Sections B and C added.		
Ed 4/Rev 0	Various 1.1 1.2 1.3 1.3, 1.7, 3.1, Annx G10/A, Old 3.2, 3.3 & 4 1.4 1.6 2.7 3.1 Annexure G10/B	Formatting changed "Contractor" replaced by "you" "Superintendent" replaced by "Principal" References to AS 1742.3 changed Document structure explained TMP must be consistent with PQP and may be submitted in stages. After hours contacts are required. Some details deleted as they are now in the TCWS Manual New subclause for TCP details RTA will supply the vest. Vests to comply with AS 4602 References to Completion changed to suit RTA C2 Hold Point replaced by Hold Point in Clause 1.3 Transferred from Clause 5, SIMC pay items added.	GM, RNIC	12.11.03
Ed 4/Rev 1	1.3, 3.2 1.6 2.6, B2.3	Changes for SIMC's Vests to be supplied by Contractor Minor editorial changes	GM, RNIC (P Wellings)	06.04.04
Ed 4/Rev 2	Foreword 1.4, G10/M	New clause after the Table of Contents Changes to referenced documents	GM, RNIC	24.01.05
Ed 4/Rev 3	1.6	Requirement for RTA Registration Category G	GM, IC	09.07.07
Ed 4/Rev 4	"Notice" 1.7	RTA PO Fox and Fax numbers updated. High visibility fluorescent safety clothing requirement simplified.	GM, IC	08.04.09
Ed 5/Rev 0	Spec Title Guide Notes	Title changed to "Traffic Management". Guide Notes expanded to include: - notes on customisation of G10, - example of project specific traffic management restrictions.	GM, IC	22.04.10
Ed 5/Rev 0 (cont'd)	1.2.6 1.3	New clause on list of acronyms in Annex M2. List of definitions included.		

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
	1.4.1	Authority to appoint Traffic Controllers clarified and formalised.		
	1.4.3	Qualifications of traffic control personnel specified.		
	1.4.4	New Hold Point introduced for submission of proposed Traffic Controllers details.		
	1.4.5	Requirements for RTA logo changed.		
	1.4.6	New clause on Traffic Control Site Manager.		
	2.2	Provision for project specific traffic management restrictions introduced.		
	2.4	New clause on Road Occupancy Licence included.		
	2.5	Additional requirements specified for Traffic Management Plan. Qualification of person preparing Traffic Management Plan specified.		
	2.6	New clause on Traffic Staging Plans introduced.		
	2.7.1 & 2.7.2	Road design requirements expanded.		
	2.7.4	Design standards for pavement design inserted. Requirement for existing pavements and road shoulders used as temporary roadways to be upgraded.		
	2.7.4	Requirement for safety barrier product to have RTA Acceptance.		
	2.8	Traffic Control Plan requirements expanded. Qualification of person modifying standard Traffic Control Plans introduced. New requirements for project specific Traffic Control Plans introduced. New clause on Vehicle Movement Plans introduced.		
	2.9	Requirement for traffic management risk assessment workshop introduced.		
	2.10	Requirement for road safety audit of TCPs introduced.		
Ed 5/Rev 0 (cont'd)	3.3	Requirement for inspection by qualified person prior to opening temporary roadways and detours introduced.		
	3.4	Requirement for road safety audit of TCP implementation introduced.		

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
	4	New clause "Traffic Control Devices".		
	4.1 & 4.2	Requirements for safety barriers, pavement markings and signs expanded.		
	4.3 & 4.3	New clauses introduced for: - portable variable message signs, - radar activated speed signs.		
	4.5	Clause on temporary traffic signals (previously contained within clause on Traffic Control Plan) inserted.		
	5	Requirement for daily inspection of traffic control measures introduced.		
	6	New clause "Construction Work Adjacent To Traffic", grouping together previous clause 3.1 "Construction under or adjacent to traffic", clause 1.7 "Approved clothing for work personnel", and clause 1.8 "Plant and equipment".		
	7	New clause "Maintenance of Roadways" for:		
	7.1	- Existing roadways		
	7.2	- Temporary roadways		
	7.3	- New roadways.		
	Annex A1	New table of project specific requirements.		
	Annex A2	New Annexure for project specific traffic management restrictions.		
	Annex A4	New Annexure for Road Occupancy Fees.		
	Annex B	Pay Item P1 modified. New Pay Items P2, P3 and P4 introduced. Suggestions for additional Pay Items introduced.		
	Annex C	Schedules of Hold Points and Identified Records updated.		
	Annex M1	Reference Documents updated.		
	Annex M2	List of acronyms inserted.		
Ed 5/Rev 1	Annex B	Scope of work covered by Pay item G10P1 clarified.	GM, IC	27.10.10
Ed 5/Rev 2	1.4	Previous clause 1.2.7 moved to clause 1.4. Subsequent clauses renumbered.	GM, IC	04.07.11
	1.5.5	Details pertaining to RTA logo on safety vest deleted.		
Ed 5/Rev 3	Annex B Pay Item P4	Period for routine maintenance of newly constructed sections opened to traffic clarified to be the earlier of Contractual Completion Date or Completion.	GM, IC (M Andrew)	09.11.11

GUIDE NOTES

(Not Part of Contract Document)

Use of RMS Traffic Control at Work Sites Manual

G10 requires contractors to consult and comply with the Traffic Control at Work Sites Manual. The scope of recent editions of the Manual, in addition to applying to RMS works carried out by direct labour, has been expanded to include works carried out by contract.

It contains both mandatory requirements and guidance which contractors should consider when planning and carrying out traffic control. Some details and terms in the Manual reflect RMS usage, and as such contractors will need to adapt them to suit their own organisation.

The Manual contains information which can assist contractors to develop and implement their Traffic Management Plans and to assist Principal's staff in considering, approving and monitoring the Plans.

Customisation of G10

G10 is a model specification that must be customised by the TENDER DOCUMENTER for each specific project.

Suggestions for customisation are shown as italic boxed text, as illustrated below:

NOTES TO TENDER DOCUMENTER: (Delete this boxed text after customising G10)

If Road Occupancy Fees are payable, attach a Schedule of Road Occupancy Fees here.

If Road Occupancy Fees are not payable, insert "Not Applicable" in this section.

If a particular matter is not relevant to your project, delete the boxed text. If the matter is relevant, remove the borders around the text, modify the text to suit the circumstances of the Contract, adjust the margins so the customised paragraphs line up with the general text, match the font type and set the customised paragraphs in ***bold italics***.

After completing the customisation, check the pagination of the whole document and insert page breaks if necessary to achieve continuity within clauses. Then return to the CONTENTS page to highlight and automatically update the clause listing and page numbers.

Annexure G10/A2 – Project Specific Restrictions and Additional Requirements

Annexure G10/A2 provides for the TENDER DOCUMENTER to insert any **restrictions** and **additional requirements** for traffic management which tenderers must allow for when preparing their tenders and which the Contractor has to include in the Traffic Management Plans and Traffic Control Plans.

An example is given below:

A2 PROJECT SPECIFIC RESTRICTIONS AND ADDITIONAL REQUIREMENTS

A2.1 Traffic on MR920

The following restrictions to traffic management on MR920 apply to this Contract:

- (a) The traffic capacity of MR920 existing at the Site at the Date of Contract must be maintained, except as provided elsewhere under this clause. Any delays to traffic must be kept to a minimum.*
- (b) Between the hours 7:00 am and 10:00 am, obstruction of the through or turning lanes on MR920 or the intersecting side streets is not permitted. Unless approved otherwise by the Principal, this requirement applies to all existing lanes, including any additional lanes constructed as part of the Works and have been opened to traffic.*
- (c) Restriction of traffic to a single lane traffic flow using Traffic Controllers will be permitted only for night time work. For this traffic arrangement, traffic in each direction must not be stopped for more than 5 minutes.*

A2.2 Traffic on Local Roads

The following restrictions to traffic management on local roads apply to this Contract:

- (a) Current turning movements into and out of local roads must be maintained during construction.*
- (b) Traffic along MR920 must not be diverted on to local streets unless prior written approval has been obtained from Woop Woop City Council.*
- (c) Closure of side roads is not permitted unless prior written approval has been obtained from Woop Woop City Council.*

A2.3 Buses

Provide facilities for bus commuters, including the following:

- (a) Temporary bus bays, 15m long, 3.5m wide with tapers 20m long at each end;*
- (b) Bus stop signs;*
- (c) Adequate areas to queue and for pedestrian movement;*
- (d) Pedestrian paths across active roadways and construction zones to the bus stops, and*
- (e) Signs directing pedestrians to and from the bus stops.*

Ensure also that all traffic staging can adequately cater for bus turning movements.

Keep the bus companies informed of your construction activities which may affect their bus routes.



TRAFFIC MANAGEMENT

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VERSION FOR: DATE:

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FOREWORD

RMS COPYRIGHT AND USE OF THIS DOCUMENT

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This document should be read with all the documents forming the Contract.

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REVISIONS TO PREVIOUS VERSION

This document has been revised from RMS Specification G10 Edition 5 Revision 2.

All revisions to the previous version (other than minor editorial and project specific changes) are indicated by a vertical line in the margin as shown here, except when it is a new edition and the text has been extensively rewritten.

PROJECT SPECIFIC CHANGES

Any project specific changes have been indicated in the following manner:

- (a) Text which is additional to the base document and which is included in the Specification is shown in bold italics e.g. ***Additional Text***.
- (b) Text which has been deleted from the base document and which is not included in the Specification is shown struck out e.g. ~~Deleted Text~~.

RMS QA SPECIFICATION G10

TRAFFIC MANAGEMENT

1 GENERAL

1.1 SCOPE

This Specification sets out the requirements for the management of traffic past, through and/or around a work site. It includes the provision for the safe movement of traffic, the protection of workers from passing traffic and the provision for access to adjoining properties located within the limits of the Contract.

The scope includes the design, construction, maintenance, upgrading and removal of any necessary temporary roadways and detours, the provision of Traffic Controllers to direct and control traffic, and the installation of temporary signs, road markings, lighting and safety barriers.

All temporary traffic arrangements required for the Works under this Contract are covered under this Specification unless stated otherwise.

1.2 STRUCTURE OF THE SPECIFICATION

This Specification includes a series of annexures that detail additional requirements.

1.2.1 Project Specific Details

Details relating to traffic control that is specific to this Contract are shown in Annexure G10/A.

1.2.2 Measurement and Payment

The method of measurement and payment is detailed in Annexure G10/B.

1.2.3 Schedules of HOLD POINTS and Identified Records

The schedule in Annexure G10/C lists the **HOLD POINTS** that must be observed. Refer to Specification RMS Q for the definition of **HOLD POINT**.

The records listed in Annexure G10/C are **Identified Records** for the purposes of RMS Q Annexure Q/E.

1.2.4 Planning Documents

The PROJECT QUALITY PLAN must include your Traffic Management Plan.

If the Contract does not require you to implement a PROJECT QUALITY PLAN, you must still submit your Traffic Management Plan to the Principal in accordance with the requirements of Clause 2.5.

1.2.5 Referenced Documents and Legislation

Unless otherwise specified, the applicable issue of a reference document, other than an RMS Specification, is the issue current at the date one week before the closing date for tenders or, where no issue is current at that date, the most recent issue.

Standards, specifications and test methods are referred to in abbreviated form (e.g. AS 1234). For convenience, the full titles are given in Annexure G10/M.

1.2.6 Acronyms

The acronyms used in this Specification are listed in Annexure G10/M2.

1.3 DEFINITIONS

The terms “you” and “your” mean “the Contractor” and “the Contractor’s” respectively.

The following definitions apply to this Specification:

Road Occupancy	An activity that is likely to impact on the traffic flow of the road network, and may involve the closure of traffic lane(s).
Road Occupancy Licence (ROL)	A Road Occupancy Licence allows the applicant to use or occupy a specified road space at approved times, provided that certain conditions are met.
Traffic Management Plan (TMP)	A plan showing how traffic is to be managed when construction works are being carried out. A TMP describes the work activities being proposed, their impact on the roadway and on road users, and how these impacts are being addressed.
Traffic Staging Plans	Road design drawings showing lane configurations to be provided for traffic passing through or around the construction site during the various construction stages, including details of road alignment and geometry, intersection layouts, provision for buses and cyclists, working areas and pedestrian areas, drainage, signs and pavement markings, etc.
Traffic Control Plan (TCP)	A diagram showing signs and devices arranged to warn traffic and to guide it around, past or if necessary through a work site or temporary hazard.
Vehicle Movement Plan (VMP)	A diagram showing the preferred travel paths for vehicles associated with a work site entering, leaving or crossing the through traffic stream.
Rigid safety barrier	A physical barrier, separating traffic from work areas, which has little or no deflection when impacted by a vehicle. Examples of rigid barrier systems are given in RMS Road Design Guide Table 6.2. Concrete barriers such as Type F units are only considered to be a rigid barrier system if the series of barriers are fixed to the pavement.
Non-rigid safety barrier	Barriers, including approved water filled units, wire rope barriers and metal guard rail which have lateral deflections of varying amounts when impacted by an out-of-control vehicle.
Long-term temporary	Work requiring traffic control for duration longer than one work shift and

work	where some form of traffic control must be maintained when the site is left unattended and may need to operate both day and night.
Short-term temporary work	Work requiring traffic control for duration not longer than one work shift and where traffic control is not required when the work is completed and road conditions are returned to normal at the end of the shift.

1.4 RMS TRAFFIC CONTROL AT WORK SITES MANUAL

When planning and carrying out traffic control, consult and comply with the RMS Traffic Control at Work Sites Manual (TCWS).

Where the TCWS states a role and its corresponding responsibilities, you must nominate a person, who may be either your employee, your subcontractor or your agent, for that role and ensure that the specified duties and responsibilities of such persons are carried out.

Where the TCWS provides options, advice or recommendations, consider such options, advice or recommendations when planning and implementing traffic control and adopt them, as necessary, for the safe movement of traffic and protection of people and property.

1.5 TRAFFIC CONTROL PERSONNEL

1.5.1 Authority to Direct Traffic

You are authorised, under section 6 of the Roads Regulation 2008 (NSW), to appoint Traffic Controllers solely for the purposes of the Contract to provide for the safe movement of traffic around, past or through the work site. Any such appointment must cease upon the completion of traffic control work under the Contract, or the termination of the Contract, whichever is the earlier.

1.5.2 Registration of Traffic Control Organisations

The organisation undertaking the traffic control must be registered under the RTA's Registration Scheme Category G "Traffic Control".

1.5.3 Qualifications of Traffic Control Personnel

Personnel in traffic control roles must have attended and be qualified in the traffic control training courses relevant to their roles, as follows:

Traffic Control Roles	RMS Traffic Control Training Course
Control traffic using "Stop/Slow" bat	Traffic Controllers (Blue Card)
Set up and work with Traffic Control Plans drawn up by others	Apply Traffic Control Plans (Yellow Card)
Select and make minor modifications to standard RMS Traffic Control Plans to suit work locations	Select/Modify Traffic Control Plans (Red Card)
Design new Traffic Control Plans and inspect setting out of traffic controls at work sites	Design & Inspect Traffic Control Plans (Orange Card)

Traffic Controllers must carry their Blue Cards on their person at all times when controlling traffic.

1.5.4 Proposed Traffic Controllers

Prior to the commencement of any work on the Site involving controlling and directing traffic, submit to the Principal the names of your proposed Traffic Controllers, and the registration numbers and expiry dates of their Cards. Submission of these details constitute a Hold Point.

HOLD POINT

Process Held:	Any work controlling and directing traffic on the Site.
Submission Details:	The names of your proposed Traffic Controllers, and the registration numbers and expiry dates of their Cards.
Release of Hold Point:	The Principal will consider your proposed personnel, prior to authorising the release of the Hold Point.

Where there is a change of personnel, submit the names and Card details of the new Traffic Controllers, and the Hold Point will apply to these new personnel.

1.5.5 Safety Vests and Logo

Issue to your nominated Traffic Controllers high visibility fluorescent safety vests complying with AS/NZS 4602, clearly bearing the letters “RTA”, and the words “Authorised Traffic Controller”.

Traffic Controllers must wear the vest as an outer garment only when controlling traffic for the purposes of the Contract, and not at other times.

1.5.6 Traffic Control Site Manager

Where specified in Annexure G10/A1, nominate in your Traffic Management Plan (TMP) a full-time member of your site management team to be your Traffic Control Site Manager (TCSM).

The TCSM must be qualified, as a minimum, in the RTA’s “Select/Modify Traffic Control Plans” course (i.e. hold a current Red Card) and have recent experience in traffic management on road construction sites of equivalent complexity to the current construction project.

Detail in the TMP the role and responsibilities of the TCSM, which should include:

- (a) ensuring that the approved traffic control measures are established, implemented and maintained in accordance with the approved plans;
- (b) carrying out regular inspections and auditing of the traffic control measures to ensure that they are effective and are being followed;
- (c) amending and updating the plans, as required, to ensure that they remain current as the work progresses;
- (d) identifying locations and times where traffic congestion or unsafe conditions for vehicles, cyclists, pedestrians and workers are occurring, and providing recommendations for improvement;
- (e) maintaining current copies of the Traffic Management Plan, Traffic Staging Plans, Traffic Control Plans, Vehicle Movement Plans, Lane Occupancy Licences and Speed Zone Authorisations, and their controlled distribution;
- (f) liaising with the Principal and other authorities such as Transport Management Centre (TMC), New South Wales Police and local Councils on traffic management matters for the construction site;
- (g) facilitating traffic awareness and giving toolbox talks to site personnel.

The TCSM should have the authority to stop work on any activity if it is considered to be necessary to prevent traffic accidents, or to comply with the directions of the Principal, TMC or Police.

2 PLANNING

2.1 GENERAL

Plan your work to cause the least possible disruption to traffic. Obtain all necessary approvals from the relevant authorities for the temporary traffic arrangements as necessary.

Liaise with the Principal and other regulatory authorities when planning and implementing your traffic management proposals.

2.2 PROJECT SPECIFIC RESTRICTIONS AND ADDITIONAL REQUIREMENTS

Any restrictions and/or additional requirements on traffic management specific to the Contract are stated in Annexure G10/A2.

2.3 TEMPORARY SPEED ZONING

Temporary speed zoning for the duration of the Works are stated in Annexure G10/A1.

2.4 ROAD OCCUPANCY LICENCE

When your planned activity requires an existing road to be used in such a way as to affect traffic flow, you must obtain a Road Occupancy Licence (ROL). The licence applies to the occupation of the road space only and does not grant permission for or approval to the actual/physical work being undertaken.

Information on how to apply for a ROL is contained in the RMS Road Occupancy Manual, available from the RMS website at:

http://www.rta.nsw.gov.au/trafficinformation/downloads/road_occupancy_manual.pdf.

Road Occupancy Fees for occupancy of RMS roads may be payable under the contract, notwithstanding anything to the contrary stated in the Road Occupancy Manual. Where such fees are applicable, it will be indicated in Annexure G10/A1, and their costs must be borne by you.

Submit your application for ROLs to the relevant authority at least ten (10) working days prior to the planned commencement of the activities requiring the road occupancy. The activity must not commence until the ROL is obtained.

Manage your work activities to comply at all times with the lane occupancy hours granted in the ROLs. The lane occupancy hours granted in your ROL may be less than, and will override, the working hours stated in the Contract, for any work that requires lane occupancy.

Keep a copy of the ROL on site at all times.

Notwithstanding any ROLs granted by the RMS for any lane or shoulder closure, you must co-operate with RMS and other authorities, such as the Police or State Emergency Services, to facilitate traffic flows on the roadway through the work site. In this regard, the Principal may at any time direct you to temporarily cease any work and re-open any closed lane or shoulder.

2.5 TRAFFIC MANAGEMENT PLAN

At least four (4) weeks before undertaking work which affects traffic conditions, submit for the Principal's approval your Traffic Management Plan (TMP) for the Works.

The Principal may agree to a reduced period of notice for the proposed traffic management measures if they do not involve pavement or drainage works, or for Minor Works Contracts.

The TMP must include, as a minimum and where appropriate, the following elements:

- (a) Details of any traffic staging arrangements associated with each proposed construction stage, including Traffic Staging Plans (refer Clause 2.6), and the time periods during which each stage will be in operation;
- (b) Copies of any ROLs (refer Clause 2.4) and approvals from other relevant authorities obtained;
- (c) Traffic Control Plans (refer Clause 2.8), including the specific traffic control arrangements associated with obtaining a ROL;
- (d) Vehicle Movement Plan(s) showing the preferred travel paths for vehicles to enter, leave or cross the through traffic stream;
- (e) Provision for access to adjoining properties affected by the construction;
- (f) Provision for the safe passage of cyclists and pedestrians;
- (g) Design drawings for any temporary roadways and detours, including alignment and surface levels, pavement widths, pavement cross-sections and drainage (refer Clause 2.7);
- (h) Names and contact details of nominated personnel (including the TCSM if applicable) responsible for maintenance of traffic control devices and temporary roadways outside normal working hours, together with confirmation that these details have been provided to the Police.

The TMP and associated documentation must be prepared by person(s) suitably experienced in the design and implementation of traffic management plans of equivalent complexity to those required in the Contract and holding qualifications acceptable to the Principal, including as a minimum, a qualification in the RMS "Design & Inspect Traffic Control Plans" (Orange Card) course.

The TMP and associated documents may be submitted in stages in accordance with the requirements of RMS Q for the staged submission of the PROJECT QUALITY PLAN.

HOLD POINT

Process Held:	Construction work which affects traffic conditions.
Submission Details:	At least 4 weeks prior to the proposed commencement date for construction work which affects traffic conditions, or any shorter period agreed to by the Principal, submit your Traffic Management Plan, comprising the elements stated in Clause 2.5.
Release of Hold Point:	The Principal will consider the submitted documents and resources proposed prior to authorising the release of the Hold Point.

Acceptance of the TMP by the Principal will not relieve you of your responsibility to implement an effective traffic management scheme, particularly in cases where a risk has not been previously identified or adequately mitigated in your TMP.

Review the effectiveness of the TMP at least once a month, or more frequently if additional risk areas are encountered. Revise the TMP and implement more appropriate procedures if the original traffic management practices prove not to be fully effective.

2.6 TRAFFIC STAGING PLANS

If nominated in Annexure G10/A1, prepare Traffic Staging Plans to show how traffic will pass safely through or around the construction site during the various construction stages. Traffic Staging Plans may be integrated with any Construction Staging Plans prepared by you.

The Traffic Staging Plans must show, for each stage, the following:

- (a) lane configurations on existing and new (temporary and permanent) pavements, indicating any departures from existing traffic lanes;
- (b) intersection layouts and temporary traffic signals arrangements;
- (c) working areas, and pedestrian and cyclist paths;
- (d) access to residential properties, local businesses and community facilities;
- (e) pavement markings;
- (f) drainage system, both temporary and permanent, including any pollution control measures;
- (g) utilities and their impact on the Works.

If removal of pavement markings is required, the Traffic Staging Plans must provide details of the proposed methods for removal, the estimated durations to carry out the removal, and if necessary any proposed measures to restore the road surface.

You are not entitled to any extensions of time, or additional payments, arising from any re-design, time required for approval or additional construction costs associated with your proposed arrangements for traffic staging.

2.7 TEMPORARY ROADWAYS DESIGN AND DRAWINGS

2.7.1 General

If temporary roadways and detours, or adjustments to existing lane configurations and geometry, are required as part of your traffic staging, they must be designed in accordance with the relevant design standards. These design standards also apply where existing or unused roadways, including road shoulders, are proposed as temporary roadways.

Unless otherwise specified or shown on the drawings it shall be the responsibility of the Contractor to design, construct and operate any side tracks, detours or obstructions to traffic, to maintain these in good condition, to remove these when finished and restore the area to match existing or as required by the Contract .

Engage a road designer, who must have at least 5 years recent experience in designing roads to RMS standards, to prepare the Traffic Staging road design drawings.

Apply design control procedures in accordance with RMS Q Clause 7.3.

Provide a certification by the road designer that the Traffic Staging road design drawings comply with the relevant standards

Where an arrangement for a side track, detour or obstruction is specified or shown on the drawings, and the Contractor chooses to utilise that arrangement, this in no way relieves the responsibility of the Contractor with respect to the adequacy in all respects of the design, construction and operation of any side track, detour or obstruction..

2.7.2 Road Design

Comply with the RMS Road Design Guide for design of the road geometry and configuration.

The minimum design travel speed and traffic lane and shoulder width are stated in Annexure G10/A3. If sealing of shoulders is required, this will also be stated in Annexure G10/A3.

If no minimum design travel speed is stated in Annexure G10/A3, the minimum design travel speed will be the speed limit of the existing road **40 km/h**, unless otherwise approved by the Principal.

The road design drawings must show, as a minimum, the following details:

- (a) Alignment and grading at a horizontal scale of 1:2000 for rural roads or 1:500 (for urban roads) extending to 100 m beyond the limits of the temporary roadway or detour. Prepare full width cross-sections, showing levels, at 20 m intervals.
- (b) A sight distance diagram if opposing traffic is to use a single carriageway.
- (c) Sufficient cross-sections to indicate the feasibility of making connections between various parts of the work.
- (d) Intersections, and any other locations where traffic may be required to make turning, merging or diverging movements, at a scale of 1:500.
- (e) Pavement type, including wearing surface, base and subbase details.
- (f) Stormwater drainage details.
- (g) Pavement marking and signposting, safety barrier and traffic control device details, at a scale of 1:500.
- (h) Roadside furniture.
- (i) Street lighting details, if appropriate.

Where side tracks not detailed on the approved Temporary Traffic Management Plan(s) are proposed, the standard of alignment and grading adopted shall be in accordance with the current edition of the AUSTRROADS publication “Rural Road Design – Guide to the Geometric Design of Rural Roads”. Intersections shall be designed in accordance with the current edition of the AUSTRROADS publication “Guide to Traffic Engineering Practice – Part 13 – Intersections at Grade”.

Unless otherwise approved, pavements shall be at least 6.4m wide with appropriate shoulders and widening as necessary at horizontal curves

2.7.3 Stormwater Drainage Design

Provide an effective drainage system for the temporary roadways to prevent runoff water flowing over the road surface in any storm of intensity less than a 1 in 5 year occurrence.

Ensure that the drainage system does not result in water ponding at any point.

2.7.4 Pavement Design

Design the wearing surface of temporary roadways and detours to be firm, even and skid resistant under all weather conditions and remain structurally sound during use. This includes any widening of through carriageways for construction staging purposes. The wearing surface must be carried onto any connecting roadway so as to finish flush with the existing road surface.

The types and thickness of the individual layers of the pavement for the temporary roadways and detours are stated in Annexure G10/A3.

Where the pavement type is not nominated in Annexure G10/A3, design the pavement in accordance with the Austroads publication AGPT02/08 “Guide to Pavement Technology - Part 2: Pavement Structural Design” and the RMS Supplement to the Austroads Guide to the Structural Design of Pavements (available from the RMS upon request).

Where the existing pavements, and road shoulders areas which will be used as part of the temporary roadways and detours, are not designed to carry the new traffic loadings which will be imposed or are unlikely to be able to support the new traffic loadings, they must be upgraded for the new traffic conditions and must be designed accordingly.

2.7.5 Safety Barriers

Select safety barrier types and their end treatments in accordance with Section 6 of the RMS Road Design Guide, giving due consideration to design traffic speed, angle of departure from the road, separation between work areas, pedestrians and through traffic plus dynamic clearance requirements.

The safety barrier products selected must be from the list of safety barrier products accepted by the RTA. This list can be viewed at the RMS website at:

http://www.rta.nsw.gov.au/doingbusinesswithus/designdocuments/safety_barriers.html

Submit to the Principal a statement of the basis for the selection and locations of safety barrier systems and their end treatments.

Provide safety barrier systems on temporary embankments, including part-width construction of permanent embankments.

Barriers shall be erected on all temporary embankments where the slope of embankment is steeper than 25 percent and vertical height between the edge of the shoulder and the intersection of the embankment batter slope and natural surface exceeds 2m.

2.8 TRAFFIC CONTROL PLAN

2.8.1 General

Traffic Control Plans (TCPs) are in the form of diagrams showing signs and devices arranged to warn traffic and to guide it around, past or if necessary through a work site or temporary hazard.

2.8.2 Standard Traffic Control Plans

You may use standard TCPs contained in the TCWS, with minor modifications if necessary to suit a specific work location, if they are appropriate. Follow the procedures set out in the TCWS for the selection, approval and implementation of the standard TCP and keep records of the steps performed.

The selection and minor modification of a standard TCP to suit a specific work location must only be carried out by a person who is qualified in the “Select/Modify Traffic Control Plans” course (i.e. holds a current Red Card).

2.8.3 Project Specific Traffic Control Plans

Where required in Annexure G10/A1 or where standard TCPs (including TCPs with minor modifications) are not appropriate for the work being planned, draw up TCPs specifically for the project. This work must only be carried out by a person qualified in the “Design & Inspect Traffic Control Plans” course (i.e. holds a current Orange Card).

These project specific TCPs must be designed using computer aided drafting software and not be hand-drawn, unless approved otherwise by the Principal. All text, dimensions and symbols must be clearly presented, legible to the naked eye and unambiguous. The chainages in the TCPs must match those shown on the construction drawings.

Property accesses, side roads and any special features affecting the positioning of signs and other traffic control devices must be shown.

Each TCP must include a statement describing the situation for which the TCP is applicable.

If traffic staging is applicable, produce individual TCPs for each traffic stage.

The project specific TCPs must show the following:

- (a) Types and locations of permanent regulatory and advisory signs;
- (b) Types and locations of temporary signs, including advance warning signs, Variable Message Signs (VMS) and speed zone signs;
- (c) Pavement marking details, including types of delineation required, turning arrows, stop/holding lines and other road markings, types and positions of raised pavement markers and other delineation devices;
- (d) Locations of permanent and temporary traffic signals;
- (e) Locations and lengths of tapers and buffer zones;
- (f) Locations of any required Traffic Controllers;
- (g) Locations of entry and exit gates to the working areas, individually numbered and signposted;
- (h) Pedestrians and cyclists paths;
- (i) Details of side roads and access for adjoining properties and parking;
- (j) Locations of any safety barriers, barrier systems and end terminals;
- (k) Locations of temporary lighting.

If lane occupancy is required, comply with the requirements of Clause 2.4.

HOLD POINT

Process Held:	Work which involves any obstruction to traffic.
Submission Details:	<p>If not previously submitted as part of the Traffic Management Plan, submit your Traffic Control Plan (including the appropriate elements listed in Clause 2.8.3), your Vehicle Movement Plan and any ROLs obtained, at least 3 working days prior to its proposed use.</p> <p>If the Principal requests additional information or clarification, the 3 working day assessment period will apply from the date of submission of the additional information.</p>
Release of Hold Point:	The Principal will consider the submitted documents prior to authorising the release of the Hold Point.

2.8.4 Vehicle Movement Plans

Vehicle Movement Plans (VMPs) must provide for traffic associated with the Works, such as trucks delivering materials and equipment and work supervisors' vehicles, to safely manoeuvre into and out of traffic streams, and turn at work areas, depots, stockpile sites, etc and turn around.

The VMP must show the vehicle entry and exit points to the worksite and indicate clearly that these are the only points where interface with the road traffic is permitted.

A VMP may be combined with or superimposed on a TCP.

2.9 TRAFFIC MANAGEMENT RISK ASSESSMENT WORKSHOPS

If nominated in Annexure G10/A1, undertake a Traffic Management Risk Assessment Workshop to identify and address the risks associated with road safety, traffic management and road network issues specific to the site. Use the workshop to raise awareness of good traffic management practices and for network planning provisions to be made known to site management personnel.

The content of the workshop will be specific for each project. However, it must include at least the following:

- (a) Training and knowledge requirements;
- (b) Planning for traffic switches;
- (c) Traffic Control Plans;
- (d) Contract requirements relating to traffic management;
- (e) Safety barriers systems;
- (f) Delineation, signage and guidance to motorists;
- (g) Road safety auditing requirements.

Participants must include your site management staff, your road designer (refer Clause 2.7.1), personnel responsible for preparing your Traffic Control Plans (refer Clause 2.8), any other personnel involved in reviewing/road safety auditing of Traffic Control Plans, and Police and local Council representatives, as appropriate. Advise the Principal of the Workshop so that representatives of the Principal may also attend the workshop.

Record the identified risk issues and close them out when finalising your Traffic Management Plan and Traffic Staging Plans.

Undertake additional workshops as appropriate to train your site personnel regarding implementation of the TMP and TCPs and when traffic management issues need to be reinforced or reviewed.

2.10 ROAD SAFETY AUDIT OF TCPs

If nominated in Annexure G10/A1, TCPs must be independently audited, prior to implementation, by a Road Safety Auditor, who must as a minimum be certified to Level 2 in the Institute of Public Works Engineering Australia (IPWEA) Road Safety Auditor Register.

In undertaking the audit, follow the guidelines contained in the Austroads publication AGRS06/09 “Guide to Road Safety Part 6: Road Safety Audit”.

Include copies of the Road Safety Audit report, and any subsequent correspondence between you and the Road Safety Auditor, together with the TCP.

3 TEMPORARY ROADWAYS AND DETOURS

3.1 CONSTRUCTION OF TEMPORARY ROADWAYS AND DETOURS

Construct the temporary roadways and detours in accordance with your approved Traffic Staging road design drawings. This includes modification and strengthening of existing pavement and road shoulders, where they are unlikely to be able to support the new traffic loadings.

Construction of temporary roadways must comply with the relevant RMS Specifications for the particular roadworks element.

HOLD POINT

<i>Process Held:</i>	<i>Construction of temporary side tracks not detailed on the approved Temporary Traffic Management Plan(s).</i>
<i>Submission Details:</i>	<i>At least ten (10) working days prior to proposed construction of the side track the Contractor shall submit the design of temporary side track for assessment by the Superintendent.</i>
<i>Release of Hold Point:</i>	<i>The Superintendent will review the design for compliance with the relevant standards prior to authorising the release of the Hold Point.</i>

OPENING OF SIDE TRACK TO TRAFFIC

All sign posting, pavement marking, safety barriers and traffic control devices shall be completed before the opening of side tracks to traffic.

HOLD POINT

Process Held: ***Opening of side tracks to traffic (including portable or temporary traffic signals sites)***

Submission Details: ***At least one (1) working day prior to proposed opening of the side track provide notice that work is conforming and ready for inspection .***

Release of Hold Point: ***The Superintendent will inspect the site for compliance with the specification prior to authorising the release the Hold Point.***

3.2 ACCESS TO SIDE ROADS AND PROPERTIES

Provide at all times a safe and convenient passage for vehicles, pedestrians and livestock to and from side roads and property connecting to the roadway under construction.

Do not undertake any work which affects the use of side roads and access to properties without providing an adequate alternative access to the satisfaction of the Principal.

3.3 OPENING TEMPORARY ROADWAYS AND DETOURS TO TRAFFIC

Complete all pavement markings, retro-reflective raised pavement markers, signposting and safety barriers and installation of portable or temporary traffic signals, before opening the temporary roadways to traffic.

Arrange for an inspection by a person qualified in RTA’s “Design and Inspect Traffic Control Plans” course (i.e. hold a current Orange Card) to verify that regulatory signs, warning signs and traffic control devices have been suitably located to be visible and effective under the site conditions and expected traffic speeds before opening the temporary roadways to traffic.

HOLD POINT

Process Held: Implementation of traffic switch or opening of temporary roadways and detours to traffic.

Submission Details: At least one day prior to the intended date of opening the temporary roadways to traffic, notify the Principal in writing that the work, including pavement markings, is conforming and ready for inspection by the Principal.

Release of Hold Point: The Principal will undertake a joint inspection of the site for compliance with this specification prior to giving approval and authorising the release of the Hold Point.

If either your inspection or the Principal’s inspection identifies a need for adjustments to any signs or traffic control devices or the provision of additional signs or traffic control devices, amend the applicable TCPs as needed, to show the final traffic control arrangement in place.

Unless otherwise approved by the Principal, traffic may only be switched to a temporary roadway or detour where your usual workforce will be on site for a minimum of two successive days thereafter.

Unless otherwise approved by the Principal, do not disturb sections of existing roadway being replaced for at least two days after opening a temporary roadway or detour to traffic, to provide for the

event where failure of the temporary roadway or detour occurs and there is a need to redirect traffic back onto the existing roadway.

The need to redirect traffic back onto the existing roadway will be determined by the Principal, and any costs associated with the redirection of traffic back will be borne by you.

3.4 ROAD SAFETY AUDIT OF TEMPORARY ROADWAYS OR DETOURS

If auditing by a Road Safety Auditor is required (refer Clause 2.10), then within 24 hours of implementation of any TCPs for long-term temporary work, arrange for the Road Safety Auditor to carry out an inspection of the traffic control measures during both daytime and night time.

If the original measures prove not to be fully effective, then in consultation with the Road Safety Auditor and the Principal, revise the TCPs without delay and implement appropriate measures.

Submit a report to the Principal within 7 days of implementation of the TCPs. This report must also include findings from the Road Safety Auditor's inspections, and any changes implemented to long-term work TCPs.

3.5 REMOVAL OF TEMPORARY ROADWAYS AND DETOURS

Upon completion of the Works, remove the temporary roadways and/or detour arrangements and restore the area to a condition equivalent to that which existed prior to the commencement of the work.

4 TRAFFIC CONTROL DEVICES

All traffic control devices in use for temporary traffic management shall be maintained in accordance with AS 1742.3, so that they are in good order and in the correct positions day and night. Traffic control devices shall be neat, clean, and signs shall be clear and legible at all times.

The Contractor may need to be in attendance outside normal working hours to arrange for adjustments or maintenance of traffic control devices. The Contractor shall notify the Superintendent and the Police where necessary, in writing, the names, addresses and means of communicating with personnel nominated for this purpose, and to maintain such information as current.

The arrangements and placement of traffic control devices shall be carried out in accordance with the approved Temporary Traffic Management Plan(s) and AS 1742.3. AS 1742.3 Figures 4.1 to 4.11 inclusive are indicative and should be regarded as minimum requirements. Arrangements used in particular cases must provide fully for the guidance and safety of vehicles, cyclists and pedestrians. Where a temporary speed limit has been incorporated on the approved Temporary Traffic Management Plan(s), the Contractor shall arrange for the supply of the appropriate signage in accordance with AS 1742.3, including posts and fittings, for erection. The Contractor shall erect these signs, cover the signs when the speed zone is not in use and remove the signs when the speed zone is no longer required as part of the provision for traffic.

WARNING LAMPS

Warning lamps shall be of robust construction complying with AS 1165. Photometric performance shall comply with the requirements of Part 1 of that Standard for the intended application.

TRAFFIC GUIDANCE FLAPS AND CONES

Traffic Cones, bollards and Guidance Flaps shall comply with the requirements of AS 1742.3. At no time shall cones or flaps be used as a substitute for barriers and signs at any location within the work site.

Traffic guidance cones shall not be left in position at night unless there is a watchman in attendance who can reposition cones dislodged by traffic. Otherwise they shall be removed and replaced with flaps or barriers. Flaps fixed to the pavement may be left in position at night.

Traffic guidance cones to be used at night shall be reflective in accordance with AS 1742.3

USE OF SIGNS FOR BLASTING OPERATIONS

During blasting operations, stop traffic at a safe distance, but not less than 200m from the site of the blasting. Barricade the road and erect signs in accordance with AS 1742.3. A traffic controller shall always be in attendance at each barricade to ensure that all traffic is halted. In the event of a large queue a second traffic controller should be assigned to walk ahead of the queue to warn approaching vehicles of the traffic stoppage

Where electric detonators are being handled or used, within 100m of a road, erect additional sign T4-2 "BLASTING AREA, SWITCH OF RADIO TRANSMITTERS".

DELINEATION OF EXCAVATIONS

Where traffic is operating in a lane immediately adjacent to an excavation greater than 150mm deep, delineate the lane edge in accordance with the requirements of AS 1742.3.

OBSTRUCTIONS

Where a side track or a detour is not provided or available, then construction under or adjacent to traffic may be permitted.

Operation and control of obstructions in existing carriageways shall be planned in accordance with the principles laid down in AS 1742.3 and SAA HB81 which give specific guidance as to the minimum requirements for arrangement and placement of warning devices for lane closure(s) and single lane operations in various circumstances.

In addition to measures which may be indicated or specified in AS 1742.3 or SAA HB81, unless specified or approved otherwise the following requirements shall apply.

Single lane operation will not be permitted at night or at times when work is not in progress.

In all cases of single lane operation, the minimum lane width shall be 3.0m

On multi-lane roads, closure of more than one lane in the direction of peak traffic flow will not be permitted during peak periods. At least one lane shall be left open for traffic travelling in the direction opposite to the peak flow.

Where it is noted on the drawings that the simultaneous closure of several lanes of a multi-lane road would cause undue disruption to traffic, then all or part of the work concerned shall be done during off peak periods or at weekends or at night.

The Contractor shall ensure the carriageway(s) is restored to a safe and trafficable state for through traffic prior to cessation of work each day.

All permanent sign posting, pavement markings, safety barriers and traffic signals where required under the Contract shall be completed or reinstated prior to opening completed work to traffic.

4.1 SAFETY BARRIERS

Where identified in your TCP for the work, provide safety barriers to protect the work areas and pedestrian areas from the traffic. The safety barriers must be from the list of safety barrier products accepted by the RTA, in accordance with clause 2.7.5.

Water filled plastic barriers may be used at those locations that preclude the use of rigid barriers, such as at corners or intersections and any other locations approved by the Principal, provided that their use complies with the TCWS and the Acceptance conditions for the safety barrier product.

Provide the manufacturer's recommended buffer zones on the approach side of water filled barriers.

Erect the safety barriers in accordance with Specification RMS R132 and the Acceptance conditions for that safety barrier product.

Establish an exclusion zone behind barriers as required and do not permit construction work or pedestrian movement within the deflection or impact zone of safety barriers.

Do not use safety barriers or safety barrier systems for delineation in place of linemarking.

DELINEATION BARRIERS

Barrier boards shall comply with AS 1742.3.

Trestles supporting barrier boards shall be constructed of metal, sawn timber or other suitable materials and shall be yellow. Trestles shall serve as firm support for the barrier board but the bases of the trestles shall not protrude beyond the ends of the boards. The trestles shall be kept in place by sandbags or other suitable means.

Tapes, mesh fencing, interconnected lightweight units and bollard fences may all be used as delineation barriers.

4.2 PAVEMENT MARKINGS AND SIGNS

Notwithstanding anything else contained in this Specification the Contractor shall only place, erect, or remove road signs in accordance with the approved Temporary Traffic Management Plan(s), for roads used by the public.

Install all pavement markings, retroreflective raised pavement markers and signposting proposed for use in the temporary works in accordance with the requirements of Specifications RMS R141, RMS R142 and RMS R143 respectively, to the same standard as for permanent work.

Unless otherwise specified, use waterborne paint for pavement markings for temporary works.

The method of removal of redundant pavement markings from wearing surfaces, other than final wearing surfaces, must comply with the requirements of the TCWS. Removal of redundant linemarking within traffic lanes by covering with paint is not acceptable.

Supply and erect Temporary Speed Zoning signs at the locations indicated in your TCP. Keep the signs covered when the speed zone is not in use. Remove the signs when the Temporary Speed Zoning is no longer in force.

4.3 PORTABLE VARIABLE MESSAGE SIGNS

If nominated in Annexure G10/A1 or if required by your TCP, place variable message signs (VMS) at prominent locations on each end of the site as agreed with the Principal, to keep road users informed of changes to road conditions and of possible delays as a result of construction work.

The VMS must be portable, Type C size, and solar powered, complying with AS 4852.2.

Ensure that the messages displayed on the VMS remain current over the duration of the Contract. Move the locations of the VMS, as needed, during the progress of the Works. The locations of the signs and the messages displayed must be approved by the Principal.

Use the VMS to publicise any pending changes in traffic arrangements for five days prior to those changes, and for changed traffic arrangements for five days after making those changes.

Maintain and make secure the VMS. Clean the VMS perspex face and solar panels and check the battery distilled water levels at least once each month.

4.4 RADAR ACTIVATED SPEED SIGNS

If nominated in Annexure G10/A1, or if required by your TCP, provide trailer mounted Radar Activated Speed Signs (RASS) for use during the construction period.

Locate the RASS in positions suitable for influencing the speed of motorists entering the reduced speed zone. The locations of the RASS and the message displayed must be as agreed with the Principal.

Obtain calibration details from the RASS supplier(s) to confirm that each RASS is accurately calibrated within the manufacturer's specified tolerances. Periodically check each RASS for accuracy and carry out recalibration to within the manufacturer's specified tolerances promptly as needed.

Monitor the effectiveness of the speed limit reductions and furnish a detailed log of the speeds each week to the Principal.

4.5 TEMPORARY TRAFFIC SIGNALS

Traffic Signals for the control of traffic, either portable or temporary may be used in accordance with AS 1742.3.

If nominated in Annexure G10/A1 or if required by your TCP, install portable traffic signals complying with the TCWS or temporary fixed traffic signals complying with the RMS Traffic Signals Equipment Specification No SI/TCS/8 and associated Drawings.

Portable traffic signals may be used for shuttle control where a single lane has to be used alternately by traffic from opposite directions or at road crossings or intersections. They are intended for relatively short term applications.

Temporary fixed traffic signals may be used for long term shuttle operations or for non-shuttle control of intersecting traffic flows.

5 MONITORING OF TRAFFIC CONTROL MEASURES

As a minimum, check at the commencement and conclusion of each day's work that all required traffic control measures and signs are in place as detailed on the TCP for each stage.

Record the details of this inspection daily.

The person conducting this check must be qualified in RTA's "Apply Traffic Control Plans" course (i.e. hold a current Yellow Card).

6 ROAD CONSTRUCTION WORK ADJACENT TO TRAFFIC

6.1 GENERAL

Where a temporary roadway or a detour is not provided or available, then subject to the approval of the Principal, construction under or adjacent to traffic may be permitted provided that at least one 3.7 m lane remains open to traffic on a two lane roadway and at least one 3.7 m lane remains open in each direction on divided multi-lane roads.

Alternatively, subject to the approval of the Principal, the lanes may be linemarked to a reduced width.

Prior to cessation of work each day, restore the carriageway(s) to a safe and trafficable state for through traffic, unless otherwise stated in the approved TCP.

6.2 APPROVED CLOTHING FOR WORKERS WORKING ADJACENT TO TRAFFIC

All personnel working in close proximity to traffic must wear high visibility fluorescent safety clothing complying with AS/NZS 4602 which are suitable for daytime, night time and/or wet weather conditions, as applicable.

6.3 PLANT AND EQUIPMENT USED FOR WORK ADJACENT TO TRAFFIC

Equip all vehicles used in traffic control operations with the appropriate vehicle mounted warning devices in accordance with the TCWS.

During daytime, plant and equipment working in a position adjacent to traffic and having a projection beyond the normal width of the item, for example, a grader blade, must have a fluorescent red flag attached to the outer end of the projection.

During poor light conditions or at night, an additional Traffic Controller with an illuminated red wand must direct traffic around such plant and equipment.

During night time, where traffic is permitted to use the whole or portion of the existing road, remove all plant items and similar obstructions from the normal path of vehicles, to provide a lateral clearance of at least 6 m where practicable, with a minimum clearance of 1.2 m.

Illuminate any plant and equipment which are within 6 m of the normal path of vehicles with not less than two yellow steady lamps suspended vertically from the point of the obstruction nearest to a traffic lane, and one yellow steady lamp at each end of the obstruction on the side furthest away from the traffic lane.

7 MAINTENANCE OF ROADWAYS

7.1 EXISTING ROADWAYS

If stated in Annexure G10/A1, carry out routine maintenance of the pavement and drainage on existing roads (including shoulders and kerb and gutter) within the Limits of the Contract. Your obligations under this Clause will start when you commence any work on site other than site establishment.

This maintenance work includes repairing potholes, cleaning kerbs and gutters, clearing drainage blockages, removal of debris from roadway, straightening and cleaning roadside furnishings, grass mowing and trimming of vegetation, as needed.

Maintenance of existing roads outside the Limits of the Contract will be undertaken by others. You must co-operate with the RTA, local Councils or their agents in carrying out their maintenance responsibilities.

7.2 TEMPORARY ROADWAYS AND DETOURS

Maintain any temporary roadways and detours in use during construction and any local roads used by construction traffic, to provide a safe, trafficable condition for all classes of vehicles that may use them.

Areas that were road shoulders prior to commencement of your work but have become pavements for your temporary roadways are considered to be temporary roadways and detours and must be maintained by you.

The work includes maintenance of the existing pavements, linemarking, kerb and gutter, road shoulders and verges, ancillary services, roadside environment, drainage, signage, trimming of vegetation and housekeeping. Repair any potholes, surface drainage blockages or other failures without delay. Remove debris of any type, including animal carcasses, without delay.

Re-apply linemarking as needed to clearly delineate traffic lanes for the duration of the temporary traffic arrangements.

All costs associated with this maintenance are to be borne by you.

7.3 NEW ROADWAYS OPENED TO TRAFFIC

If specified in Annexure G10/A1, carry out routine maintenance of newly constructed sections of road, after opening to traffic in accordance with Clause 8 of this Specification, until Completion or as otherwise directed by the Principal. This includes cleaning of kerbs and gutters, clearing of drainage blockages, removal of debris from roadway, grass mowing and trimming of vegetation, as applicable.

Where you are not responsible for such routine maintenance, cooperate with the RTA, local Councils or their agents in carrying out their maintenance responsibilities.

8 OPENING TO TRAFFIC UPON COMPLETION

Complete all relevant permanent signposting, pavement markings, safety barriers and traffic signals required under the Contract prior to opening of the whole of the Works or any part of the Works to traffic.

Remove all temporary traffic control devices no longer required for the safety of traffic, when the whole of the Works or part of the Works are opened to traffic.

Give the Principal at least ten working days written notice of the date of opening the whole of the Works or part of the Works to traffic. Determine the procedure for opening through consultation between you, the Principal and the Police.

ANNEXURE G10/A – PROJECT DETAILS

A1 PROJECT SPECIFIC REQUIREMENTS

Clause	Description	Required?
1.5.6	Nomination of a person as Traffic Control Site Manager required?	Yes / No
2.3	Temporary speed zoning available for implementation? (If yes, insert details below) Temporary speed zone speed limit: km/hr	Yes / No
2.4	Road Occupancy Fee payable? (If yes, attach a <i>Schedule of Road Occupancy Fees</i> in Annexure G10/A4)	Yes / No
2.6	Traffic Staging Plans required?	Yes / No
2.8.3	Traffic Control Plans to be designed specifically for project?	Yes / No
2.9	Traffic Management Risk Assessment Workshop required?	Yes / No
2.10	Road Safety Audit of Traffic Control Plans required?	Yes / No
4	Traffic Control Devices:	
4.3	Portable variable message signs required?	Yes / No
4.4	Radar activated speed signs required?	Yes / No
4.5	Temporary traffic signals required?	Yes / No
7	Maintenance of Roadways:	
7.1	Contractor required to maintain existing roadway?	Yes / No
7.3	Contractor required to maintain sections of newly completed roadway after opening until Completion?	Yes / No

(delete as applicable)

A2 PROJECT SPECIFIC RESTRICTIONS AND ADDITIONAL REQUIREMENTS

NOTES TO TENDER DOCUMENTER: (Delete this boxed text after customising G10)

*List here any **restrictions** and/or additional requirements on traffic management specific to the project that the Contractor must provide for (see GUIDE NOTES).*

If no restrictions or additional requirements are applicable, insert “Not Applicable” in this section.

A3 DESIGN STANDARDS FOR TEMPORARY ROADWAYS

Design parameters (values stated below are minimum values):

Design travel speed:		kilometres per hour
Traffic lane widths:		metres
Shoulder widths:		metres
Sealing of shoulders required?	Yes / No	<i>(delete as applicable)</i>
Wearing surface	Type:	
	Thickness:	millimetres
Base	Type:	
	Thickness:	millimetres
Subbase	Type:	
	Thickness:	millimetres

A4 ROAD OCCUPANCY FEES

NOTES TO TENDER DOCUMENTER: (Delete this boxed text after customising G10)

If Road Occupancy Fees are payable, attach a Schedule of Road Occupancy Fees here.

If Road Occupancy Fees are not payable, insert “Not Applicable” in this section.

ANNEXURE G10/B – MEASUREMENT AND PAYMENT

Refer to clause 1.2.2.

Payment will be made for all activities associated with completing the work detailed in this Specification in accordance with the following Pay Items.

If any item for which a quantity of work is listed in the Schedule of Rates has not been priced by you, it will be deemed that due allowance has been made in the prices of other items for the cost of the activity which has not been priced.

Measurement and Payment for items defined in other specifications exclude works carried out only to comply with RMS G10.

Pay Item G10P1 – Traffic Management

This is a Lump Sum item.

The Lump Sum includes preparation of Traffic Management Plans and associated documents; the design, construction, maintenance and removal of temporary roadways and detours; provision of access to properties; all activities associated with opening to traffic; provision of Traffic Controllers; lighting including floodlights; traffic control devices including barriers, temporary linemarkings and signs, Variable Message Signs, radar activated speed signs and temporary traffic signals; and any other work required for the safe movement of traffic and the protection of persons and property in accordance with this Specification and the TCWS, except where specific pay items are provided below.

Progress payments will be made on a pro-rata basis of work done under this item, having due regard to the duration of the Works under the Contract.

Pay Item G10P2 – Maintenance of Traffic Control Measures

The Pay Item is for maintenance of the traffic control measures constructed or installed, including temporary roadways and detours, signposting, pavement markings, lights including floodlighting, safety barriers, and any other items required for the safe movement of traffic and the protection of persons and property in accordance with this Specification and the Traffic Control at Work Sites Manual.

The unit of measurement is per week. The rate must be an average cost for maintenance (including hire charges) of traffic control measures at all stages during the contract.

This work is deemed to commence at the time of the installation of the first traffic control measures on site and be completed when the last traffic control measure is removed from the site, or until the Contractual Completion Date, whichever occurs first.

Pay Item G10P3 – Routine Maintenance of Existing Roadways

(when nominated in Annexure G10/A1)

The unit of measurement is per week.

The rate covers all activities associated with routine maintenance of the pavement and drainage on existing roads under construction (including shoulders and kerb and gutter) within the limits of the Works, in accordance with Clause 7.1.

Payment will be made from the date of commencement of work on site other than site establishment until Contractual Completion Date or Actual Completion Date, whichever occurs first.

Pay Item G10P4 – Routine Maintenance of New Roadways Opened to Traffic

(when nominated in Annexure G10/A1)

The unit of measurement is per kilometre per week from the time of opening newly constructed sections of road to traffic until the Contractual Completion Date or Completion whichever occurs first, or as otherwise directed by the Principal.

The unit rate includes all activities associated with routine maintenance, in accordance with Clause 7.3.

NOTES TO TENDER DOCUMENTER: (Delete this boxed text after customising G10)

The DOCUMENTER may insert additional Pay Items (as Provisional Sum or Provisional Quantity) to be ordered at the discretion of the Principal. Inclusion of these additional Pay Items must only be made after consultation with Manager Contract Administration, Infrastructure Contracts Branch.

Examples of such work include:

- *additional signage not part of traffic control,*
- *Variable Message Signs,*
- *replacement or renewal of raised pavement markers, lines and pavement markings.*

ANNEXURE G10/C – SCHEDULES OF HOLD POINTS AND IDENTIFIED RECORDS

Refer to clause 1.2.3.

C1 SCHEDULE OF HOLD POINTS

Clause	Description
1.5.4	Submission of traffic control personnel details
2.5	Submission of Traffic Management Plan (TMP) and associated documents
2.8.3	Submission of Traffic Control Plan (TCP), where submitted separately from TMP
3.3	Opening temporary roadway or detour to traffic

C2 SCHEDULE OF IDENTIFIED RECORDS

The records listed below are Identified Records for the purposes of RMS Q Annexure Q/E.

Clause	Description of the Identified Record
1.5.4	Traffic Controllers' qualification details
2.3	Road Occupancy Licences obtained
2.5	Traffic Management Plan (TMP)
2.6	Traffic Staging Plans, including road design drawings (if not part of TMP)
2.8	Traffic Control Plans (TCP) and Vehicle Movement Plans (VMP) (if not part of TMP)
2.9	Risk issues identified in Traffic Management Risk Assessment Workshop
2.10	Road Safety Audit of TCPs report and associated documentation
3.3	Inspection reports on traffic control measures, prior to opening of traffic switches or temporary roadways
3.4	Road Safety Audit report of TCP implementation
5	Daily inspection records of traffic control measures in place

ANNEXURES G10/D TO G10/L – (NOT USED)

ANNEXURE G10/M – REFERENCED DOCUMENTS AND ACRONYMS

M1 REFERENCE DOCUMENTS

Refer to clause 1.2.4.

RMS Specifications

RMS Q	Quality Management System
RMS R132	Safety Barrier Systems
RMS R141	Pavement Marking
RMS R142	Retroreflective Raised Pavement Markers
RMS R143	Signposting

RMS Traffic Signals Equipment Specifications

SI/TCS/8	Installation of Traffic Light Signals
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RMS Publications

Road Design Guide
Road Occupancy Manual
Traffic Control at Work Sites Manual
Supplement to the Austroads Guide to the Structural Design of Pavements

Australian Standards

AS/NZS 4602	High visibility safety garments
AS 4852.2	Variable Message Signs – Part 2: Portable Signs

Austroads Publications

AGPT02/08	Guide to Pavement Technology - Part 2: Pavement Structural Design
AGRS06/09	Guide to Road Safety Part 6: Road Safety Audit

NSW Government

Roads Regulation 2008

M2 ACRONYMS

IPWEA Institute of Public Works Engineering Australia

RASS Radar Activated Speed Signs

ROL Road Occupancy Licence

TCP Traffic Control Plan

TCSM Traffic Control Site Manager

TCWS RMS Traffic Control at Work Sites Manual

TMC Transport Management Centre

TMP Traffic Management Plan

VMP Vehicle Movement Plan

VMS Variable Message Signs