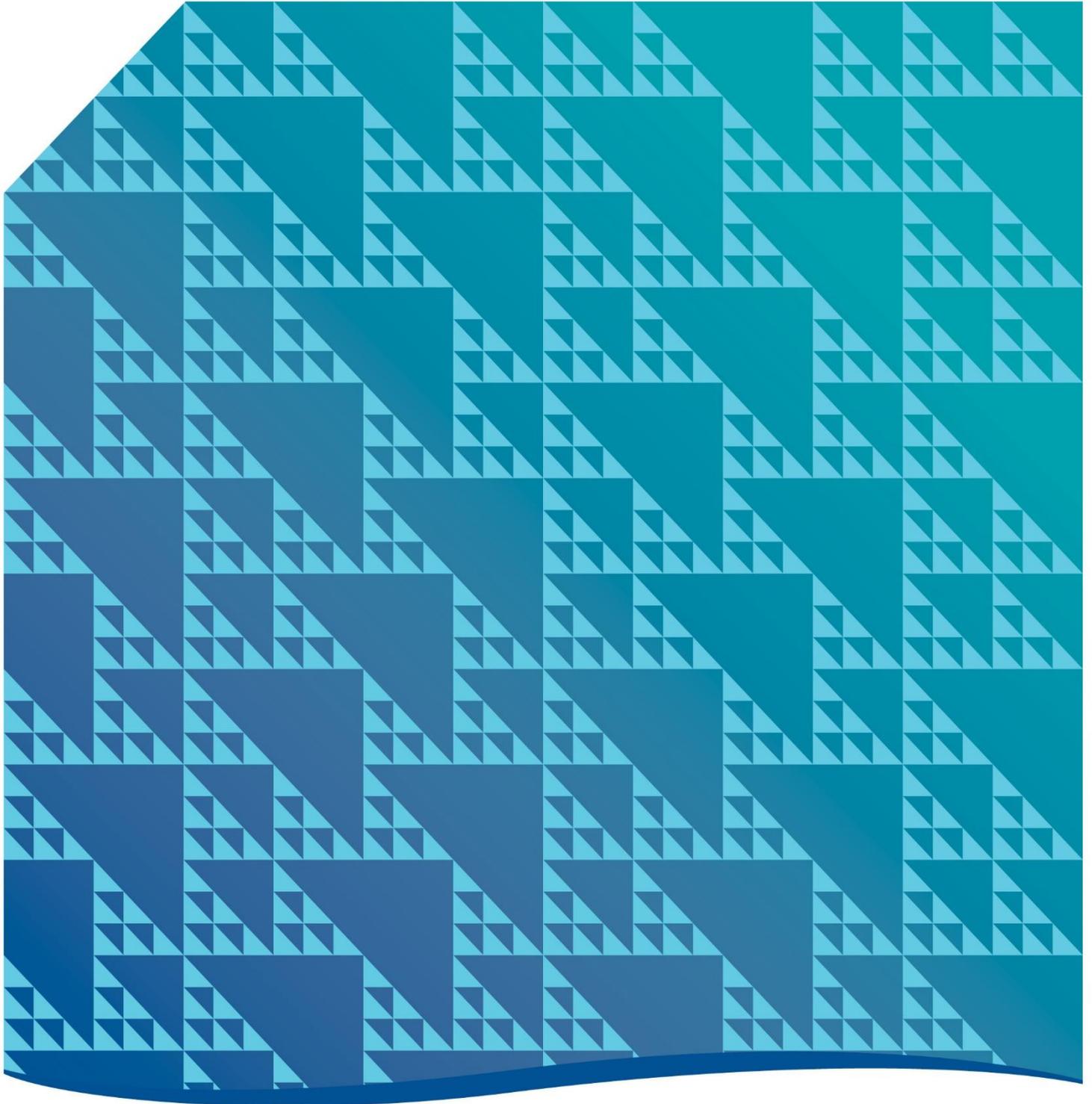


GENERAL SPECIFICATION  
G3 TRAFFIC MANAGEMENT

Date March 2016

Edition 1 / Revision 1

# G3 Traffic Management



## G3 – Traffic Management

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### REVISION REGISTER

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
Ed 1 / Rev 0	Various	Amendment to Department name	RB (MTE)	02.03.16
Ed 1 / Rev 0	Various  Various  G3.3 G3.9.1 G3.17	<i>Traffic Control for Works on Roads, Tasmanian Guide 2011</i> replaces <i>Code of Practice AS/NZS ISO 31000</i> replaces <i>AS/NZS 4360 HB 327 &amp; ISO Guide 73</i> document references added  Clause reworded  Table edited to reflect correct clause numbers	RB (MTE)	14.06.13

## G3 – Traffic Management

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Index	Page
REVISION REGISTER	1
G3.1 SCOPE	4
G3.2 OBJECTIVES	4
G3.3 STANDARDS	4
G3.4 DEFINITION OF TERMS	4
G3.5 CONTRACTOR'S RESPONSIBILITIES	5
G3.6 INFORMATION TO BE SUPPLIED AT TENDER	5
G3.7 CONTRACT MANAGEMENT PLAN	5
G3.8 WORKSITE RISK MANAGEMENT PROCESS FOR TRAFFIC MANAGEMENT	5
G3.8.1 General	5
G3.8.2 Risk Control Measures	5
G3.8.3 Traffic Separation Requirements	5
G3.8.4 Speed Restrictions	6
G3.8.5 Site Classification for Traffic Management	6
G3.8.6 High Profile Sites	6
G3.9 TRAFFIC MANAGEMENT PLANNING	7
G3.9.1 Nominated Traffic Officer	7
G3.9.2 Traffic Management Plan	7
G3.9.2.1 General	7
G3.9.2.2 Specific Requirements	7
G3.9.3 Public Contact Plan	8
G3.9.4 Electronic Portable Variable Message Signs	8
G3.9.5 Traffic Guidance Schemes	9
G3.9.6 Side Tracks	9
G3.9.7 Implementation of Traffic Management Plan	9
G3.9.8 Implementation of Traffic Guidance Schemes	10
G3.10 TRAFFIC MANAGEMENT OPERATION	10
G3.10.1 General	10
G3.10.2 Supply and installation of temporary road lighting including connection to the Electricity Supply Authority's network (if ordered)	11
G3.10.3 Pedestrian Movements	11
G3.10.4 Devices	11
G3.10.4.1 Rotating Yellow Lamps	11
G3.10.4.2 Fixed Multi Message Signs	11
G3.10.4.3 Delineation of the Traffic Path	11
G3.11 TEMPORARY ROAD SAFETY BARRIER SYSTEMS	11
G3.11.1 General	11
G3.11.2 Types of Safety Barriers	11
G3.11.3 Safety Barrier Clearance	12
G3.11.4 Working Behind Barriers	13
G3.11.5 On Site Storage	13
G3.12 TEMPORARY BARRIER END TREATMENTS	13
G3.13 TEMPORARY ROAD LIGHTING	13
G3.13.1 Provision of Temporary Lighting	13
G3.13.2 Installation	13
G3.14 PERFORMANCE REQUIREMENTS	13
G3.14.1 General	13
G3.14.2 Long Term and Bituminous Surfacing Work Sites	13

## **G3 – Traffic Management**

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<i>G3.14.3. Non-conformances</i>	14
<b>G3.15 RECORDS</b>	14
<b>G3.16 PAYMENT</b>	14
<i>G3.16.1 General</i>	14
<i>G3.16.2 Payment for Side Tracks</i>	14
<b>G3.17 HOLD POINTS</b>	14
<b>ANNEXURE G3.A - TRAFFIC MANAGEMENT DETAILS</b>	16
<b>ANNEXURE G3.B – GUIDELINES FOR RISK CONTROL SELECTION</b>	17

## G3 – Traffic Management

### G3.1 SCOPE

This specification sets out the requirements for the management of all traffic including pedestrians and construction site traffic.

### G3.2 OBJECTIVES

The objectives of this specification are to:

- ensure that traffic management is appropriately planned, implemented and maintained;
- ensure traffic management is included in the Contractor's Worksite Risk Management process in accordance with *Standard Specification clauses G2.5 and G2.6* as part of the Contractor's Contract Management Plan;
- ensure the safety of road users and construction personnel during all operations.

### G3.3 STANDARDS

The Contractor shall manage traffic in accordance with:

- The Tasmanian *Traffic Act*;
- The Tasmanian Traffic (Road Rules) Regulations;
- Traffic Control for Works on Roads, Tasmanian Guide 2011
- The performance requirements of this Specification;
- AS 1742 Manual of Uniform Traffic Control Devices in particular Part 3 Traffic control for works in Roads.

The order of precedence of the documents shall be in the order as listed above.

Other Relevant Standards and Guides:

- AS/NZS 3845 Road Safety Barrier Systems and;
- AS4852.2 Variable Message Signs Part 2 Portable Signs;
- Austroads Guide to Traffic Management.
- AS/NZS ISO 31000 Risk Management, Principles and Guidelines
- HB 327 Communication and Consulting
- ISO Guide 73 Risk Management, Vocabulary

The design, construction and maintenance of side tracks shall be in accordance with all State Growth Specifications & Standards and Austroads Guides including Road Design and Pavement Technology.

### G3.4 DEFINITION OF TERMS

Further to *AS1742 Clause 1.4* the terms used in this specification shall be as defined in *Table G3.4.1 – Definition of Terms*.

**Table G3.4 .1 – Definition of Terms**

Term	Definition
PCB	An abbreviation for Portable Concrete Barrier that are to comply to AS/NZS 3845.
Traffic Management Plan	The Traffic Management Plan prepared by the Contractor in accordance with the requirements of the Contract.
Nominated Traffic Officer	The Nominated Traffic Officer shall be responsible for preparation and implementation of Traffic Guidance Schemes.
Traffic Guidance Scheme	A Traffic Guidance Scheme prepared by the Contractor in accordance with the requirements of the Contract as a means of planning, depicting and communicating individual traffic changes.
Accreditation	All personnel involved in traffic control shall have current accreditation having attended a recognised Traffic Management course for the relevant level of traffic control in accordance with <i>Section 3 Training Requirements of the State Growth Traffic Control for Works on Roads, Tasmanian Guide 2011</i> .
Slow moving mobile work sites	Works travelling at 40km/h or less.

## **G3 – Traffic Management**

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### **G3.5 CONTRACTOR'S RESPONSIBILITIES**

The Contractor shall:

- provide a safe worksite for the public, its workers and subcontractors at all times and in all conditions; and
- manage traffic flow through a site ensuring delays and inconveniences are contained within the performance limits of this Specification.

### **G3.6 INFORMATION TO BE SUPPLIED AT TENDER**

The Contractor shall provide evidence to demonstrate compliance with this Specification and to demonstrate an understanding of site specific traffic management requirements, including the type and length of temporary work site protection and delineation, and how disruptions to traffic are to be minimised.

Further to the requirements listed in the Form of Tender, details to be submitted with the tender shall cover:

- Worksite Risk Assessment for Traffic Management in accordance with *Clause G3.8*;
- Methods to be used to meet traffic management requirements including detours and work staging plans;
- Details of passage for emergency vehicles;
- Name, qualifications and experience of the Nominated Traffic Officer (Refer *Clause G3.9.1*) demonstrating extent of traffic management experience in road construction works and associated activities.

### **G3.7 CONTRACT MANAGEMENT PLAN**

The Contractor shall detail the requirements of this specification in the Contract Management Plan in accordance with *Standard Specification G2 Contract Management Plan*.

### **G3.8 WORKSITE RISK MANAGEMENT PROCESS FOR TRAFFIC MANAGEMENT**

#### **G3.8.1 General**

Further to the requirements of *Standard Specification G2, Clause G2.5.2*, the Contractor shall undertake a traffic management related risk assessment for both construction and public traffic.

The Contractor shall ensure that all Sub Contractors adhere to the traffic management risk assessment.

Risk Management shall be in accordance with *AS1742.3 Clause 2.2.3 Risk Management and AS/NZS ISO 31000*. Risk assessments shall include the identification and analysis of all safety risks likely to arise during the works in the Planning, Setting up, Operating, Changing and Dismantling phases of a traffic management plan.

#### **G3.8.2 Risk Control Measures**

Further to *AS1742.3 Section 4, Annexure G3.B* provides guidelines on controls to be considered during the risk assessment process. These guidelines will be used in the assessment of the worksite risk assessment as part of the tender assessment process.

The Contractor shall incorporate into the Traffic Management Plan the actions identified in the risk assessment.

#### **G3.8.3 Traffic Separation Requirements**

Temporary road safety barrier systems shall be used for separation of traffic from roadworks and hazards as specified. Barriers should be used when –

- Workers or pedestrians in vulnerable situations need protection.
- There is a need to separate opposing traffic.
- There are hazardous objects or deep excavations near traffic.

Further to *AS1742.3 Appendix D* the minimum traffic separation requirements are listed in *Table G3.8.3 – Traffic Separation Requirements*.

## G3 – Traffic Management

**Table G3.8.3 – Traffic Separation Requirements**

Posted speed during roadworks (see notes 1 and 2 below)	Distance from Travelled Path to Road Workers and Hazards			
	0 – 1.2 metres	1.2 – 3 metres	3 – 6 metres	6 – 9 metres
> 80 km/h	Safety Barrier	Safety Barrier	Risk Assessment	Risk Assessment
70 & 80 km/h	Safety Barrier	Safety Barrier	Risk Assessment	Risk Assessment
50 & 60 km/h	Safety Barrier	Containment Fence	Risk Assessment	Risk Assessment
< 50 km/h	Risk Assessment	Risk Assessment	Risk Assessment	Risk Assessment

NOTES:

- The posted speed during roadworks shall be the highest speed which will allow the passage of vehicles in safety, but, in no instance, shall it exceed the original posted speed prior to roadworks.
- 40 km/h speed zones shall be no longer than 500 metres with the minimum length of 200 metres.
- For excavations and/or embankments > 500mm depth and < 3m from the travelled path a safety barrier is required.
- For the purposes of this table, excavations and embankments shall be regarded as a longitudinal depression or batter with the slope of the side adjacent to traffic 1.5 to 1 or steeper.
- For safety barrier types refer to *Clause G3.11*.
- This table shall apply once ground has been disturbed by the Contractor's works.

However, if a site is identified in the Risk Assessment as a high risk site, the use of temporary road safety barriers and energy absorbing devices including truck-mounted attenuators for physical separation as a means of providing protection from traffic shall be used.

The Contractor shall not use road closures as a means of controlling traffic during the works, unless there are no other alternative control measures possible and then only when approved by the Superintendent. This does not apply to road closures necessary during emergency work where the Contractor will be directed to close roads and detour traffic, by the Superintendent or Tasmania Police.

### G3.8.4 Speed Restrictions

Speed restriction zones shall only be imposed over the localised work area as required. Whenever practicable, any restrictions on traffic should be removed, if not required to apply over night. Some restrictions on traffic can remain where the worksite is located on a multi-lane road and there is sufficient capacity available to carry the expected overnight traffic volumes.

Single lane operation without any traffic control should not normally operate at night unless the traffic volume is less than 200 vehicles per day and the length of road involved is not greater than 60 metres. In other situations, traffic signals should be used to control traffic on the single lane section.

### G3.8.5 Site Classification for Traffic Management

Work sites, or each part of a work site where a different traffic management regime is employed, shall be classified as either High Profile or Low Profile.

Where the specification includes such a classification, it shall apply.

Where no classification is specified, the Contractor shall classify the site, or part of the site based on a High Profile site being one at which Annual Average Daily Traffic is equal to or greater than 3,500 vpd (sum of two directions) with a Low Profile site less than 3,500 vpd.

However the requirements of *Clause G3.8.7* may require that the site be classed as High Profile.

### G3.8.6 High Profile Sites

For these sites the Traffic Management Plan shall also include the following:

- Identification by name and mobile telephone number the person who shall be on site at all times during work, in continuous mobile telephone contact with responsibility for implementing the traffic management, monitoring performance achievement and having full authority to cease work or take other emergency action when the procedures do not achieve the performance requirements.
- In areas outside mobile phone range other communication systems such as radio or satellite phone shall be provided to communicate back to the Contractor's Operations Management base.

## G3 – Traffic Management

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- Special provision for local landowners and businesses and the nature and timing of personal contact to advise of the effects and how and to what extent special needs will be addressed.
- Information on how any adjacent work by other contractors or Government Authorities is to be coordinated. The Contractor is responsible for obtaining this information.
- The nature of actions to cover the contingency where procedures do not achieve the requirements of this Specification.

### G3.9 TRAFFIC MANAGEMENT PLANNING

#### G3.9.1 Nominated Traffic Officer

The Contractor shall submit to the Superintendent the name of its Nominated Traffic Officer. The Nominated Traffic Officer shall be responsible for ensuring that the traffic control at the worksite has been prepared and implemented by individuals with the correct level of training for the type of work being undertaken.

Training requirements for those involved in providing traffic control at worksites are set out in *Section 3 of the State Growth Traffic Control for Works on Roads, Tasmanian Guide 2011*.

#### G3.9.2 Traffic Management Plan

##### G3.9.2.1 General

Traffic Management for all worksites required in the performance of the works shall include preparation of a Traffic Management Plan.

The Traffic Management Plan shall cover:

- All work associated with the preparation, submission and revision (where necessary) of the Traffic Management Plan and Traffic Guidance Schemes;
- Implementation and monitoring of the Traffic Management Plan and Schemes when such is specified;
- Details in accordance with *AS1742.3 (Section 2)*;
- Methods of communication;
- How the Contractor intends to provide advance warning to the public on delays/diversions;
- Where any staging of the work is necessary, the staging of work shall be marked up on plan overlays for each stage of the work;
- How the Contractor proposes to open the site to clear traffic backup;
- The names and qualification level of all personnel responsible for traffic control; and
- Drawings of each Traffic Guidance Scheme, e.g *Fig. 4.9 in AS 1742.3*.

Note:

*Traffic volume data may be included in R51.C Annexure C.*

Generic Traffic Management Plans may be used provided they are checked at each worksite in accordance with this specification. Where the risk assessment deems it necessary, the Contractor shall prepare site-specific traffic guidance schemes.

##### G3.9.2.2 Specific Requirements

The Traffic Management Plan shall:

- 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, emergency vehicles, pedestrians and cyclists;
- Where required, describe how the construction work zone shall be physically and visually isolated from road users;
- Provide details of arrangements to be made for detouring traffic;
- Provide details of all road closures and/or restrictions required to undertake the work under the Contract;
- Detail provisions to maintain the specified number of traffic lanes in each direction;
- Include the names and contact details of the nominated out-of-hours representatives;
- Include a schedule of Traffic Guidance Schemes giving a general description of the relevant traffic arrangements and the date when the Traffic Guidance Scheme will be submitted;
- Provide 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
- Take into account any project specific requirements stated in the Project Specification.

### G3.9.3 Public Contact Plan

Further to *Standard Specification G2, Clause G2.7* the Contractor's Traffic Management Plan shall:

- Provide details of the consultative process proposed to ensure consultation with and notification to the community, business, road users, bus operators, schools and other stakeholders in advance of alterations to existing traffic conditions. The Contractor's proposed inputs into the communication process shall ensure the timely notification of the Superintendent, Principal, travelling public, emergency services, adjacent landowners and businesses of impending changes to traffic conditions. This process shall take cognisance of any Principal's requirements with respect to public notifications;
- Provide details of how local access to communities and adjacent private properties and businesses will be maintained;
- Provide for participation of a senior member of the Contractor's site personnel on any traffic coordination committee convened by the Principal;
- Provide details of the methods, including plant such as electronic variable message signs, for providing advance notice to the public;
- Advance warning shall be in the form of adequate signage stating "expect delays for the next .... km from (month/year) to (month/year)". The sign should also advise on alternative routes in association with the signs and devices specified at *Section 3 of ASI 742.3*. These shall be installed at least 7 days prior to work commencing. The signs shall be at each end of the worksite.
- Ensure emergency services such as Police, Ambulance and Fire Brigades are advised in writing at least 7 days prior to any planned event likely to cause significant delays. Contact details for advice to emergency services are listed in *Annexure G3.A*.

All messages on electronic portable variable message signs and the location of these signs shall be approved by the Superintendent.

All media advertisements for traffic delays/diversions will be arranged by the Superintendent on the advice of the Contractor. The Contractor shall provide all details at least 7 days prior to the delay/diversion, together with evidence of all the relevant owner/authority approvals. This also applies to all other communications including letters to stakeholders.

### G3.9.4 Electronic Portable Variable Message Signs

Electronic Portable Variable Message Signs shall:

- Be capable of displaying messages that are readable;
- Be mounted on a trailer suitable for registration in accordance with statutory requirements for the State of Tasmania;
- Comply with *AS 4852.2 Variable Message Signs, Part 2: Portable Sign*;
- Be suitable for use on roads with speed limits greater than 90km/h;
- May include the option of a radar (or similar) vehicle speed detection unit with vehicle speed triggered messages (configurable) and configurable trigger speeds;
- Display dimensional requirements as described in *AS4852.2*;
- Have full matrix configuration that is capable of displaying alpha-numeric characters, graphics and moving messages;
- Have a high strength, graffiti resistant display face;
- Have automatic brightness control that increases visibility during the day and dims display to eliminate flaring/glare during overcast/night time operation;
- Have amber or yellow pixels on a matt black background;
- Have all enclosures rated to IP54;
- Have a control system which will enable local and remote monitoring of status, sign control, message changing and diagnostic reporting;
- Have a control system which will include a self test and status reporting facility;
- Have a control system which will be designed to include security features such as equipment tamper and alarm reporting and password protection;
- Be mounted on a trailer with extendable stabilisers for levelling and stabilising in high winds and have a lockable tow bar and wheels

## **G3 – Traffic Management**

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### **G3.9.5 Traffic Guidance Schemes**

Where any change to existing traffic arrangements is proposed or where construction conflicts with normal traffic movements, the Contractor shall prepare a Traffic Guidance Scheme in accordance with *AS1742.3 Clause 2.2.1* which clearly details the revised traffic arrangements at all locations affected by the change or conflict. Traffic Guidance Schemes shall include layout sketches for individual construction stages.

The Traffic Guidance Scheme shall be submitted to the Superintendent for a direction as to its suitability, at least 4 days prior to the date of the proposed traffic rearrangement. Sufficient time for public notification shall be allowed for as per *Clause G3.9.3*.

The Traffic Guidance Scheme shall show proposed temporary signing and other traffic control device layouts (including temporary barriers, temporary pavement marking and temporary islands) to a suitable scale and be fully dimensioned and shall generally agree with the construction sequence and other requirements shown elsewhere in the Contract.

The Traffic Guidance Scheme shall also state the period for which these are to be in place (time and date) and the person who is responsible for installing, maintaining and removing them.

Where the Traffic Guidance Scheme includes changes to regulatory signs or devices, the Contractor shall include details certified by the Nominated Traffic Officer with the Traffic Guidance Scheme.

The Contractor shall allow 2 days for the Superintendent's direction with respect to suitability of the proposed traffic rearrangement.

### **G3.9.6 Side Tracks**

Further to *AS1742.3* all sidetracks shall:

- Be designed in accordance with *Austroads Guides*;
- Be sealed and line marked with temporary pavement markings when in use for more than one week;
- Have a lateral clearance of at least 1.2 m from any obstruction. In difficult situations, however, the Superintendent may authorise a reduced clearance with an absolute minimum of 600 mm.
- Have a maximum grade of 6 percent.
- Be not less than 7 m wide if intended for two lanes of traffic and not less than 3.5m wide if intended for single lane, one way traffic.
- Be completely removed and the area reinstated when the works are completed.

At least two (2) weeks prior to the construction of the sidetracks the Contractor shall submit to the Superintendent detailed drawings of the proposed sidetracks including all signs and linemarking. Linemarking details shall cover existing and temporary linemarking and the removal of conflicting and temporary linemarking.

The submitted drawings shall have been certified by an Engineer experienced in road design, who has qualifications admitting to Corporate Membership of the Institution of Engineers, Australia.

The submission of the drawings of the sidetracks to the Superintendent does not constitute approval of the design and shall not in any way relieve the Contractor of the responsibility for the satisfactory performance and adequacy of the sidetracks.

The design shall provide for a minimum drainage opening as specified elsewhere, or if not specified, a minimum of a one year flood capacity including any necessary rock pitching.

### **G3.9.7 Implementation of Traffic Management Plan**

The Contractor shall implement the Traffic Management Plan in accordance with the schedule included in the Plan.

Should the Superintendent so direct, the Contractor shall provide details of the Traffic Management Plan or any changes to that Plan to any bodies nominated by the Superintendent.

The Contractor shall monitor the continued effectiveness of the Traffic Management Plan during the Contract and shall revise and update the Plan where necessary.

## **G3 – Traffic Management**

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### **G3.9.8 Implementation of Traffic Guidance Schemes**

The Contractor shall implement only those traffic guidance arrangements that have been deemed suitable by the Superintendent.

Should the Contractor wish to depart from such arrangements, an amended Traffic Guidance Scheme shall be submitted to the Superintendent for determination of suitability prior to implementation of any new arrangements.

Prior to any change to existing traffic arrangements, the Contractor shall ensure that the traffic management arrangements conform with the Traffic Guidance Scheme.

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 Traffic Guidance Scheme and revise it in response to incidents and/or traffic disruptions.

Details of a Traffic Guidance Scheme shall be provided on request to any other body nominated by the Superintendent.

## **G3.10 TRAFFIC MANAGEMENT OPERATION**

### **G3.10.1 General**

Traffic Management shall:

- Include provision and placement of the prescribed traffic control devices for the warning, guidance and protection of the traffic and protection of workers, construction plant and other property on or adjacent to the works;
- Ensure that any delays to the passage of traffic are not greater than that specified in *Clause G3.14*;
- Ensure that construction, maintenance and removal of temporary access along or across the site for pedestrians, cyclists and agricultural machinery is provided as necessary;
- Relocate any bus stops affected by changes in traffic arrangements;
- Include the covering and uncovering of new signs, as necessary;
- Provide for the maintenance of emergency vehicle access at all times;
- Include 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;
- Supply and installation of Site access signs and all other traffic control signs as detailed in the Traffic Guidance Schemes;
- Supply and operation of traffic control devices;
- Supply and installation of temporary delineation of trafficked corridors;
- Supply, installation and operation of temporary traffic signals;
- Place electronic portable variable message signs at least 2m from edge lines;
- Supply and installation of temporary delineation where access to streets and side roads has been altered;
- Provide dust control;
- Maintain entrances and construction of alternative entrances (as necessary) to private properties;
- Provide Traffic Guidance Schemes;
- Provide any information required for public notices;
- Provide out-of-hours representatives;
- Include the design and construction of side-tracks where no separate item is provided for this work in the Schedule;
- Provide maintenance of trafficable surfaces, where specified;
- Supply and installation of temporary barriers;
- Supply and installation of temporary barrier end treatments;
- Provide maintenance and repair of barrier;
- Provide all other facilities for the safe passage of vehicular traffic through and around the Works; and
- Remove all temporary works and control devices used in the provisions for traffic;
- Ensure that all signs are erected on posts sunk in ground with 1.5m to underside of sign from ground level in accordance with *AS1742.3 Clause 4.7.5*.

## **G3 – Traffic Management**

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### **G3.10.2 Supply and installation of temporary road lighting including connection to the Electricity Supply Authority's network (if ordered)**

Where required temporary road lighting shall include:

- Supply of all materials, plant and equipment
- Installation and maintenance of temporary road lighting equipment; and
- Removal of temporary equipment after permanent road lighting is installed or as directed by the Superintendent.

### **G3.10.3 Pedestrian 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.

The pathways shall be clearly delineated, signed and fenced to prevent easy 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 absolutely prohibited.

Adequate illumination shall be provided during all periods of darkness.

Where a large volume of pedestrian traffic has to cross the 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.

### **G3.10.4 Devices**

#### **G3.10.4.1 Rotating Yellow Lamps**

All construction vehicles being used on the work site shall have activated cab-mounted yellow rotating lamps fitted with a minimum 50W Halogen bulb.

#### **G3.10.4.2 Fixed Multi Message Signs**

Fixed multi message signs (not electronic portable variable message signs) may be used in accordance with all other requirements of this Specification, *Standard Specification R63 Signs*, *The Tasmanian Traffic Code of Practice* and the following:

- They shall only be used as a temporary sign during daylight working hours.
- Colours and Legends shall be in accordance with *AS 1742*. A road safety message may be white on a blue panel using Class 2 sign material.
- Signs may be double sided.

#### **G3.10.4.3 Delineation of the Traffic Path**

Delineation of the traffic path shall be in accordance with *AS 1742.3*. Star pickets shall not be used as delineator posts.

## **G3.11 TEMPORARY ROAD SAFETY BARRIER SYSTEMS**

### **G3.11.1 General**

Temporary road safety barrier systems shall be in accordance with *Standard Specification R61 Road Safety Barrier Systems* and shall have recesses at their base to allow drainage at ground surface level to pass through.

### **G3.11.2 Types of Safety Barriers**

When a need for temporary barriers is identified, the barrier type shall be determined on the basis of the following considerations:

- The type, shape, deflection performance and test characteristics of the barrier;
- The speed of traffic travelling through the work site; and
- The clearance between the traffic and the work area.

## G3 – Traffic Management

The minimum clearance behind safety barriers to the work area shall be the greater of either the dynamic deflection of the product in accordance with *AS1742.3 Clause 3.10* or as shown in *Table G3.11.1 – Minimum Safety Barrier Deflections to Work Areas*, however when the work is below the adjacent road surface the clearance is to be increased to that identified in the Risk Assessment.

Where the use of Precast Concrete Barriers (PCBs) at intersections will create visibility problems for motorists to safely negotiate the intersection, the Contractor shall be permitted to use other approved barriers or devices as determined by the risk assessment.

Steel Beam Safety Barrier (SBSB) may be used instead of PCBs in some locations subject to the approval of the Superintendent. SBSB will not be approved for temporary erection where posts have to be installed through pavements which remain part of the permanent works.

Where identified as High Risk in the Risk Assessment opposing traffic shall be separated by an appropriate barrier except that the distance shall be measured from the edge lines of the opposing traffic flows.

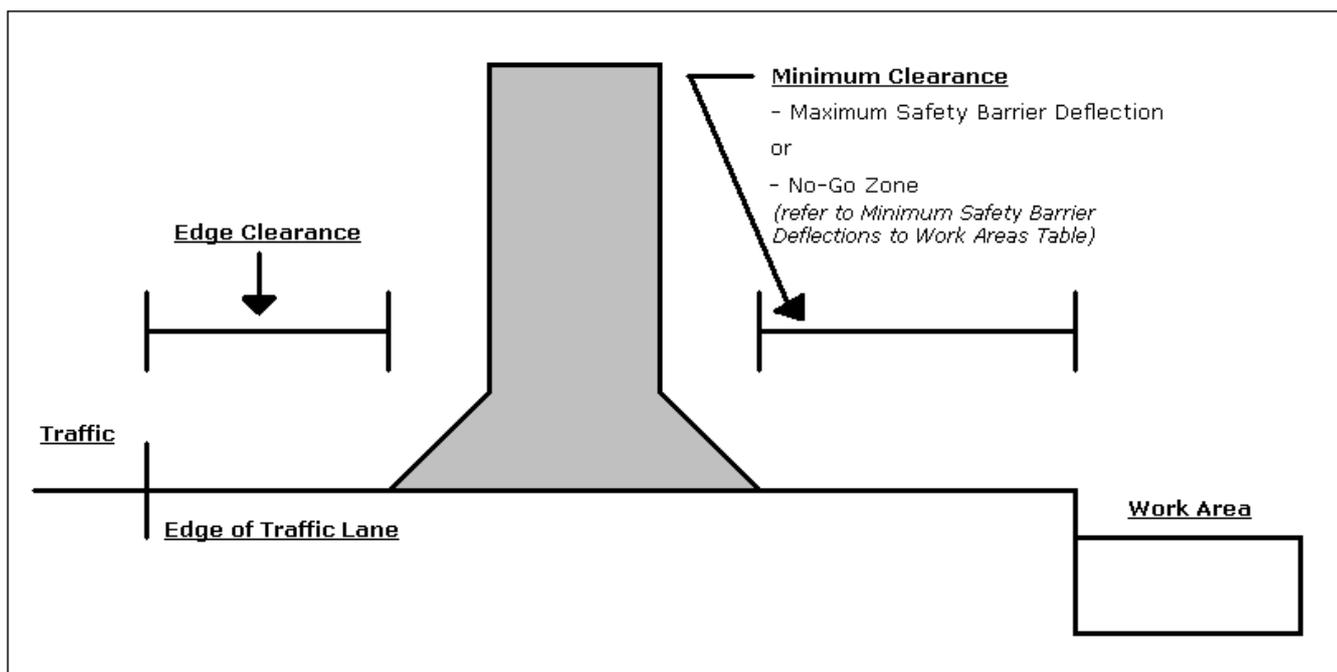
Safety barriers may be manufactured from either concrete or steel. Water filled plastic barriers shall not be used as safety barriers.

**Table G3.11.1 – Minimum Safety Barrier Deflections to Work Areas**

Safety Barrier Type	Maximum intended posted speed limit during Roadworks (km/h)	Minimum Clearance or No-Go Zone <sup>1</sup> (metres) Refer Figure G3.11.1.
Precast Concrete or Steel Barrier – with Units connected by steel pin or equivalent <sup>2</sup> and a 30 metre minimum length	100	1.6
	80	1.0
	60	0.6
W Beam Guard Fence – with 2.5 metre post spacing	100	1.5
	80	1.0
	60	0.5

### G3.11.3 Safety Barrier Clearance

The minimum clearance between the edge of traffic lanes and barriers shall be in accordance with *AS1742.3 Clause 4.13.4* as indicated in *Figure G3.11.1 – Safety Barrier Clearances*.



## G3 – Traffic Management

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### Figure G3.11.1 – Safety Barrier Clearances

Where possible, safety barriers should not be located behind kerb and channel so as to avoid the possibility of a speeding vehicle being launched into the air by the kerb and striking the top of the safety barrier and then rolling into the work area. Where the location of a safety barrier behind kerb and channel cannot be avoided, then the safety barrier should be located such that its front face is either:

- less than 0.5 metres behind the kerb; or
- greater than 3 metres behind the kerb, but not more than 4 metres to avoid high angle impacts.

The following lengths of safety barrier should generally apply:

- Minimum - greater of 30 metres or minimum length specified by the safety barrier manufacturer.
- Maximum – 1000 metres (desirable), but may be more depending on a traffic management plan.

In determining the location and length of safety barrier to be used, consideration should be given to the manufacturer's stated performance characteristics of individual safety barrier systems.

#### **G3.11.4 Working Behind Barriers**

When barriers are in place, workers shall not work within the barrier deflection zone. Containment fences in accordance with *AS1742.3 Clause 3.10* shall be placed behind the barrier to constrain the work areas beyond the likely deflection limits of the barrier if struck by a vehicle.

#### **G3.11.5 On Site Storage**

Where temporary barriers are required, plant and materials shall be treated as a hazard and be protected.

Where temporary barriers are not required, plant or materials shall not be stored less than 3 metres from the nearest edge of any traffic lane and any plant or materials stored overnight within 9 metres of the nearest edge of any traffic lane shall be delineated with warning lights adjacent to the traffic lanes.

### **G3.12 TEMPORARY BARRIER END TREATMENTS**

The ends of temporary barriers must be protected with a suitable approved end treatment.

Temporary barrier end treatments shall be in accordance with *Standard Specification R61 Road Safety Barrier Systems*.

### **G3.13 TEMPORARY ROAD LIGHTING**

#### **G3.13.1 Provision of Temporary Lighting**

Where existing roadway lighting is provided, roadway lighting shall be provided at all times. Existing lighting shall not be removed until alternative temporary lighting is provided to at least the same standard as the existing lighting.

#### **G3.13.2 Installation**

Where directed by the Superintendent, the Contractor shall install, operate and maintain temporary road lighting installations for the full period during which the relevant temporary roadway is in use and/or until the permanent road lighting is installed and becomes operational.

Temporary road lighting shall be installed in the locations identified in the Risk Assessment or as otherwise directed by the Superintendent.

### **G3.14 PERFORMANCE REQUIREMENTS**

#### **G3.14.1 General**

All worksites and types of work undertaken in the performance of the works shall be undertaken in accordance with this specification.

#### **G3.14.2 Long Term and Bituminous Surfacing Work Sites**

The following requirements shall apply to "long term" worksites and bituminous surfacing operations only:

- A delay shall be defined as the actual stoppage time measured from the time at which the first vehicle is stationary;

## G3 – Traffic Management

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- The duration of stopping for any vehicle shall not exceed 15 minutes where there has been advance warning to the public;
- Where there has been no advance warning, the Contractor shall ensure that a stoppage time of 8 minutes is not exceeded.

### G3.14.3. Non-conformances

A non-conformance shall be determined by the Superintendent and/or Contractor and shall include but not be limited to the following instances:

- Failure to maintain delineation as detailed in a Traffic Guidance Scheme;
- Failure to maintain all signs as detailed in a Traffic Guidance Scheme;
- Failure to maintain any other traffic control device detailed in a Traffic Guidance Scheme.
- Failure to maintain minimum travelled path dimensions;
- Traffic delay periods exceeding any maximum period nominated in the Contract'
- Failure to cover/remove unused signs and traffic control devices within two hours of completion of any revised traffic arrangement;
- Failure to provide the required notification to the community or local businesses of changes to traffic movement;
- Failure to use other than designated construction workplace entries or exits;
- Failure to maintain a defect and obstruction free travelled path through areas subject to Traffic Guidance Schemes; and
- Undertaking traffic rearrangement without a Traffic Guidance Scheme approved by the Superintendent.

All non-conformances shall be remedied by the Contractor within two hours of receipt of written notice of the non-conformance. Failure to remedy any non-conformance within the two hour period shall entitle the Principal to carry out remedial work deemed necessary pursuant to The General Conditions of Contract.

## G3.15 RECORDS

The Contractor shall comply with the guidelines and procedures set out in Appendix A of ASI742.3. The Contractor shall develop ITP's, checklists and procedures as part of the Traffic Management Plan which shall include the requirements of *Appendix A of ASI 742.3*.

All records are to be made available upon request and shall be included in the contract records.

## G3.16 PAYMENT

### G3.16.1 General

Payment for the development, implementation and maintenance of traffic management shall be at the lump sum item in the schedule of rates (item 8.10) paid on a pro rata monthly basis.

### G3.16.2 Payment for Side Tracks

Where a sidetrack is required by the Specification, payment for the design, construction, maintenance and removal of the sidetrack shall be as per the item in the Schedule of Rates (item 8.03). Where a sidetrack is not required by the Specification, the cost of the design, construction, maintenance and removal of the sidetrack shall be deemed to have been included in the rates for the other items in the Schedule.

## G3.17 HOLD POINTS

The following hold points are identified in this Specification.

Ref	Description of Hold Point	Nominated Work not to proceed	Evidence of Compliance
G3.9.5	Submission of Traffic Guidance Schemes	Implementation of Traffic Guidance Schemes	Traffic Guidance Schemes
G3.9.6	Prior to use and traffic transfer to sidetrack.	Traffic changeover to sidetrack.	Design of side track
G3.9.8	Implementation of Traffic Guidance Schemes	Changes to existing Traffic Arrangements	Field inspection by Nominated Traffic Officer and Superintendent
G3.11,	Type and installation plan of Safety	Installation of Safety Barriers	Safety Barrier Management

## G3 – Traffic Management

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G3.12	Barriers including end treatments	including end treatments	Plan
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**ANNEXURE G3.A - TRAFFIC MANAGEMENT DETAILS**

CONTRACT NO. ....  
CONTRACT NAME: .....  
.....

**(i) TRAFFIC MANAGEMENT DETAILS REQUIRED AT TENDER**

None

- How delays of less than 8 minutes, without Advance Warning will be achieved
- Specification **G3.14.2** - For all sites.

**(ii) PEAK TIMES**

**(iii) EMERGENCY CONTACTS for advice (and record) to all Emergency Services of any planned event likely to cause delays with at least seven (7) days notice.**

Fire Services Tasmania	Ph: (03) 6230 8420	Fax: (03) 6234 1465
Ambulance	Ph: 1800 008 008	Fax: (03) 6230 8515
Police - Officer in Charge	Ph: (03) 6336 3933 (North)	Fax: (03) 6336 3887
	(03) 6230 2260 (South)	Fax: (03) 6230 2261
	(03) 6230 2837 (East)	Fax: (03) 6230 2760
	(03) 6434 5215 (West)	Fax: (03) 6434 5250

The Contractor is responsible for establishing boundaries between districts.

**(iv) EMERGENCIES ONLY – 000**

## G3 – Traffic Management

### ANNEXURE G3.B – GUIDELINES FOR RISK CONTROL SELECTION

SAFETY HAZARD/RISK FACTORS	HIERARCHY OF CONTROL		
	<ul style="list-style-type: none"> <li>Consider the practicability of controls, from left to right.</li> <li>Select the most practical given the circumstances and level of risk.</li> <li>Record the reason if a higher-level control is not considered practicable.</li> </ul>		
	ELIMINATION/ SUBSTITUTION	ENGINEERING/ ISOLATION	ADMINISTRATIVE/ BEHAVIOURAL
Clearances to Traffic (Lateral clearance between the nearest edge of a lane carrying traffic and the entire worksite, including all roadworks vehicles or equipment, and pedestrian workers)	<ul style="list-style-type: none"> <li>Road Closure</li> <li>Detour</li> <li>Side Track</li> </ul>	<ul style="list-style-type: none"> <li>Safety Barriers</li> <li>Lane Closure</li> <li>Vehicle Crash Attenuators</li> </ul>	<ul style="list-style-type: none"> <li>Speed Reduction</li> <li>Warning Signs/VMS</li> <li>Delineation of Travel Path</li> </ul>
High Speed Traffic through Worksites	<ul style="list-style-type: none"> <li>Road Closure</li> <li>Detour</li> <li>Side Track</li> </ul>	<ul style="list-style-type: none"> <li>Safety Barriers</li> <li>Lane Closure</li> <li>Portable Traffic Signals</li> <li>Vehicle Crash Attenuators</li> </ul>	<ul style="list-style-type: none"> <li>Speed Reduction</li> <li>Warning Signs/VMS</li> <li>Traffic Controller</li> </ul>
Poor Advance Sight Distance to Worksite (<200m)	<ul style="list-style-type: none"> <li>Road Closure</li> <li>Traffic Diversion</li> </ul>	<ul style="list-style-type: none"> <li>Vehicle Crash Attenuators</li> <li>Lead and/or Tail Vehicle(s)</li> </ul>	<ul style="list-style-type: none"> <li>Extra Advanced Warning Signs/VMS</li> <li>Speed Reduction</li> <li>Delineation of Travel Path</li> </ul>
Poor Observance by Motorists of Directions/Instructions	<ul style="list-style-type: none"> <li>Road Closure</li> <li>Traffic Diversion</li> </ul>	<ul style="list-style-type: none"> <li>Lane Closure</li> <li>Portable Traffic Signals</li> </ul>	<ul style="list-style-type: none"> <li>Speed Reduction</li> <li>Police Presence on Site</li> <li>Extra Signs/VMS</li> <li>Re-assessment of Information Provided</li> </ul>
Narrow Pavement Width with no Escape Route (<2.9m width)	<ul style="list-style-type: none"> <li>Road Closure</li> <li>Traffic Diversion</li> </ul>	<ul style="list-style-type: none"> <li>Safety Barriers</li> </ul>	<ul style="list-style-type: none"> <li>Speed Reduction</li> <li>Delineation of Travel Path</li> </ul>

## G3 – Traffic Management

Presence of Workers at Worksite	<ul style="list-style-type: none"> <li>• Road Closure</li> <li>• Traffic Diversion</li> </ul>	<ul style="list-style-type: none"> <li>• Safety Barriers</li> <li>• Increased Separation from Vehicular Traffic</li> </ul>	<ul style="list-style-type: none"> <li>• Speed Reduction</li> <li>• Warning Signs</li> <li>• Delineation of Travel Path and Worksite</li> </ul>
Excavation Adjacent to Traffic (>300mm deep within 1.2m of traffic)	<ul style="list-style-type: none"> <li>• Road Closure</li> <li>• Traffic Diversion</li> </ul>	<ul style="list-style-type: none"> <li>• Different Construction Method</li> <li>• Safety Barriers</li> </ul>	<ul style="list-style-type: none"> <li>• Speed Reduction</li> <li>• Delineation of Travel Path</li> </ul>
Presence of Unprotected Hazards within Clear Zone	<ul style="list-style-type: none"> <li>• Road Closure</li> <li>• Traffic Diversion</li> </ul>	<ul style="list-style-type: none"> <li>• Safety Barriers</li> </ul>	<ul style="list-style-type: none"> <li>• Speed Reduction</li> <li>• Delineation of Travel Path</li> </ul>
Rough or Unsealed Road Surface due to Roadworks	<ul style="list-style-type: none"> <li>• Road Closure</li> <li>• Traffic Diversion</li> </ul>		<ul style="list-style-type: none"> <li>• Speed Reduction</li> <li>• Warning Signs/VMS</li> </ul>
High Volume of Traffic Through Worksites (>10,000 Vehicles per day)	<ul style="list-style-type: none"> <li>• Road Closure</li> <li>• Detour</li> <li>• Side Track</li> </ul>	<ul style="list-style-type: none"> <li>• Safety Barriers</li> <li>• Lane Closure</li> <li>• Portable Traffic Signals</li> </ul>	<ul style="list-style-type: none"> <li>• Speed Reduction</li> </ul>
High Volume of Heavy Vehicles through Worksite	<ul style="list-style-type: none"> <li>• Road Closure</li> <li>• Detour</li> <li>• Side Track</li> </ul>	<ul style="list-style-type: none"> <li>• Safety Barriers</li> <li>• Lane Closure</li> <li>• Portable Traffic Signals</li> </ul>	<ul style="list-style-type: none"> <li>• Speed Reduction</li> </ul>
Works Vehicles Entering/Leaving Worksite		<ul style="list-style-type: none"> <li>• Safety Barriers</li> <li>• Lane Closure</li> <li>• Portable Traffic Signals</li> </ul>	<ul style="list-style-type: none"> <li>• Speed Reduction</li> <li>• Warning Signs/VMS</li> <li>• Delineation/Control of Access Points</li> </ul>
Cyclists/Pedestrians Through Worksites	<ul style="list-style-type: none"> <li>• Alternative Pathway</li> </ul>	<ul style="list-style-type: none"> <li>• Adequate Separated or Shared Road Space</li> </ul>	<ul style="list-style-type: none"> <li>• Speed Reduction</li> <li>• Warning Signs/VMS</li> <li>• Delineation from other Traffic</li> </ul>



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