

Main Roads Technical Standard

MRTS02

Provision for Traffic

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Provision for Traffic

1 INTRODUCTION

This Technical Standard applies to the control of traffic during the construction of roadworks.

This Technical Standard describes the project specific requirements for control of all traffic through the Site. However, where this Standard includes lesser requirements than the *Manual of Uniform Traffic Control Devices* and the *Workplace Health and Safety Act 1995*, the requirements of that Manual and that Act shall prevail.

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

This Technical Standard forms part of the Main Roads Specifications and Technical Standards Manual.

2 DEFINITION OF TERMS

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

Table 2 – Definition of Terms

Term	Definition
anti-gawking screen	An opaque screen attached to PCBs to shield the construction work from the view of passing motorists.
Dynamic deflection	The largest transverse deflection of a road safety barrier system recorded during an actual crash or during a full scale impact test.
End Treatment	The collective term for devices and features at the leading and trailing ends of road safety barrier systems, which are selected on the basis of traffic speed and composition, the type of road barrier system and the particular site constraints.
Manual	<i>Manual of Uniform Traffic Control Devices</i> issued by Transport and Main Roads (latest edition).
PCB	An abbreviation for Portable Concrete Barrier as further described herein, which includes both the non-proprietary single slope concrete barrier (outlined in Standard Drawing 1473) and approved proprietary barriers (listed in the department's Compliant Product list – Road Safety Barrier Systems and End Treatments).
road	Road and/or bridge as relevant.
Traffic Guidance Scheme	A Traffic Guidance Scheme prepared by the Contractor in accordance with the requirements of the Contract as a means of planning and communicating individual traffic changes.
Traffic Controller	A person authorised in accordance with Clause 7.3.12 to control vehicular traffic at roadworks.
Traffic Management Plan	The Traffic Management Plan prepared by the Contractor in accordance with the requirements of the Contract.

3 REFERENCED DOCUMENTS

Table 3 lists documents referenced in this Technical Standard.

Table 3 – Referenced Documents

Reference	Title
AS/NZS 4360	Risk Management
AS/NZS 1158	Lighting for roads and public spaces

4 QUALITY SYSTEM REQUIREMENTS

4.1 Hold Points, Witness Points and Milestones

General requirements for Hold Points, Witness Points and Milestones are specified in Clause 5.2 of MRTS01 *Introduction to Technical Standards*.

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

Table 4.1 – Hold Points and Milestones

Clause	Hold Point	Milestone
6.4	1. Traffic rearrangement	Submission of Traffic Guidance Scheme (21 days)
6.6	2. Traffic Management Arrangements	

4.2 Conformance Requirements

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

5 SPECIFIC METHODS OF TRAFFIC CONTROL

5.1 General

Notwithstanding the provisions of the remainder of this Standard, specific methods of traffic control shall be employed on all or parts of the work under the Contract, in accordance with the requirements stated in Clauses 5.2 to 5.5 inclusive.

5.2 Construction Under Traffic

When construction under traffic is permitted in Clause 1.1 of Annexure MRTS02.1, the Contractor shall arrange its construction program so that traffic flow is maintained through the Works in accordance with the requirements of Clause 7 as supplemented or amended by any requirements stated in Clause 1.1 of Annexure MRTS02.1.

5.3 Site Access

Vehicular access points to and from the Site shall be in accordance with the Road Planning and Design Manual. Acceleration and deceleration lanes and tapers shall comply with the traffic volume, speed and sight distance warrants specified in the manual. Cross section widths for acceleration and deceleration lanes shall be a minimum of 3.2 m.

5.4 Detouring Traffic

Where detouring of traffic via an existing road or street is permitted by Clause 1.2 of Annexure MRTS02.1, the requirements of Clause 7.3.4 shall apply.

5.5 Side-Track

Where re-directing traffic onto a side-track is permitted by Clause 1.3 of Annexure MRTS02.1, construction of the sidetrack shall comply with the requirements set out in Clause 8 and any additional requirements stated in Clause 1.3 of Annexure MRTS02.1.

6 TRAFFIC MANAGEMENT PLANNING

6.1 *Nominated Traffic Officer*

The Nominated Traffic Officer shall be responsible for preparation and implementation of Traffic Guidance Schemes. The Contractor shall submit to the Administrator the name of its Nominated Traffic Officer.

Where Traffic Guidance Schemes are developed from Standard diagrams in Part 3 of the Manual, the Nominated Traffic Officer shall have obtained a statement of attainment from a registered training organisation in an advanced application of MUTCD Part 3 course that meets the requirements of the *Traffic Management for Construction or Maintenance Work Code of Practice 2008*. Where the principles from the Part 3 of the Manual are used to develop site specific diagrams, the Nominated Traffic Officer is to have two years experience in developing Traffic Guidance Schemes in addition to the above statement of attainment. Where more complex traffic managements are required, additional qualifications and/or experience may be nominated in Clause 2 of Annexure MRTS02.1.

6.2 *Traffic Management Plan*

When a Traffic Management Plan is required to be submitted in accordance with the Conditions of Contract, Clauses 6.3 and 6.5 shall apply under the Contract.

Where the Work under the Contract consists of Separable Portions or other clearly identifiable sections, the Traffic Management Plan shall be separated into identifiable sections.

The Traffic Management Plan shall comply with any project specific requirements stated in Clause 3 of Annexure MRTS02.1.

6.3 *Scope of Traffic Management Plan*

The Traffic Management Plan shall –

- a) Provide details of the consultative process proposed to ensure consultation with and notification to the community, business, road users 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 Administrator, 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;
- b) Describe traffic arrangements which provide for any necessary sequencing of the work under the Contract while minimising disruption and confusion to road users, local traffic, emergency vehicles, pedestrians and cyclists;
- c) Where required, describe how the construction work area shall be physically and visually isolated from road users;
- d) Provide details of how local access to communities and adjacent private properties and businesses will be maintained;
- e) Provide details of arrangements to be made for detouring traffic;
- f) Provide details of all road closures and/or restrictions required to undertake the work under the Contract;
- g) Detail provisions to maintain the specified number of traffic lanes in each direction at the minimum nominated operating speed between the hours stated in Clause 7.3.2;
- h) Provide for participation of a senior member of the Contractor's site personnel on any traffic coordination committee convened by the Principal;
- i) Include the names and contact details of the nominated out-of-hours representatives nominated as specified in Clause 7.3.18;
- j) Include the name of the Nominated Traffic Officer;
- k) 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. Traffic Guidance Schemes shall be prepared and submitted as specified in Clause 6.4; and

- l) 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.

6.4 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 which clearly details the revised traffic arrangements at all locations affected by the change or conflict. Planning of Traffic Guidance Schemes shall be undertaken in accordance with Part 3 of the Manual.

The Traffic Guidance Scheme shall be prepared by suitably qualified and experienced persons and shall be submitted by the Nominated Traffic Officer to the Administrator for a direction as to its suitability, at least 21 days prior to the date of the proposed traffic rearrangement. **Milestone**

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. Site access arrangements shall form part of the Traffic Guidance Scheme.

Where the Traffic Guidance Scheme includes changes to regulatory signs or devices, the Contractor shall include a Form M994 certified by the Nominated Traffic Officer with the Traffic Guidance Scheme.

The Contractor and the Administrator shall cooperate to ensure that the Traffic Guidance Scheme receives the Administrator's direction with respect to suitability at least 14 days prior to the proposed traffic rearrangement.

Failure to comply with this requirement may result in the Principal deferring the date for traffic rearrangement so as to ensure sufficient time for public notification is maintained. Such deferment shall not be a cause for an extension of time under the Contract.

No traffic rearrangements shall be carried out until 14 days after the Administrator has advised the Contractor that the relevant Traffic Guidance Scheme has been deemed suitable by the Administrator.

Hold Point 1

6.5 Implementation of Traffic Management Plan

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

The Contractor shall provide details of the Traffic Management Plan or any changes to that Plan to any bodies nominated by the Administrator.

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

6.6 Implementation of Traffic Guidance Schemes

The Contractor shall implement only those traffic management arrangements that have been deemed suitable by the Administrator. Should the Contractor wish to depart from such arrangements, an amended Traffic Guidance Scheme shall be submitted to the Administrator 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. **Hold Point 2**

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 Administrator.

7 PROVISION FOR TRAFFIC

7.1 *Traffic Management*

7.1.1 General

Traffic shall be controlled at all times, during construction, in accordance with the provisions of the Manual of Uniform Traffic Control Devices, Queensland, Part 3. The Contractor's attention is especially drawn to Appendix B of that manual.

It shall be the Contractor's responsibility to progressively record all changes to temporary regulatory devices during the Period for Construction, as required in the Manual of Uniform Traffic Control Devices.

7.1.2 Traffic Restrictions

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

Construction works shall not extend over more than a total of 5 kilometres of a through carriageway at any one time.

Full ramp closures on limited access roads or full closures of Local Roads are not permitted.

Not less than 4.6 metres vertical clearance shall be provided from the trafficked surface to any obstacle. Refer to the Manual for other requirements. The Contractor shall make the necessary arrangements and obtain the necessary approvals from the appropriate Electricity and/or Communications Authority in the case of overhead cables.

In sections of the project where the speed restriction is 40 km/hr, the maximum length of roadway with a 40 km/hr speed limit, excluding tapers and acceleration zone, shall be 500 m.

7.2 *Traffic Control Devices*

Traffic control devices and their use shall conform to the requirements of the Manual and such other additional Standards as may be issued from time to time by the Department of Transport and Main Roads. Devices shall also be in compliance with Australian Standards.

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

The Contractor shall comply with the requirements for traffic control devices and ITS installation stated in Clause 4 of Annexure MRTS02.1. The Contractor may elect to use additional traffic control devices during construction.

7.3 *Implementation of Controls*

7.3.1 General

Placement of traffic control devices shall be in accordance with the requirement of the Manual except that additional devices shall be supplied and placed where shown on the Drawings.

7.3.2 Restrictions to Traffic Lanes

Restrictions to the passage of vehicular traffic through the Site shall be subject to the limiting requirements stated in Clause 7.3.2.

Clause 5.1 of Annexure MRTS02.1 sets out the following minimum requirements for various time periods and for various locations on the Site –

- a) the number of traffic lanes which shall be available to traffic;
- b) the trafficable width of the lanes;
- c) the clearance of roadside objects from traffic lanes; and
- d) the minimum posted speed.

Where the number of traffic lanes is not listed in Clause 5.1 of Annexure MRTS02.1, the required lane availability shall be predicted using recent historical information as follows –

- a) Twenty-four hour traffic count information through the project site shall be obtained. Traffic counts shall be less than 3 months old, undertaken outside school holidays and undertaken on a day of the week which is expected to have the greatest traffic volumes;
- b) Assuming a maximum traffic flow per lane of 1400 vehicles per hour, the required number of traffic lanes required to ensure that the maximum flow per lane is not exceeded shall be calculated; and
- c) The number shall be rounded up and the largest number of lanes shall be provided for each hourly interval.

As a maximum, the existing number of lanes shall be provided.

The trafficked way shall be designed for not less than the posted speed adopted.

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

No work is permitted on site Easter Thursday, Anzac Day or the last working day prior to Christmas Day until New Years Day, both inclusive. In addition, lane closures are not permitted during any event deemed by the Administrator to be a major commercial, sporting or cultural event, where the Administrator considers that such closure would cause an unacceptable level of disruption to the traffic operations associated with such events.

Where a minimum of one lane (to serve both directions) is allowed, the Contractor shall maintain traffic flow under the control of traffic controllers or portable traffic signals in such a way that no road user is delayed in excess of the acceptable delay specified in Clause 5.2 of Annexure MRTS02.1. In all cases, the length of one-lane, two-way operation shall be limited to one kilometre.

The Contractor may stop traffic in both directions simultaneously only for purposes of construction of specific work and during the specific period stated in Clause 5.3 of Annexure MRTS02.1. The maximum delay to any road user shall be as stated in Clause 5.3 of Annexure MRTS02.1.

Work under the Contract involving lane closures, stop/go arrangements or construction traffic entering or leaving any through traffic lanes shall not be carried out during any periods stated in Clause 5.4 of Annexure MRTS02.1 and unless otherwise stated, such restrictions shall apply 24 hours per day.

7.3.3 Shoulder widths

Shoulder widths shall comply with the requirements of the Contract and the MUTCD.

7.3.4 Detouring Traffic

When specified in Clause 1.2 of Annexure MRTS02.1, traffic may be detoured away from the Works via existing roads. The Contractor shall liaise with and make all necessary arrangements with the relevant Local Government and/or other authorities concerned.

These arrangements shall include making provision for such matters as the issuing of public notices in respect of the detour, any repair or upgrading work which may be required prior to the detouring of traffic on the roads concerned, maintenance of the roads concerned during the detour period, inspection of the route for adequacy for the entire length of the detour, and any restoration work which may be necessary following cessation of the detour period.

7.3.5 Over Dimension, Over Weight & Dangerous Goods Vehicles

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

7.3.6 Side Tracks

Where side-tracks are constructed for the passage of traffic, they shall conform to the provisions of Clause 8.

7.3.7 Entrances to Private Property

The work under the Contract shall be carried out in a manner such that existing entrances to private properties affected by the work shall be maintained in useable condition during the period of construction. Where this is not possible, alternative entrance arrangements which are acceptable to the property owners concerned shall be made. In this respect, the Contractor shall permit and provide for the free movement of

traffic in and out of the properties at all times except as otherwise agreed to by the property owners concerned.

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

7.3.8 Dust Control

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

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

7.3.9 Night Work

Night work shall only occur for a maximum of 5 nights in any calendar week and a maximum of 5 consecutive nights.

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

The Contractor shall provide artificial lighting over the area where any work operations are being carried out during the hours of darkness. The lighting over the work area shall be such as to provide a minimum intensity of 10 lux.

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

7.3.9.1 Storage

Where safety barriers are not provided between the traffic lanes and plant or materials stored on the Construction Site, the Contractor shall comply with the minimum Clear Zone requirements of the RPDM. Any plant or materials stored overnight within 9 m of the edge of any trafficked lane shall be delineated with warning lights.

7.3.10 Use of Police

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

The Contractor shall engage police officers to control –

- a) construction works at any signalised intersections;
- b) lane closures at night;
- c) all full road closures (at all times of the day); and
- d) any situations stated in Clause 6 of Annexure MRTS02.1.

7.3.11 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 in accordance with the requirements of the Manual. 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.

7.3.12 Traffic Management

7.3.12.1 Traffic Management Company

When traffic control is required, only companies registered with the department's traffic management registration scheme shall be used for contracts signed on or after 1 February 2011.

For information regarding registered traffic management companies, contact:

Manager, Traffic Management Registration
Queensland Department of Transport and Main Roads
GPO Box 1412
Brisbane Qld 4001

7.3.12.2 Traffic Controller

A Traffic Controller shall hold an appointment as an accredited person under section 21 of the *Transport Operations (Road Use Management) Act 1995* to perform the functions of a traffic controller as prescribed by the *Transport Operations (Road Use Management – Accreditation and Other Provisions) Regulation 2005*. The Traffic Controller shall carry their Department of Transport and Main Roads issued Traffic Controller Accreditation Scheme accreditation identity card at all times while working as a traffic controller.

Traffic control shall be undertaken in accordance with the Traffic Controller Accreditation Scheme: Approved Procedure issued by Queensland Transport and Main Roads. The Traffic Controller shall have a copy of the procedure available on the Site at all times during which traffic control operations are being undertaken.

7.3.13 Use of Additional Traffic Controllers

Additional Traffic Controllers shall be used in high traffic flow situations where sight-distance is restricted, to prevent rear end collisions where vehicles are stopped or slowed by the work under the Contract. Additional Traffic Controllers shall also be used in other situations where described in Clause 7 of Annexure MRTS02.1.

7.3.14 Delineation of Trafficked Corridors

7.3.14.1 General

Where described in Clause 8 of Annexure MRTS02.1, direction hazard markers, temporary raised reflective pavement markers, line marking, reflective mesh fencing and/or other such delineation devices shall be used in addition to the requirements of the Manual to delineate trafficked corridors.

7.3.14.2 Materials

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

Delineation shall consist of bollards, traffic cones, individual hollow plastic ballasted barrier elements or mesh fencing using a heavy, highly visible plastic safety mesh. Star pickets shall not be used within 1m of the edge of adjacent traffic lanes for speeds of 80 km/hr or less.

When used as delineators, hollow plastic barrier elements are not required to be filled with water or be linked but shall be partially filled with water to provide stability against movement by the action of passing traffic or by winds.

Drums, cylinders and stand-alone non-interconnected lightweight modules, which can roll if dislodged by impact or wind, shall not be used as temporary delineators.

7.3.14.3 Construction

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

Temporary pavement marking and temporary raised pavement markers shall be installed in accordance with the requirements of MRS45 *Pavement Marking*.

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

7.3.15 Lighting of Work Site

The Contractor shall provide artificial lighting over the area where any work operations are being carried out at times of low light intensity. The lighting over the work area shall be such as to ensure a minimum intensity of 20 lux on the surface where the work operation is being carried out.

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

7.3.16 Direction and Street Signs

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

7.3.17 Implementation of Traffic Route Alterations

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

- a) the road under construction;
- b) a detour on an existing road; and
- c) a side-track.

Escort vehicles and QPS may be required to implement a traffic route alteration.

After the implementation of a traffic route alteration –

- a) The Contractor shall maintain all of the resources (including labour and equipment) that were used to implement the traffic route alteration on site for two (2) days after the implementation of the traffic route alteration;
- b) The roadway that the traffic was travelling on before the implementation of the traffic route alteration shall not be disturbed for at least two days after the implementation of the traffic route alteration in case of failure of the new road or in case the traffic management and controls do not meet the requirements of this document; and
- c) On a twice daily basis, all traffic redirection infrastructure and/or warning measures shall be checked for conformance prior to proceeding with any construction work.

The Contractor shall disseminate information in respect to the traffic route alterations to the public in accordance with the Contract.

7.3.18 Out-of-Hours Representatives

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

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

7.3.19 Inspections and Records

The Contractor shall record all changes to regulatory signs and devices including location and the time they were displayed. The Contractor shall also record all changes to traffic movements. Such written records shall be included on, or attached to, Form M994 and presented to the Administrator on a monthly basis. A completed and certified Form M994 shall be submitted to the Principal and the Administrator within 14 days of a Traffic Guidance Scheme being finalised. Where regulatory signs and devices are displayed to traffic for

part of a day only, the time they are displayed and closed shall be recorded and the record shall be attached to the Form M994.

The Contractor shall inspect all traffic control devices and traffic control arrangements twice daily to ensure the adequacy of such devices and arrangements. The Contractor shall maintain records of these inspections and subsequent actions taken to rectify any inadequacies. Such records shall be made available to the Administrator upon request.

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

7.4 Prohibition Notice

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

8 SIDE TRACKS

8.1 General

Design and construction of side-tracks shall comply with Part 3 of the Manual.

8.2 Materials

Materials for construction of side-tracks shall comply with the provisions of the relevant Technical Standard.

8.3 Construction

8.3.1 Location of Side Tracks

The location and route of side-tracks shall be in accordance with the details provided in Clause 1.3 of Annexure MRTS02.1 and/or as shown on the Drawings.

8.3.2 General Requirements

The ground surface of the areas on which a side-track is to be constructed shall be cleared, grubbed and stripped of vegetation and any other undesirable matter. Such operations shall extend for not less than the full width of the surface formation of the side-track. Any tree or other object within 3 metres of the edge of the side-track shall be removed, shielded or delineated.

Side-tracks shall be aligned, formed, graded, drained and maintained so as to provide for safe, comfortable passage of vehicles at the indicated speed limit. In general, not less than 4% surface crossfall shall be provided. The surface of side-tracks shall be in accordance with the requirements of the Manual.

Not less than 6 metres vertical clearance shall be provided from the trafficked surface to any overhanging obstacle. The Contractor shall make the necessary arrangements with the appropriate Electricity and/or Communications Authority in the case of overhead cables.

8.3.3 Geometric Requirements

The minimum geometric Standards of a side-track shall be as specified in Clause 9.1 of Annexure MRTS02.1.

The width of a side-track shall nowhere be less than that specified or directed.

If the normal width of a side-track is less than 6 metres, suitable passing facilities, not less than 30 metres in length and providing an available width of not less than 6 metres, shall be located at minimum intervals of 800 metres along the side-track and at locations where conditions are such that sight distance is effectively less than 100 metres.

8.3.4 Waterway Crossings

If waterways are encountered along the route of a side-track, then, unless the construction of special waterway crossings has been provided for elsewhere in the Contract, such crossing shall be provided by the Contractor as follows –

- a) at all waterways, whether they be running or dry, adequate culvert crossings or adequately paved floodways shall be constructed for the full width of the side-track;
- b) the edges of the culvert crossings and paved floodways shall be delineated effectively both day and night, using appropriate delineators mounted on approved guide posts in accordance with the requirements of MRS14 *Road Furniture*; and
- c) the Contractor shall install depth indicator posts which permit assessment of the maximum depth of water above the surface of a side-track where flooding is possible.

8.3.5 Paving and Sealing of Side Tracks

The requirements for paving and/or sealing of a sidetrack shall be as stated in Clause 9.2 of Annexure MRTS02.1.

Where paving and/or sealing of a side-track is required, the Contractor shall prepare the side-track formation and carry out the paving and/or sealing operations in accordance with the requirements of the relevant Technical Standard and such other requirements as may be stated elsewhere in the Contract.

8.3.6 Traffic Control

Side tracks shall be –

- a) Signed with temporary directional signing to reduce driver confusion;
- b) Line marked at all times to comply with the relevant Drawings;
- c) Where a side track is used as a part of an overnight road occupancy only, the side track may be designed for a lower posted speed. Types of side tracks used for overnight road occupancies may include crossovers on motorways between divided carriageways. The Contractor shall ensure that the length of road, which the reduced speed is applied to, is as short as possible according to the Manual. Details of this type of side track shall be included in a Traffic Guidance Scheme;
- d) Lit at the diverge points from the existing roadway to comply with Clause 13;
- e) Lit at any other points where the driving task may be more difficult to comply with Clause 13; and
- f) Provided with temporary VMS and other ITS devices. The Contractor shall coordinate its operation of its temporary VMS and other early works ITS devices with the operations of the traffic control room or traffic management centre as appropriate.

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

8.4 Maintenance

Side tracks shall be maintained to the Standard to which they were built and to always ensure safety of users. They shall be maintained such that –

- a) Pavement markings are clearly visible at all times; and
- b) Lane closures on the side-tracks only occur when maintenance is undertaken or traffic control devices are being moved.

8.5 Decommissioning

After a side-track has been used for the last time during construction, it shall be completely removed and rehabilitated as follows –

- a) All temporary line marking used on any permanent road surface that becomes obsolete shall be obliterated from the permanent road surface; and
- b) The site shall be restored to a condition equivalent to that existing before the side-track was constructed.

Any removed materials shall be disposed of in accordance with Clause 11 of MRTS01 *Introduction to Technical Standards*.

9 DETOURS

9.1 *Planned Detours*

A detour is a temporary route on an existing road (normally off the Site), that is used to divert traffic. Detours that involve the diversion of traffic off the Site are not permitted except for the express purpose of implementing a full carriageway closure to allow specific construction activities.

Any proposed detour shall be fully documented in the relevant Traffic Guidance Scheme. The Contractor shall include with the Traffic Guidance Scheme details to demonstrate that detours proposed for the purpose of implementing a full carriageway closure have sufficient capacity and are capable of supporting the traffic volumes expected during the use of the detour. The Traffic Guidance Scheme shall show –

- a) Maximum extra length added to motorist trips;
- b) Maximum extra delay for motorists; and
- c) Maximum number of hours which a detour is to be implemented for.

9.2 *Processes*

For all detours, the Contractor shall liaise with and make all necessary arrangements with the relevant Local Government and/or other authorities concerned.

These arrangements shall include making provision for such matters as the issuing of public notices in respect of the detour, any repair or upgrading work which may be required prior to the detouring of traffic on the roads concerned, maintenance of the roads concerned during the detour period, inspection of the route for adequacy for the entire length of the detour, and any restoration work which may be necessary following cessation of the detour period.

9.3 *Other requirements*

For all planned detours, the Contractor shall –

- a) Inspect the route for adequacy for the entire length of the detour;
- b) Provide suitable directional signage and other infrastructure to guide motorists, which may include portable VMS;
- c) Liaise with all relevant Authorities as necessary; and
- d) Restore or arrange restoration as necessary following cessation of the detour period to the approval of the relevant Authorities.

9.4 *Detours for incident management*

All detours that are undertaken by the Contractor's Traffic Control Personnel shall be undertaken according to an incident management plan that is prepared by the Contractor and submitted to the Administrator. In preparing this incident management plan, the Contractor shall obtain all the necessary approvals from relevant road authorities prior to submitting the plan.

The Administrator or the Queensland Police Service may direct the Contractor's Traffic Control Personnel to implement detours for incident management without preparation of an incident management plan or without acting in accordance with any existing plan.

10 TEMPORARY ROAD SAFETY BARRIERS

10.1 *General*

Temporary road safety barriers shall be used to contain and redirect errant vehicles so as to reduce the likelihood of them entering the work site. The design of a safety barrier, including barrier end treatments shall meet the requirements stated in AS 3845 and Clause 3.10.2 of Part 3 of the MUTCD and Chapter 8 – Road Planning and Design Manual. Only those temporary road safety barriers which are included in the department's Compliant Product list – Road Safety Barrier Systems and End Treatments shall be used.

Portable concrete barriers used as temporary road safety barriers shall be manufactured, supplied and installed in accordance with the requirements for a safety barrier, conform to the shape specified in Standard Drawing number 1473 and be 1050 millimetres high (or 500 millimetres high at intersections where sight distance is inhibited and the speed is 60 km/h or less).

Proprietary barriers are to be as specified by the manufacturer/supplier and adhere to the additional requirements of Transport and Main Roads.

Water Filled Plastic Barriers shall only be used for isolated short duration works and shall be filled with water to the level specified in the manufacturer's specifications.

Where the requirements for temporary road safety barriers are not specified, the Contractor shall undertake a risk assessment to determine the method of separation and the Contractor shall be solely responsible for the method of separation adopted. The risk assessment shall be undertaken in accordance with the methodology outlined in AS/NZS 4360 – Risk Management.

10.2 Provision of Temporary Road Safety Barriers

Temporary road safety barriers shall be installed in accordance with the department's Standard Drawings and/or those supplied by the supplier/manufacturer of the barrier system (as specified in the department's Compliant Product list – Road Safety Barrier Systems and End Treatments to ensure minimum length and connection methods

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

10.3 Materials

Where barriers are specified, they shall be supplied, fabricated and installed to comply with the Drawings stated in Clause 10.1 of Annexure MRTS02.1.

10.4 Separation Requirements

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

Where shown in Clause 10.2 of Annexure MRTS02.1, traffic shall be separated from road workers and hazards as specified in Table 10.4.

The use of temporary road safety barriers for asphalt and bitumen seal work is not normally required where traffic is controlled by the use of delineation devices and qualified traffic controllers.

Care shall be taken at intersections to prevent visibility problems for motorists negotiating the intersection. The Contractor shall be permitted to use water filled barriers or other devices as determined by a Risk Assessment.

Table 10.4 – Traffic Separation Requirements

Posted speed during roadworks (see notes 1 & 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/hr	Barrier	Barrier	Barrier	Risk Assessment
70 & 80 km/hr	Barrier	Barrier	Risk assessment	Risk Assessment
50 & 60 km/hr	Barrier	Barrier	Risk assessment	Risk Assessment
< 50 km/hr	Risk Assessment	Risk Assessment	Risk assessment	Risk Assessment

Note: 1. The posted speed during roadworks shall be the highest speed, which will allow the passage of vehicles in safety, but in no instance will exceed the original posted speed prior to roadworks.
 2. 40 km/hr speed zones should be no longer than 500 metres
 3. Risk assessments shall be undertaken in AS/NZS 4360 – Risk Management

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

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

Steel Beam Guardrail may be used instead of temporary road safety barriers in some locations subject to the approval of the Administrator. If approved guardrail shall be installed in accordance with Standard Drawing

numbers 1474 and 1475 with end treatments in accordance with Standard Drawing numbers 1462, 1470, 1474 and 1475, or with an approved proprietary end treatment listed in the department's Compliant Product List – Road Safety Barrier Systems and End Treatments. Guardrail shall not be used for temporary erection where posts have to be installed through pavements which remain part of the permanent works.

Where shown in Clause 10.2 of Annexure MRTS02.1, opposing flows of traffic shall be separated as specified in Table 10.4 except that the distance shall be measured from the edge lines of the opposing traffic flows.

Temporary barriers shall be installed in any other situation stated in Clause 10.2 of Annexure MRTS02.1.

10.5 Installation

Portable concrete barriers used as temporary road safety barriers shall be installed in accordance with the details shown on the Drawings or, where not shown, in accordance with the Traffic Guidance Scheme as appropriate.

All other temporary road safety barriers shall be installed in accordance with manufacturer's specifications as listed in the department's Compliant Product list – Road Safety Barrier Systems and End Treatments.

Where temporary barriers are installed between opposing traffic flows sufficient offset shall be provided to reduce the likelihood that barriers deflect into opposing traffic flow in the event of impact.

The Contractor shall maintain temporary barriers on their correct alignment for the period that they are installed on the Site.

10.6 Working Behind Barriers

The maximum dynamic deflection of temporary road safety barrier when impacted shall be considered. A 'no go' zone shall be clearly marked behind any temporary road safety barrier system to ensure no works are undertaken within this dynamic deflection zone. The maximum dynamic deflection is specified by the manufacturer. Road workers shall be made aware of the 'no go' zone by means of a containment fence which is to be placed beyond the point of maximum dynamic deflection of the temporary road safety barrier system, in accordance with Clause 3.10.2 and Clause 4.3 of Part 3 in MUTCD.

10.7 On Site Storage

Where temporary barriers are required, plant and materials shall be treated as a hazard and be protected as specified in Clause 10.4.

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

11 TEMPORARY ROAD SAFETY BARRIER END TREATMENTS

11.1 General

The ends of temporary barriers shall be appropriately treated as they can be a hazard to road users if struck end on. Only those end treatments listed in the department's Compliant Product list – Road Safety Barrier Systems and End Treatments shall be used.

11.2 Provision of Temporary Barrier End Treatments

Where exposed to on-coming traffic, both the approach and departure ends of PCBs and portable steel barriers shall be treated with an approved proprietary crash cushion or attenuator designed and tested for the speed environment.

When water filled barriers are used, the following applies –

- a) If the end is tapered outside the clearzone then no further treatment is required; and
- b) If the end is not tapered outside the clearzone it shall be treated with an approved end treatment.

11.3 Installation

Temporary barrier end treatments shall be installed in accordance with the manufacturer's requirements.

12 ANTI-GAWKING SCREENS

12.1 Provision of Anti-Gawking Screens

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

Where so stated in Clause 11.1 of Annexure MRTS02.1, anti-gawking screens shall be installed where work activities are being undertaken within 3.5 metres of the lane edge and such activities are likely to cause traffic delays.

Anti-gawking screens shall also be installed in other situations as stated in Clause 11.2 of Annexure MRTS01.2.

12.2 Construction

Anti-gawking Screens shall be in accordance with Standard Drawing 1473 and be –

- a) a minimum of 2.2 m total height;
- b) of sufficient extent to fully screen the work area from public traffic; and
- c) designed, installed and maintained to enable the safe and continuous passage of traffic through the Construction Site.

13 TEMPORARY ROAD LIGHTING

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.

Temporary road lighting shall also be provided if so stated in Clause 12 of Annexure MRTS02.1.

Temporary road lighting shall include all conflict points and potential hazards and it shall include two spans of lead-in lighting in advance of the conflict point. Unless otherwise specified in Clause 12 of Annexure MRTS02.1 conflict points include –

- a) changes in carriageway width;
- b) changes from single to divided carriageway;
- c) converging and diverging traffic streams;
- d) crests and humps;
- e) curves below 100 m radius;
- f) potentially hazardous road sections; and
- g) road sections with high accident rates.

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

Temporary road lighting installations shall conform to the requirements of MRTS94 *Road Lighting* and AS/NZS 1158. It shall provide at least a minimum intensity of 10 lux at the conflict/ hazard points.

13.2 Installation

Temporary road lighting installations shall conform to the requirements of MRTS94 *Road Lighting*.

14 TRAFFIC ACCIDENTS

In the event of a traffic accident within the Site, the Contractor shall record the date and take date stamped photographs of the signs/devices present in the vicinity of the accident. In the event of a traffic accident that requires notification to Police and relevant Emergency Services, the Contractor shall make the appropriate notifications. All accidents shall be recorded in the incident log. A copy of the incident log shall be forwarded to the Administrator upon request.

15 ADMINISTRATOR'S AUDIT

15.1 Timing

The Administrator will undertake scheduled monthly audits of the Contractor's traffic control measures.

The Administrator will also undertake unscheduled spot audits of the Contractor's traffic control measures.

15.2 Nonconformances

A non-conformance will be determined by the Administrator and will include but not be limited to the following instances –

- a) failure to maintain and update the Traffic Management Plan;
- b) failure to maintain delineation as detailed in a Traffic Guidance Scheme;
- c) failure to maintain all signs as detailed in a Traffic Guidance Scheme;
- d) failure to maintain any other traffic control device detailed in a Traffic Guidance Scheme;
- e) failure to maintain minimum travelled path dimensions;
- f) traffic delay periods exceeding any maximum period nominated in the Contract;
- g) failure to cover/remove unused signs and traffic control devices within two hours of completion of any revised traffic arrangement;
- h) failure to provide the required notification to the community or local businesses of changes to traffic movement;
- i) failure to use other than designated construction workplace entries or exits;
- j) failure to maintain a defect and obstruction free travelled path; and
- k) undertaking traffic rearrangements without an approved Traffic Guidance Scheme.

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 any remedial work deemed necessary pursuant to the Contract.

16 TRAVEL TIME SURVEYS

Where stated in Clause 13 of Annexure MRTS02.1, the Contractor shall undertake surveys to monitor the effect of the activities on the road user. Travel time surveys shall be undertaken prior to traffic restrictions to determine free flow travel time. Travel time surveys shall be undertaken every 4 days including weekdays and weekends. Therefore every day of the week shall be surveyed every 4 weeks. Travel time surveys do not need to be undertaken when construction work is not being undertaken. Where detours are undertaken off site, travel time surveys using the detour shall be undertaken every day.

Traffic surveys shall be undertaken in accordance with Appendix A.

Delays during all full road closures shall be recorded.

Delays during all road closures which require detours off site shall be recorded.

17 SUPPLEMENTARY REQUIREMENTS

The requirements of MRTS02 *Provision for Traffic* are varied by the supplementary requirements given in Clause 14 of Annexure MRTS02.1.