

# Technical Publication News

## Technical Publications

## Industry update – March 2024

The Department of Transport and Main Roads (the department) is committed to continually reviewing and improving our technical publications to ensure we deliver best value for money and embrace the latest technological advancements.

To help you stay informed about any upcoming changes to technical publications we have provided a look ahead of proposed amendments, we have broken these into two timelines: next four months, and into the future.

✉ [tmr.techdocs@tmr.qld.gov.au](mailto:tmr.techdocs@tmr.qld.gov.au)

📄 [tmr.qld.gov.au/business-industry/Technical-standards-publications](https://tmr.qld.gov.au/business-industry/Technical-standards-publications)

### NEXT FOUR MONTHS (March 2024 – June 2024)

#### SPECIFICATIONS

##### **MRTS30 Asphalt Pavements and MRTS32 High Modulus Asphalt (EME2)**

Amendments include:

- lowering maximum asphalt production temperatures to reduce the emissions associated with manufacturing asphalt (when compared to the current state). Consequently, the proposed changes should:
  - support efforts to lower the carbon footprint of constructing transport infrastructure and the Queensland Government's Climate Action Plan
  - help improve sustainability outcomes, and
  - help improve safety for workers on site.

##### **MRTS93 Traffic Signals**

Amendments include:

- review of installation, testing, commissioning, and quality assurance of Next Generation Traffic Signal Controllers (NGTSC)
- introduction of new types of LEDs (HPSM) besides the existing 5mm LEDs, and the phasing out of Quartz Halogen (QH) lanterns
- introduction of ELV lanterns
- changes in the delivery of Configuration files (formerly EEPROM) now categorised as non-contestable or Principal Supplied
- implementation of Quality Assurance forms to govern the installation, testing and commissioning process, and
- addition of new items for supply and installation based on stakeholder feedback.

##### **MRTS206 Provision of Variable Speed Limit and Lane Control Signs**

Amendments include:

- achieving a closer alignment between MRTS206 and AS/NZS 5156
- streamlining the reference documents list in Section 3 by removing unnecessary documents from AS/NZS 5156
- replacing TRUM Volume 1 Part 10 with QGTM / AGTM Part 10 in Clause 3
- clarifying roadside cabinet requirements according to MRTS226 in Clause 6.3
- proposing an Extra Low Voltage (ELV) variant of VSL/LUMS to align with TfNSW's TS 03647 (formerly TSI-SP-011) in Clause 7.2.
- adding RCM compliance in Clause 7.6 to harmonize with TfNSW's TS 03647, and
- ensuring asset data conforms with the department's ROAR requirements, as outlined in Clause 11.4.1.

##### **MRTS234 Communication Cables**

Amendments include:

- The current version of MRTS234 (November 2022) is a product of a comprehensive stakeholder review and incorporated many changes.
- This revision (March 2024) introduces a Compliance Evaluation Form to be used by suppliers of cabling products and projects for the Evaluation of their products to MRTS234.
- Minor Editorial Changes,
- Addition of Clause 16, referring to the Evaluation Compliance Form, and
- Inclusion of Compliance Evaluation to be added to the Intelligent Transport Systems and Electrical Approved Products and Suppliers webpage.

##### **MRTS300 Boat Ramps**

Amendments include:

- general review and revisions to reflect current practices and standards to improve construction outcome and quality
- minor changes to the Annexure MRTS300.1, and
- addition of a Forms Appendix.

##### **MRTS330 Trackwork**

##### **MRTS331 Overhead Lines and Equipment**

##### **MRTS333 Signalling and Communications**

These new Rail suites aim to improve the project cost estimating methodology and the planning and delivery of rail infrastructure projects.

#### STANDARD DRAWINGS

##### **SD1305 Pipe Culverts - Headwall and Apron for Pipe Diameter 375 to 675**

- Revised standard drawing will now align with other departmental culvert standard drawings and with the new version of the culvert design software.

##### **SD1331 Road Lighting - Wall Mounted Lighting Bracket Fabrication Details**

- Update to align with the recent revision to MRTS94 *Road Lighting*, and to improve fabrication and installation details
- Similar improvements have recently been made to "sister" drawing SD1330 *Underbridge Lighting*.

##### **SD1389 Slip Base Pole Male/Female connectors installation detail**

- Earthing resistance measurements at slip base poles have been found to increase over time due to the electrical connection at the slip plane degrading over time to the point where EFLI was reaching unacceptable levels. As such, an earth cable is required between the two bodies of metal.
- Revision of the clamping block to accommodate 4 cables instead of 2.

- Details added on looping cable through large hole in clamping block before clamping in small holes.
- Earth cable connection between upper and lower crossbars added with note that this is a protective earth.

#### **SD1400 Slip Base Pole Wiring Details**

- Extended earth cable to match SD1389.

#### **SD1452 Traffic Sign Sight Board**

- Installation Details have updated to reflect MUTCD harmonisation to AS1742S.

#### **SD1699 ITS Parts List**

- Added Part Number 383, Hex head bolt.

#### **SD1807 Property Access - Rural property access**

- Updated references on the drawing mainly due to updates in Austroads Guides.

#### **SD4003 Precast Planks for Boat Ramp**

- General review and change to the separation plate detail.

#### **SD4030 Boat Ramp Construction – General Arrangement and Earthworks**

#### **SD4031 Boat Ramp Construction – Shoulders and Grouted Mattress**

#### **SD4032 Boat Ramp Construction – Concrete Slab and Joint Details (Steel Reinforced)**

- New issue drawings that consolidate related construction details, remove under used details improve clarity. Existing drawings SD4020 to SD4024 are to be superseded.

## MANUALS

#### **Fauna Sensitive Transport Infrastructure Delivery Manual**

- Major updates to the existing two volumes of the manual to ensure it continues to provide best practice guidance to plan, design, build and maintain fauna friendly transport infrastructure.
- Renamed *Fauna Sensitive Transport Infrastructure Delivery Manual*.

#### **Queensland Guide to Smart Motorways (QGSM) Supplement**

Publications superseded by the QGSM:

- RPDM Volume 5, ITS.
- QGTM Part 9: *Design Guidelines for the provision of managed motorways ramp signalling*.
- QGTM Part 10: *Permanent placement of Variable Speed Limit and Lane Control signs for motorways, long bridges and tunnels guideline*.
- *ITS placement guideline*.
- TN123 *Flow Charts for Selection of Gantries for Intelligent Transport Systems (ITS) Devices* (September 2014).

#### **Traffic and Road Use Management (TRUM) Manual Volume 4 Part 8 and Certificate of Test (CoT)**

- Alignment with the current AS/NZS 3000 and AS 3017 (TRUM Vol 4 Part 8)
- Introduction of ELV into EFLI calculations tables (TRUM Vol 4 Part 8)
- Introduction of 2A fuse in EFLI calculations, used in Traffic Signal Controllers (TRUM Vol 4 Part 8)
- 15 min-Load added as a field (Electrical CoT) - This could be implemented using a clamp meter to measure current or using a power meter.
- ELV fault loop impedance added (d.c resistance measurement) (CoT).

#### **NEW Non Transport Utility Management and Design Manual**

Key items will include:

- develop utility specific minimum design standards to cater for both TMR and utility provider needs in transport corridors, limit avoidable costs to future projects, and reduce outage impacts to utilities' customers harmonisation process for Utility design in TMR road corridors
- required protection of utility assets under the roadway and within the corridor (depth of cover, casings, materials) – this includes new and existing assets
- alignment of assets
- exclusion zones between different assets
- construction methodology, and
- conditions associated with service placement within TMR road corridor and future cost sharing agreements for relocations.

#### **Structures Inspection Manual**

Review for currency and align inspection practice with modern asset management for structures.

#### **TMR Surveying Standards**

Updates to align with the rapid advancement of equipment and software technology such as drones, airborne and terrestrial LIDAR, underwater scanning/sonar, methods of data capture and all forms of transport infrastructure.

## NEW GUIDELINES

- **Guidelines for Geotechnical Investigations** will detail the minimum requirements for execution of geotechnical investigations for and on behalf of the department.

## TECHNICAL NOTES

#### **TN158 Guide to the Use of LED Road Lighting Luminaires**

- Updated to align with Australian Standards and MRTS94.
- Added new product approved LED luminaires to its existing Fleet of LED luminaires.

#### **TN192 Pavement Investigation and Analysis**

Update to include current best-practice techniques and guidance for pavement investigation and minor formatting amendments to improve clarity.

## OTHER

#### **Display of Information on Variable Message Signs (VMS)**

#### **Organisational Policy**

Amendments include:

- revised policy statement to reflect the importance of VMS in the operation of an efficient and reliable transport network
- expansion of policy scope to clearly outline what is in scope and what is out of scope.
- updating message type, hierarchy and priority to reflect the content previously published in the *Traffic and Road Use Management Manual*, noting this content has been removed from the *Queensland Guide to Traffic Management* including:
  - splitting Category 1 (Incident) priority messages into 2, being 1 (Incident) and 1E (Disaster or emergency incidents)
  - inclusion of approval, conditions of display and text case selection criteria, and
  - clarity around filler messages - what constitutes a road safety message and a general transportation message.
- replaced reference to TRUM *Part 2.9 Variable Message Signs Use and Operation Guideline* reference with the soon to be released *Queensland Guide to Traffic Management Part 10 Transport Control – Types of Devices*.
- Inclusion of new content to clarify the department's policy position on:
  - single and multiple frame messages
  - use of abbreviations
  - driver distraction
  - use of conspicuity devices, and
  - pictorial messages and symbols.

#### **Temporary Traffic Management (TTM) Training Updates**

Documents updated to reflect the changes in training requirements to meet the TTM new guidelines and practice in place including:

- Traffic Management Design Fact Sheet
- Traffic Management Design appeals process
- Traffic Management moving from restricted to open qualification
- Traffic Management Design Continuing Professional Development program
- Removal of Traffic Management Design and RPEQ document

## FUTURE UPDATES AND NEW RELEASES

### NEW SPECIFICATIONS

#### **NEW MRTS Key Result Areas – Principal Contractor specifications**

Applies to major and other designated projects. This document outlines the specifications to be delivered by Principal Contractors which include the development and implementation of KRA Management Plans and KRA monthly and final reporting requirements for the 5 designated KRAs and associated measures.

#### **NEW MRTS Key Result Areas– Contract Administration specifications**

Applies to major and other designated projects. This document outlines the specifications to be delivered by Contract Administrators and includes the development and implementation of KRA Management Plans and KRA monthly and final reporting requirements.

### NEW GUIDELINES, MANUALS, POLICIES TECHNICAL NOTES AND FORMS

#### **NEW QRSTUV: Guide to Safe System Assessment**

SSA is a tool that has been developed to assess the extent to which a proposed infrastructure project aligns with Safe System principles, with the objective to eliminate fatal and serious injuries.

### FUTURE UPDATES

#### **Technical Specifications**

- **MRTS14 Road Furniture** review and update to meet current project designs, delivery methods and available products regarding proprietary products and how contractors can use alternative products from design; the requirements for delineators and hold points for installation of proprietary products.
- **MRTS24 Manufacture of Precast Concrete Culverts** harmonisation and alignment to MRTS70 *Concrete and Austroads Technical Specification* ATS 2230.
- **MRTS25 Steel Reinforced Precast Concrete** harmonisation with Austroads Technical Specification ATS 2210 and removal of non-manufacture clauses.
- **MRTS52 Erosion and Sediment Control** update to accommodate release of new Technical Specification *Provisional Sum Method*.
- **MRTS53 Erosion and Sediment Control - Provisional Sum Method**
- Alternate erosion and sediment control to MRTS52.
- Developed to provide a standardised approach to high risk (environmentally) projects using a Provisional Sum method to pay for project temporary Erosion and Sediment Control (ESC) costs.
- **MRTS88 Protective Coating for New Work** update to provide more performance-based criteria and broaden the types of coatings that are covered.
- **MRTS92 Traffic Signal and Road Lighting Footings** review and update in conjunction with the revision of the suite of associated standard drawings.
- **MRTS200 General Requirements for Intelligent Transport Systems Infrastructure** update to clause 4.5 that all professional engineering services shall be undertake in accordance with the Queensland Professional Engineers Act.
- **MRTS211 Pedestrian Push Button** general review of the specification and inclusion of touchless sensor type to the specification, and touchless push buttons provide health benefits as well as better accessibility. Other updates clarify the technical requirements better and leads to quality products that last longer with high reliability

#### **Policies / Guidelines**

##### **Hazard Reduction Burns within the State-controlled Road Corridor**

Updates focus on greater clarity and explanation for external stakeholders to provide a consistent and standardised approach to bushfire management.

##### **Earth Bonding Retrofits for Pedestrian and Bicycle Pushbuttons**

Provides guidance and installation requirements necessary for the retrofitting of Pedestrian and bicycle pushbutton posts (stumpy posts) with protective earth bonding.

##### **Guideline Preparation Pavements for Resealing**

Guideline to assist project managers scope and program preparatory works prior to delivery or the annual road reseal program.

#### **Building Information Modelling (BIM) for Transport and Main Roads**

- Section 1.2 - Context to reflect current state, Section 2.5 - to provide clarity for procurement of BIM in different contract types, and the introduction of a TMR preferred BIM file naming convention in Section 7.3. Modifications have also been made to the Element Attribute Tables to reflect feedback from industry.
- This release also includes the introduction of a unique object code naming convention for road objects.

#### **Consultants for Engineering Projects Manual Infrastructure Sustainability**

- Amendments to functional specifications that point to the Infrastructure Sustainability v2.1 (Design and As-Built) Technical Manual/Rating Scheme that guides the delivery of sustainability assessments. The previous version of the Rating Scheme has been withdrawn.

#### **Queensland Manual of Uniform Traffic Control Devices (Queensland MUTCD) Part 15**

- General review to improve clarity.

#### **Contracts**

- **Transport Infrastructure Contract (TIC-CO, TIC-SI and TIC-DC)**
- **Minor Infrastructure Contract (MIC-CO and MIC-SI)**
- **Small Scale Minor Works Contract (SSMW)**

Updating Infrastructure documents align with the latest government policies, legislations and stakeholder feedbacks.

##### **Small Scale Minor Works Contract (SSMW)**

Remove reference to Energy and Public Works (EPW) as no longer required.

#### **Standard Drawings**

- **SD881 Cane Railway Crossings** - Asphalt Paved and Concrete updates to layer configuration.
  - Pole and Footing suite of drawings updates to **SD1380, SD1381, SD1382, SD1392, SD1393, SD1395, SD1396, SD1403, SD1429, and SD1684.**
  - **SD1615 Fauna Exclusion Fencing - Floppy Top Mesh Fence and Gate** update regarding gate arrangement and maintenance.
  - **SD1643, SD1644, SD1647, SD1650, SD1651, SD1653, SD1654.** review regarding proposed updated to **MRTS16 Landscape and Revegetation Works.**
- Review and update for currency:
- **SD1045 Revegetation - Treatment of Cut Batters**
  - **SD1116 Subsoil Drains - Outlets and Cleanouts**
  - **SD1178 Diversion of Water - Diversion of Water from Roadway and Table Drains**
  - **SD1359 Roadworks drainage culverts and geotechnical**
  - **SD1446 Kerb Ramp - Ramped Kerb Crossing**
  - **SD1468 Single Slope Concrete Barrier - Extruded Median Barrier - Barrier, Reinforcing and Expansion Joint Details**
  - **SD1736 Intelligent Transport System Symbols**

#### **Queensland Guide to Traffic Management (QGTM)**

##### **Part 10 Guideline Bicycle Awareness Zones guideline**

general review and restructure of content to assist with document clarity.

### APPROVED PRODUCTS AND REGISTER SUPPLIERS

The department's Approved Products and Registered Suppliers for infrastructure works are frequently updated. To see the status and how to register, view via [Approved Products and Registered Suppliers](#).

### DEFINITIONS

**SPECIFICATIONS and STANDARD DRAWINGS:** Rules and procedures by which a product, process or activity can be specified or defined.

**CONTRACTS:** The binding legal agreements between two parties.

**TECHNICAL NOTES:** Provide clarity or additional options not previously detailed in a specification, manual or guideline, or address emerging issues.

**MANUALS:** Technical information gathered into a single publication; discipline based.

**POLICY:** Provides a desired position and a guide for action.

**GUIDELINES:** Provide options on actions that will achieve optimal outcomes in line with Technical Standards.