



# 8503 Bus Stops and Shelters

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REVISION 07/02/2024

## 8503.1 Introduction

This Supplementary Specification refers to the supply and installation of bus shelters to new or existing bus stops in accordance with Mackay Regional Council standards, and the project Drawings.

This Specification does not refer to ancillary works to the bus stop (i.e. concrete footpaths, signage, tactile ground surface indicators) that are not associated with the bus stop and shelter works as indicated on the design plans

## 8503.2 Referenced Documents

This supplementary specification shall be read in conjunction with the following:

- MRS01 *“Introduction to Specifications”*;
- MRTS01 *“Introduction to Technical Specifications”*;
- MRS50 & MRTS50 *“Specific Quality System Requirements”*
- MRS70 & MRTS70 *“Concrete”*
- MRS05 & MRTS05 *“Unbound Pavements”*
- MRS03 & MRTS03 *“Drainage Structures, Retaining Structures and Embankment Slope Protections”*
- MRS04 & MRTS04 *“General Earthworks”*
- MRs14 & MRTS14 *“Road Furniture”*
- MRS11,12,20,21,22 & MRTS11,12,20,21,22 as applicable for seal treatment
- MRS30 & MRTS30 *“Asphalt Pavements”*
- MRC Supplementary Specification 8503.1 *“Bus Shelters Annexure”*
- MRC Supplementary Specification 8900, *“Saw Cutting Existing Surface”*
- DTMR *“Chapter 5: Bus stop infrastructure”*
- Mackay Regional Council Standard Drawings:
  - A3-859 *“Bus Shelter – Elevation & Details”*;
  - A3-860 *“Bus Shelter – Structural Notes & Slab Details”*;
  - A3-861 *“Bus Shelter – Double Sided - Elevation & Details”*;
  - A3-862 *“Bus Shelter – Double Sided - Structural Notes & Slab Details”*;
  - A3-863 *“Bus Stop Sign Details, J-Pole Style”*
  - A3-871 *“Bus Stops – Regular Stop”*;
  - A3-872 *“Bus Stops – Intermediate Stop”*;
  - A3-873 *“Bus Stops – Premium Stop”*;
  - A3-874 *“Bus Stops – Signature Stop”*;
  - A3-875 *“Bus Stops – Rural Bus Stop”*;
  - A3-876 *“Bus Stops – Indented Bus Bay”*;



- A3-10345 “Bus Stops - Minimum Boarding Point”; and
- the project Drawings.

### 8503.3 Description of Work

Work items incorporated by this supplementary specification are identified in Section 8503.6 and 8503.7 with individual activities/tasks for measurement and payment sourced from the Bill of Quantities and listed in MRC Supplementary Specification Annexure 8503\_1 Bus Stops and Shelters Section 1

### 8503.4 Quality Systems Requirements

#### 8503.4.1 Std Test Methods (Testing Regime)

The following minimum testing regime applies to this specification:

Unless otherwise stated the manufacturer certification of the bus shelter shall form the basis of the requirements, including Form 15 as required.

Civil works activities associated with the subgrade/floor of excavation, concrete pours, drainage installation, subbase and base courses, and seal surfacing shall be tested as per the relevant MRTS specification MRTS03, MRTS04, MRTS05, MRTS11/12/19/20/21/22, MRTS30, and MRTS70 unless otherwise approved by the Superintendent.

#### 8503.4.2 Hold Points, Witness Points and Milestones

The following table represents the minimum inspection requirements for this specification;

Activity	Inspection Type	When
Construction Procedure and other submissions as required by Clause 8503.5	Milestone	4 Weeks prior to works commencing
Seal design	Hold Point	14 days prior to pavement proof roll
Inspection of delivered items	Hold Point	At delivery time for each item.
Final location of shelter and site works extents	Hold Point	During site survey layout.
Excavation of material	Witness Point	At completion of excavation
Bed/Subgrade Excavation Floor proof roll	Hold Point	At completion of excavation and compacting
Base of drainage culverts trench (as required)	Hold Point	After excavation of trench
Bedding for culverts (as required)	Hold Point	Prior to laying culverts
Culverts in laid and embedded (a required)	Witness Point	Prior to commencing backfilling operations
Backfilling of culverts (as required)	Witness Point	After approval to proceed with backfilling
Formwork and reinforcing prepour Inspection	Hold point	Prior to concrete pour proceeding
Approval to strip formwork	Hold Point	After 70% strength gain



Approval to backfill to slab	Hold Point	7 days after stripping and prior to installation of base course against kerb
Installation of shelter, seats, panels, fencing, and TGS's	Witness Point	After all other site works are completed and prior to clean up and turfing disturbed areas
Base course proof roll	Hold Point	After compaction
Pavement seal	Hold Point	Prior to sealing of pavement
Asphalt works	Witness point	After primer seal has been carried out and approval to proceed given
Signage and linemarking installation	Hold Point	Approval to proceed 48 hours after seal works
Works as Executed documentation	Hold Point	4 weeks prior to practical completion being requested.

### 8503.4.3 Construction Tolerances

Unless otherwise approved by the Superintendent the following construction tolerances shall apply to this Specification;

The construction activity outcome shall not depart from the widths, lengths, heights, and shapes specified by the relevant specifications as applies to this specification;

- Concrete tolerances in accordance with MRTS70 Concrete.
- Earthworks tolerances in accordance with MRTS04 General Earthworks.
- Bedding, laying, and backfill to culvert tolerances in accordance with MRTS03
- Pavement tolerances in accordance with MRTS05 Unbound Pavement

Tolerances specific to the project are detailed on the design drawings and are included in Clause 2 of MRC Supplementary Specification Annexure 8503\_1 Bus Stops and Shelters

### 8503.5 Preliminary

The Contractor is to submit the following documentation 4 weeks prior to commencing work or a prestart is conducted. (MILESTONE):

- Works procedure
- Erosion and Sediment Plan (as required for site/s)
- Traffic Management Plan and TGS's
- Seal Design

Other requirements unique to the project will be listed in the MRC Supplementary Specification Annexure 8503\_1 Bus Stops and Shelters (MILESTONE)

#### 8503.5.1 Materials

Bus shelters must be supplied from Council's preferred supplier and comply with Council's requirements unless otherwise approved by the Superintendent.

Supply of all materials to site is the responsibility of the Contractor at their cost, where items are Principal supplied the nominated storage site shall be obtained from MRC Supplementary Specification Annexure 8503\_1 Bus Stops and Shelters Section 3 and shall be the point of supply.



Where existing shelters, seats, panels, and signage are to be salvaged unless instructed otherwise by the Superintendent MRC Supplementary Specification Annexure 8503\_1 Bus Stops and Shelters Section 4 will detail the items to be salvaged and the nominated storage site. This will also include any reuse of existing items.

All civil items and materials shall be supplied in accordance with their relevant MRTS Specification.

## **8503.6 Construction**

This section lays out the works operations with more detail based on specific requirements of this supplementary specification. Some activities may appear to include items which are stated within other specifications, the purpose is to reinforce that requirement specific to this supplementary specification.

### **8503.7.1 Work Operations**

Work operations incorporated in this item will include:

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

**b) Supply of all materials;**

All materials, plant, and labour required to carry out the works under this Specification is to be supplied by the Contractor, where the shelter and furniture is Principal supplied the designated storage site will be the point of supply for the purposes of this Specification.

All items shall be inspected at delivery to site prior to use. Any items which are damaged are not to be used and are to be returned to the supplier. (HOLD POINT)

**c) Site layout with Superintendent**

The final location of the footing (including slab as required) is to be marked out on site and shall be inspected and approved by an MRC representative prior to excavation commencing, also reviewing as required drainage culvert installation/s and drainage from the crossfall of the road. (HOLD POINT)

**d) Carrying out excavations;**

Excavation of material to level and grade as per design drawings, vertical tolerances shall not exceed +5mm/-10mm.

Localised foundation excavation shall occur at the location of the kerb ramp to ensure the kerb ramp and its “flairs” have a minimum 215mm concrete thickness unless otherwise approved by the Superintendent.

Where drainage culverts are required as set out in the design plans excavation shall be carried out in accordance with the requirements of MRTS03, with inspections, geotechnical testing and geometric requirements apply unless stated otherwise in MRC Supplementary Specification Annexure 8503\_1 Bus Stops and Shelters

Road pavement or shoulder to be excavated to design drawing levels and grades unless otherwise approved by Superintendent due to site constraints and pavement drainage requirements.

Where existing sealed pavement is required to be saw cut this shall be carried out in accordance with MRC Supplementary Specification 8900 – Saw cutting existing surface.



Bed/Subgrade is to be inspected for areas of unsuitable material (HOLD POINT)

If unsuitable material is identified this is to be removed and replaced with approved material as per the instructions of the Superintendent

**e) Utilising or disposing of excavated material;**

Excess excavated materials shall be disposed of by the contractor or utilised as per Superintendents instructions. Material stockpiled shall ensure that all Environmental ESC measures are in place and maintained.

**f) Bottom of Excavations**

All loose material is to be removed from footings and/or slab bed and pavement subgrade.

Bed/subgrade preparation is to be carried out as per MRTS04 and is to be presented for inspection and proof roll for the Superintendent with inspections, geotechnical testing and geometric requirements applying unless stated otherwise in MRC Supplementary Specification Annexure 8503\_1 Bus Stops and Shelters. (HOLD POINT)

Where a slab is required as per design drawings to be constructed on ground surfaces or foundation bedding a Polythene Sheeting is to be laid in accordance with MRTS70.

**g) Installation of Drainage Culverts (where required)**

Where drainage culverts are required as set out in the design plans, the bedding, laying, and backfilling of culverts shall be carried out in accordance with MRTS03, with inspections, geotechnical testing and geometric requirements applying unless otherwise stated in MRC Supplementary Specification Annexure 8503\_1 Bus Stops and Shelters. (HOLD POINT)

**h) Installation of footings and concrete slab (to bus shelter area only), in accordance with MRC standard drawings;**

All concrete works associated with the footings and slab of the bus stop shall be carried out in accordance with MRTS70, MRC standard drawings, and the design drawings with inspections, geotechnical testing and geometric requirements applying unless otherwise in MRC 8503.1 Bus Shelters Annexure. (HOLD POINT).

Where the kerb ramp (Type "A") and associated "flares" are located localised thickening shall be carried out to ensure the minimum depth of concrete is 215mm, formwork and steel reinforcing shall be installed to reflect this thickening.

**i) Pavement works (where required)**

Supply, laying, compaction, and trimming of unbound pavement shall be carried out as per MRTS05 and design drawings.

At the time of the proof roll the pavement is to be presented for inspection by the Superintendent. Crossfall and pavement drainage are to be inspected to ensure no ponding of water will occur against the bus stop slab. (HOLD POINT)

Finished pavement surface shall be trimmed and finished to +/- 5mm's against bus stop/shelter slab

Seal design is to be submitted to MRC 14 days prior to pavement proof roll being requested. (HOLD POINT)



Seal works are to be carried out as per the relevant MRT Specification and design drawings unless otherwise directed by the Superintendent, inspection of surface by the Superintendent prior to seal works commencing shall be carried out. (HOLD POINT)

The Superintendent shall give the approval to proceed with Asphalt works after the required time has lapsed after primer seal (HOLD POINT), with the asphalt to be laid and compacted to the requirements of MRTS30 (WITNESS POINT)

Line marking and signage shall be carried out in accordance with MRTS14 and the design drawings unless otherwise directed by Superintendent. (HOLD POINT)

**j) Erection of frame and roofing members to be in accordance with MRC standard drawings, and manufacturer instructions;**

Installation of bus shelter frame, roofing, and panels shall be carried out in accordance with MRC Std Drawings and project drawings, in the absence of details on the project drawings the Manufacturers drawings, specification and requirements shall apply. (WITNESS POINT)

**k) Installation of seating in accordance with MRC standard drawings;**

Installation of bus shelter seating shall be carried out in accordance with MRC Std Drawings and project drawings, in the absence of details on the project drawings the Manufacturers drawings, specification and requirements shall apply. (WITNESS POINT)

**l) Installation of bus stop/shelter signage in accordance with MRC standard drawings**

Installation of bus stop/shelter signage shall be carried out in accordance with MRC Std Drawings and project drawings including Tactile Ground surface indicators (TGS), J-pole with signage installation as required by individual location/s. (WITNESS POINT)

**m) Clean up, backfilling, and turfing;**

Any disturbed areas are to be backfilled, turfed, and made good. The site is to be cleaned of all debris, excavated material, and construction materials

## **8503.7 Post construction**

**a) Collection and submission of all As Constructed data including QA data requirements.**

Contractor is to supply and submit Works as Executed documentation as required by *MRC D20 - Drawings and Documentation* for approval by the Superintendent 4 weeks prior to requesting a practical completion inspection.

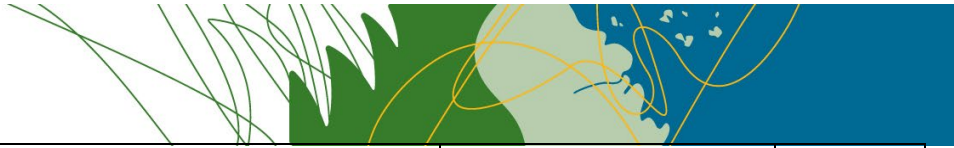
Certification of works including Form 16 shall be submitted with the “Works as Executed” Plans and documentation.

Format of submitted “As Constructed” documentation shall be compliant with MRC Supplementary Specification 8919.

## **8503.8 Measurement and Payment**

Provision for these works shall be included in the scheduled unit rate for the items show in Clause 8503.3 of this Supplementary Specification and Annexure. No separate payment will be made for the works specified within this Supplementary specification or it’s annexure.

Version Control:



<b>Version</b>	<b>Description</b>	<b>Reviewed / Endorsed</b>	<b>Date</b>
1.0	Original issue		23.11.2021
2.0	Review of specification	C. Sultana	07.02.2024