

Station Furniture – Train System

Engineering Standard

Rail Commissioner

AR-PW-PM-SPE-00129007 (D066)

DOCUMENT CONTROL

Document Status

DOCUMENT OWNER			
Action	Name and Position	Signature	Date
Prepared By:	Name: Sophie Wilkinson Title: Undergraduate Civil Engineer		<u>28/02/2020</u>
Reviewed By:	Name: Royce Mariadas Title: Team Leader Civil Engineering		<u>28/02/2020</u>
Approved By:	Name: Mark Pronk Title: Unit Manager Track & Civil Engineering		<u>28/02/2020</u>
Document Review Schedule:		This document is due for review <28/02/25>	

(Document review cycle is every 5 years or as required)

Document Amendment Record

REVISION	CHANGE DESCRIPTION	DATE	PREPARED	REVIEWED	APPROVED
0	Initial issue	Feb 2011	Josh Ward	Doug Gillot	Rob Taverner
1	Changes in various sections	July 2012	Kuldeep Zala	Keith Charlton	Rob Taverner
2	Document number change	July 2013	Kuldeep Zala	Keith Charlton	Rob Taverner
3	Station standards update	July 2019	Sophie Wilkinson	Royce Mariadas	Mark Pronk
4	Minor amendments	Feb 2020	Sophie Wilkinson	Royce Mariadas	Mark Pronk

TABLE OF CONTENTS

1. Introduction	4
2. Purpose	4
3. Scope	4
4. Related Documents	4
5. References	4
6. Acronyms	4
7. Design Requirements	4
7.1. Minimum Furniture Requirements.....	4
7.2. Furniture Locations	5
7.2.1. Platforms	5
7.2.2. Integrated Bus/Rail Platforms	6
7.2.3. Car Parks	6
7.2.4. Access Paths.....	6
7.2.5. Restricting Vehicle Movements.....	6
7.3. Furniture Design and Specification	6
7.3.1. General Requirements.....	6
7.3.2. Material Selection	6
7.3.3. Detailing	7
8. Furniture	7
8.1. Seats	7
8.2. Lean Rails.....	7
8.3. Litter Bins.....	7
8.4. Bollards	7
9. Fixing	8
9.1. Furniture	8
9.1.1. Concrete Structures.....	8
9.1.2. Other Structures	8
9.2. Bollards	8
10. Materials and Finishes	8

1. Introduction

The Department of Planning, Transport and Infrastructure (DPTI) operates and maintains the Adelaide Metropolitan Passenger Rail Network (AMPRN) under the Rail Accreditation assigned to the Rail Commissioner. There are approximately 89 train stations serving the AMPRN.

2. Purpose

The purpose of this standard is to specify the design requirements, selection, siting and fixing of platform furniture at the station precinct. This standard should be read in conjunction with the remainder of the DPTI Station Standards for the Train System, as listed in DPTI Master Specification Part RW-STS-D1 Stations.

3. Scope

This standard applies to all new furniture on DPTI train stations and station precincts.

Furniture defined in this standard includes, but is not limited to, seats, lean rails, litter bins and bollards.

4. Related Documents

DOCUMENT NAME	DOCUMENT NUMBER
Standard Drawing Seat and Lean Rail Details	CS1-DRG-361817
Standard Drawing Litter Bin and Bollard Details	CS1-DRG-361818
Standard Drawing Station Platform General Layout	CS1-DRG-361819
Standard Drawing Standard Amenity Shelter for Marginal Platform General Layout	CS1-DRG-361820
Standard Drawing Standard Amenity Shelter for Island Platform General Layout	CS1-DRG-361821
Station Precinct Concept – Platform TGSIs & Pavement Marking Layout	S7071 sheet 21

5. References

- AS 1428 Design for Access and Mobility
- AS 2700 Colour Standards for General Purpose
- AS 2890 Parking Facilities

Legislative Requirements

- *Disability Standards for Accessible Public Requirements (DSAPT)*

6. Acronyms

ACRONYM	FULL NAME
AMPRN	Adelaide Metropolitan Passenger Rail Network
DPTI	Department of Planning, Transport and Infrastructure
DSAPT	Disability Standards for Accessible Public Transport

7. Design Requirements

Furniture shall have a minimum design life of 30 years.

7.1. Minimum Furniture Requirements

Table 7.1 details the minimum furniture requirements at Standard Amenity Stations and Enhanced Amenity Stations. Any variations to the provisions below shall be approved by the Unit Manager Track and Civil Engineering.

	STANDARD AMENITY STATION			ENHANCED AMENITY STATION		
	SEATS	LEAN RAILS	LITTER BINS	SEATS	LEAN RAILS	LITTER BINS
Up-track	6	4	3	10	5	3
Down-track	3	3	3	5	5	3
Car Parks	0	0	1	0	0	1
Combined Bus/Rail Interchanges	1 per bus stop	0	1 per bus stop	1 per bus stop	0	1 per bus stop
Bus Shelter	1 per bus stop	0	1 per bus stop	1 per bus stop	0	1 per bus stop
Accessible paths	1 per 60 m	0	Optional	1 per 60 m	0	Optional

Furniture Requirements at Stations

Bollards are to be installed as required, where there is deemed a need to restrict vehicle movement around the station precinct.

Island platforms and platforms with bi-directional track shall meet the combined furniture requirements from Table 7.1 of both up and down track for seating. For lean rails and litter bins, only up-track requirements need to be met.

7.2. Furniture Locations

Furniture shall be located:

- so as not to present a hazard to people with impaired vision;
- a minimum horizontal distance of 1 000 mm from the edge of the roof line of adjacent structures such as shelters and toilet facilities; and
- such that the front edge of any seats and lean rails shall preferably be set back a minimum of 500 mm from the primary access path.

Litter bins shall be located in such a way that they do not intrude onto accessible paths of travel or maneuvering areas while permitting easy access for emptying. Litter bins should not be located underneath the shelter roof.

7.2.1. Platforms

Platform furniture shall be located in the Physical Structure Zone and as shown on Drawings CS1-DRG-361819, CS1-DRG-361820, CS1-DRG-361821 and S7071 sheet 21.

Seats provided outside of the shelter structure may be 'back to back' units on island or integrated bus/rail platforms.

Station litter bins shall be provided on each platform as follows:

1. one at each platform access point; and
2. one adjacent to the shelter, or in the case of an Enhanced Amenity Station, central to the shelter.

7.2.2. Integrated Bus/Rail Platforms

Where there is an integrated bus/rail platform the minimum seat allocation per platform is shared with the interchange at a rate of one seat per bus stop. One additional litter bin shall be provided per bus stop.

7.2.3. Car Parks

For stations with adjoining car parks an additional litter bin shall be provided at the main customer exit and/or entry point(s) of the car park, adjacent to the access path.

7.2.4. Access Paths

An additional seat shall be provided at resting points in accordance with Disability Standards for Accessible Public Transport (DSAPT). Litter bins adjacent access paths shall not intrude into the access path.

7.2.5. Restricting Vehicle Movements

Impact absorbing bollards shall be provided where there is deemed a need to restrict vehicle movement within the station precinct including:

1. preventing vehicle access to platforms;
2. protecting rail infrastructure / equipment;
3. protecting utility services; and
4. the shared area between dedicated parking spaces for people with disabilities in accordance with AS/NZS 2890:6.

7.3. Furniture Design and Specification

7.3.1. General Requirements

Furniture shall meet the following criteria:

1. suitable for people with disabilities in accordance with DSAPT and AS 1428 Design for Access and Mobility;
2. form part of a unique architectural suite of transport specific fittings, in order to assist with AMPRN wide corporate branding; and
3. easily removed and replaced by way of supports and attachments being of consistent size, spacings and locations.

7.3.2. Material Selection

Materials shall utilise base material finishes such as a galvanised steel or stainless steel matte (brush) finish. Other materials and finishes may be acceptable subject to the approval of the Unit Manager Track and Civil Engineering and provided that they have a minimum 30 year design life with minimal maintenance.

All metal finishes shall have no sharp edges, be de-burred, smooth and shall provide a minimum radius of 3mm.

Furniture shall be fabricated of material that meets the following criteria:

1. robust;
2. easily maintained and durable; and
3. maximises performance and longevity.

7.3.3. Detailing

Furniture shall incorporate the following construction detailing:

1. simple whilst facilitating rapid repair, removal and replacement as required;
2. highly resistant to vandalism and damage through either impact damage, flame damage, scratching or engraving damage and graffiti;
3. excludes small channels or crevices to minimise holding of water and stuffing of refuse or rubbish;
4. simple planar surfaces, thus facilitating ease of cleaning and removal of stickers and graffiti rather than containing difficult crevices which hamper easy maintenance;
5. limited "rail" lengths to discourage skateboarding and similar activities; and
6. have no sharp edges or pinching points.

8. Furniture

8.1. Seats

Seats shall comply with CS1-DRG-361817 Standard Drawing Seat and Lean Rail Details.

8.2. Lean Rails

Lean rails shall comply with CS1-DRG-361817 Standard Drawing Seat and Lean Rail Details.

8.3. Litter Bins

Litter bins shall comply with CS1-DRG-361818 Standard Drawing Litter Bin and Bollard Details and the following:

1. be locked with an "M" Padlock;
2. have a removable 140L wheelie bin insert; and
3. the door opening shall not face the track.

8.4. Bollards

Bollards shall comply with CS1-DRG-361818 Standard Drawing Litter Bin and Bollard Details. Bollards shall be lockable/ removable where authorised vehicle access is required but public vehicle access is not permitted.

9. Fixing

9.1. Furniture

9.1.1. Concrete Platforms

Furniture support posts shall not be cast into concrete. Furniture shall be fixed using chemical anchor fixings.

9.1.2. Other Surfaces

Furniture installed on other surfaces, including asphalt surfaces and unsealed surfaces, shall be mounted on a new concrete footing/plinth.

The colour of the concrete for concrete footings/plinths for furniture shall be grey within the following colour range in accordance with AS 2700:

1. lightest tone – Dark Grey (N64); and
2. darkest tone – Graphite Grey (N65).

9.2. Bollards

Bollards shall be installed in accordance with the manufacturer's specifications.

Options for bollard installation include:

1. removable;
2. impact absorbing;
3. casting into a concrete footing; and
4. base plate with chemical anchor fixings.

10. Materials and Finishes

The following table details the materials and finishes that shall be used for furniture in the Station Precinct.

ELEMENT	MATERIAL	FINISH
Seat planks and back rests	2mm thick Grade 316L Stainless steel	Matte (brush) - unpainted
Seat arm rests	Hot dip galvanised steel	galvanised
Lean rail planks	2mm thick Grade 316L Stainless steel	Matte (brush)– unpainted
Seat and lean rail support posts	Hot dip galvanised steel	Galvanised
Seat and lean rail frame	Hot dip galvanised steel	Galvanised
Litter bins	1.6mm thick Grade 316L Stainless steel	Matte (brush)– unpainted
Bollards	Grade 316L Stainless steel	Matte (brush) - unpainted
Base plates for furniture	Hot dip galvanised	Galvanised