Master Specification
Part RW-STS-D1

Rail Stations and Tram Stops

July 2025

Government of South Australia
Department for Infrastructure and Transport

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RW-STS-D1 Rail Stations and Tram Stops

1 General

a) This Master Specification Part sets out the requirement for the design of rail stations, tram stops and related amenities including bus interchanges, car parks, pedestrian crossings, and bicycle facilities including:

i) the documentation requirements, as set out in section 2;

ii) the landscape and urban design requirements, as set out in section 3;

iii) the requirements to comply with the disability Laws and standards, as set out in section 4;

iv) the crime prevention through environmental design (CPTED) requirements, as set out in section 5;

v) the stormwater drainage requirements, as set out in section 6;

vi) the earthing and bonding requirements, as set out in section 7;

vii) the platform requirements, as set out in section 8;

viii) the overpass requirements, as set out in section 9;

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xx) the security and terrorism requirements, as set out in section 21;

xxi) the passenger information system requirements, as set out in section 22;

xxii) the equipment room requirements, as set out in section 23;

xxiii) the landscaping requirements, as set out in section 24;

xxiv) the luminance and contrast requirements, as set out in section 25;

xxv) the asset ownership and maintenance requirements, as set out in section 26; and

xxvi) the requirements for construction specification as set out in section 27.

b) The Contractor must ensure that:

i) chainages at rail stations are based on the rail track chainages; and

ii) chainages at tram stops are based on the markers on the OHWS.

c) The Contractor must design the elements of the rail station or tram stop to be installed with minimum interference to railway or tram operations.

d) Where it is proposed that the rail stations and related amenities design cannot meet a rail engineering standard specified by the Rail Commissioner, approval must be obtained for a engineering waiver in accordance with PC-RW30 “Design”.

e) The track and civil Final Design Documentation Hold Point must be released in accordance with RW-TC-D1 “Track and Civil” before any rail station, or tram stop or related amenities construction is undertaken.

f) The design of rail stations, tram stops and related amenities must comply with the Reference Documents, including:

i) AGRD Part 6 Roadside design, safety and barriers;

ii) AR-PW-PM-SPE-00129002 PTS - RAIL - EMS - D061 - Design-Stations-Earthing and bonding;

iii) AR-PW-PM-SPE-00129003 Station Platforms - Train System - D062;

iv) AR-PW-PM-SPE-00129004 Station Overpasses - Train System - D063;

v) AR-PW-PM-SPE-00129005 Station Shelters - Train System - D064;

vi) AR-PW-PM-SPE-00129006 Station Pedestrian Access - Train System - D065;

vii) AR-PW-PM-SPE-00129007 Station Furniture - Train System - D066;

viii) AR-PW-PM-SPE-00129008 Station Toilet Facilities - Train System - D067;

ix) AR-PW-PM-SPE-00129009 Station Fencing - Train System - D068;

x) AR-PW-PM-SPE-00129010 Station Signage and Pavement Marking -Train System - D070;

xi) AR-PW-PM-SPE-00129011 Station Bus Interchanges - Train System - D071;

xii) AR-PW-PM-SPE-00129012 Station Parking - Train System - D072;

xiii) AR-PW-PM-SPE-00129013 Station Bicycle Facilities - Train System - D073;

xiv) AR-PW-PM-SPE-00129014 Design - Stations - Electrical Infrastructure - D074;

xv) AR-PW-PM-SPE-00129016 PTS - RAIL - EMS - D076 - -Design-Stations-Passenger information systems;

xvi) AR-PW-PM-SPE-00129018 PTS - RAIL - EMS - D078 - Design-Stations-Landscaping;

xvii) AS 1428.1:2001 Design for access and mobility, Part 1: General requirements for access - New building work;

xviii) AS 1428.2:2001 Design for access and mobility, Part 2: Enhanced and additional requirements - Building and facilities;

xix) AS 1428.4.1:2001 Design for access and mobility, Part 4.1: Means to assist the orientation of people with vision impairment - Tactile ground surface indicators;

xx) AS 1428.4.2:2001 Design for access and mobility, Part 4.2: Means to assist the orientation of people with vision impairment - Wayfinding signs;

xxi) AS 1428.5:2001 Design for access and mobility, Part 5: Communication for people who are deaf or hearing impaired;

xxii) AS 1735.12 Lifts, escalators and moving walks, Part 12: Facilities for persons with disabilities (EN 81-70:2018, MOD);

xxiii) AS 1742 Manual of uniform traffic control devices;

xxiv) AS 2890.5 Parking facilities, Part 5: On-street parking;

xxv) AS 2890.6 Parking facilities, Part 6: Off-street parking for people with disabilities;

xxvi) AS 3500.3 Plumbing and drainage, Part 3: Stormwater drainage;

xxvii) AS 4586 Slip resistance classification of new pedestrian surface materials;

xxviii) AS EN 301 549 Accessibility requirements for ICT products and services;

xxix) CE5-DOC-003514 - Public Transport Standard: Equipment Room;

xxx) CE5-DOC-003514 Public Transport Standard Equipment Room - Engineering - Design;

xxxi) CS2 DOC 003449 Tram Stop Landscaping Tram System;

xxxii) CS1-DOC-001218 Drainage - Train Systems;

xxxiii) CS1 DOC 000454 Fencing and Gates for Rail Corridors and Facilities;

xxxiv) CS1-DOC-002336 Lifts for public transport infrastructure engineering specification;

xxxv) CS2 DOC 003441 Tram Stop Platforms Tram System;

xxxvi) CS2 DOC 003442 Tram Stop Overpass Tram System;

xxxvii) CS2 DOC 003443 Tram Stops Shelters Tram System;

xxxviii) CS2 DOC 003444 Tram Stop Furniture Tram System;

xxxix) CS2 DOC 003445 Tram Stops Signage and Pavement Marking Tram System;

xl) CS2 DOC 003448 Tram Stops Bicycle Facilities Tram Systems;

xli) CS2-DOC-003469 - Drainage - Tram system;

xlii) CS2 DOC 003518 Tram Stop Pedestrian Access Tram System;

xliii) CS4-DOC-000446 Technical Standard for Pedestrian Crossings;

xliv) CS5 DOC 003511 Public Transport Standard Electrical Infrastructure Engineering Design;

xlv) Disability (Access to Premises - Buildings) Standards;

xlvi) Disability Standards for Accessible Public Transport 2002 (DSAPT);

xlvii) Office for Design and Architecture SA 'Principles of good design';

xlviii) PI4-DOC-000897 Engineering specification - Public transport infrastructure security systems;

xlix) PI5-DOC-003512 Public Transport Standard - Security Systems - Design - Engineering; and

l) PI6-DOC-003515 Public transport standard bus and tram passenger information.

g) The design of rail stations, tram stops and related amenities must be undertaken in accordance with PC-RW30 “Design” and PC-EMD1 “Design Management”.

2 Documentation

2.1 Design Documentation

In addition to the requirements of PC-EDM1 “Design Management” and PC-RW30 “Design”, the Design Documentation must include:

a) the statement of compliance from a disability access consultant, as required by section 4e)iii);

b) details of the CPTED risk workshop as required in section 5c);

c) evidence of Approvals as required in section 6d);

d) the method of concealment of bonding connections required by section 7b);

e) the allowable construction, maintenance and access loads on structures as required by section 8b);

f) approval from the relevant Utility Service Authority in relation to the installation of protection of existing Utility Services relevant to overpasses as required by section 9b);

g) details of non-standard sign, as required in section 16c);

h) details of bus only areas as required in section 16d);

i) evidence of compliance with the pavement marking performance requirements set out in section 16e);

j) final security level as required in section 21b);

k) a statement of compliance with the Disability Standards for Accessible Public Transport 2002 (as DSAPT) required by section 25b); and

3 Landscape and urban design

a) The design of rail stations, tram stops and related amenities must be undertaken in accordance with PR-LS-D1 “Landscape and Urban Design” or PR-LS-D2 “Landscape General” (as applicable) and PR-PF-D1 "Designing for Accessibility".

b) The Contractor must ensure:

i) all rail stations, tram stops and related amenities are developed to provide good landscape and urban design outcomes to ensure that the environs are functional, safe, comfortable, accessible and inclusive as well as taking into consideration the relationship to the local community and site character;

ii) the urban design is integrated with technical aspects to provide a holistic response with a focus on delivering places for people that are desirable to use; and

iii) rail stations, tram stops and related amenities have a well-defined identity, are integrated into and well connected to the surrounding environment and provide opportunities to reflect the local identity of the community they serve.

4 Compliance with disability Laws and standards

a) For the purpose of designing disability access to rail stations, tram stops and related amenities, the descending order of precedence of the Reference Documents is:

i) Disability Standards for Accessible Public Transport 2002 (DSAPT);

ii) Disability (Access to Premises - Buildings) Standards 2010;

iii) AS 1428 Design for access and mobility;

iv) relevant Departmental standards and codes of practices; and

v) other applicable Australian Standards, including:

A. AS 1428.1:2001 Design for access and mobility, Part 1: General requirements for access - New building work;

B. AS 1428.2:2001 Design for access and mobility, Part 2: Enhanced and additional requirements - Building and facilities;

C. AS 1428.4.1:2001 Design for access and mobility, Part 4.1: Means to assist the orientation of people with vision impairment - Tactile ground surface indicators;

D. AS 1428.4.2:2001 Design for access and mobility, Part 4.2: Means to assist the orientation of people with vision impairment - Wayfinding signs;

E. AS 1428.5:2001 Design for access and mobility, Part 5: Communication for people who are deaf or hearing impaired;

F. AS 1735.12 Lifts, escalators and moving walks, Part 12: Facilities for persons with disabilities (EN 81-70:2018, MOD);

G. AS 2890.5 Parking facilities, Part 5: On-street parking;

H. AS 2890.6 Parking facilities, Part 6: Off-street parking for people with disabilities;

I. AS 4586 Slip resistance classification of new pedestrian surface materials; and

J. AS EN 301 549 Accessibility requirements for ICT products and services.

b) The current Australasian Requirements Commission Temporary Exemptions to the DSAPT is not applicable.

c) Where an existing site constraint results in a non-compliance to the applicable accessibility standards, the Contractor must comply with the non-compliance requirements in PR-PF-D1 “Designing for Accessibility”.

d) The Contractor must engage an access consultant throughout the design process.

e) The access consultant required by section 4d) must:

i) provide advice and input on designs on matters related to accessibility;

ii) progressively verify accessibility requirements and compliance with DSAPT and Disability (Access to Premises - Buildings) Standards 2010 at each design phase for the Works;

iii) provide a statement in the Design Documentation, prior to Design Drawings being Issued for Construction, that the Works comply with DSAPT, including the luminance and contrast requirements set out in section 25, and Disability (Access to Premises - Buildings) Standards;

iv) validate accessibility requirements through site audits; and

5 Crime prevention through environmental design

a) The Contractor must ensure that safety principles relating to CPTED are considered in the design of rail stations, tram stops and related amenities in accordance with PR-LS-D1 “Landscape and Urban Design”, PR-LS-D2 “Landscape Design” and a broader assessment of crime and risk.

b) Where a rail station or tram stop is considered high risk in terms of crime, consultation with the relevant Council must be undertaken on ways to minimise the risk, including working with council to make security and CPTED improvements on adjacent land.

c) The Contractor must convene a risk workshop with SAPOL and the Principal to identify risk attributable to the Works and to provide an independent view of the proposed design of the rail station, tram stop and related amenities. Outcomes and recommendations of the risk workshop must be provided in the Design Documentation.

6 Stormwater drainage

a) The Contactor must design stormwater drainage for rail stations, tram stops and related amenities in accordance with:

i) CS2-DOC-003469 - Drainage - Tram system;

ii) CS1-DOC-001218 Drainage - Train Systems;

iii) AR-PW-PM-SPE-00129003 Station platforms - Train system - D062;

iv) CS2 DOC 003441 Tram Stop Platforms Tram System; and

v) AS 3500.3 Plumbing and drainage, Part 3: Stormwater drainage.

b) The Contractor must ensure the stormwater systems are directed into landscaped areas where possible and otherwise into drainage systems.

c) Stormwater must not flow into or impact the rail formation.

d) The Contractor must obtain all necessary Approvals relating to the rail station or tram stop precinct drainage design in accordance with AS 3500.3 Plumbing and drainage, Part 3: Stormwater drainage and submit evidence of the Approvals in the Design Documentation.

7 Earthing and bonding

a) The Contractor must design the earthing and bonding for rail stations, tram stops and related amenities in accordance with AR-PW-PM-SPE-00129002 PTS - RAIL - EMS - D061 - Design-Stations-Earthing and bonding to allow for current or future electrification.

b) The Design Documentation must include details of the method of concealment of bonding connections.

8 Platforms

a) The Contractor must design platforms:

i) for rail stations in accordance with AR-PW-PM-SPE-00129003 Station platforms - Train system - D062; and

ii) tram stops in accordance with CS2 DOC 003441 Tram Stop Platforms Tram System.

b) The Contractor must determine allowable construction, maintenance and access equipment loads that can be applied to platform structures and specify these loads in the Design Documentation.

9 Overpasses

a) The Contractor must design overpasses for:

i) rail stations and related amenities in accordance with AR-PW-PM-SPE-00129004 Station overpasses - Train system - D063; and

ii) tram stops and related amenities in accordance with CS2 DOC 003442 Tram Stop Overpass Tram Systems.

b) In addition to the requirements of PC-US1 “Utility Services”, existing Utility Services that are to remain in place must be protected from loads during and post construction. The Contractor must obtain Approval from the relevant Utility Service Authority in relation to the design of protection of existing Utility Services to be undertaken by the Contractor and must provide a copy of the Approval to the Principal as part of the Design Documentation.

10 Lifts

The Contractor must design lifts for rail stations, tram stops and related amenities in compliance with CS1-DOC-002336 Lifts for public transport infrastructure engineering specification.

11 Shelters

a) The Contractor must design shelters for rail stations and related bus interchanges in accordance with AR-PW-PM-SPE-00129005 Station Shelters - Train System - D064.

b) The Contractor must design shelters for tram stops in accordance with CS2 DOC 003443 Tram Stops Shelters Tram System.

c) The shelters required by sections 11a) and 11b) must provide passengers with shelter from the elements including sun, wind and rain at all times.

d) Bus shelters must be designed in accordance with RD-PT-D1 “Bus Infrastructure Design”.

12 Pedestrian access and maze ways

The Contractor must design pedestrian access and maze ways at rail stations, tram stops or along the Rail Corridor in accordance with:

a) AR-PW-PM-SPE-00129006 Station Pedestrian access - Train System - D065;

b) CS4-DOC-000446 Technical Standard for Pedestrian Crossings; and

c) CS2 DOC 003518 Tram Stop Pedestrian Access Tram System.

13 Furniture

The Contractor must design furniture:

a) at rail stations and related amenities including seating, bins, bollards and lean rails in accordance with AR-PW-PM-SPE-00129007 Station Furniture - Train System - D066; and

b) for tram stops in accordance with CS2 DOC 003444 Tram Stop Furniture Tram System.

14 Toilet facilities

The Contractor must design toilet facilities for rail stations and related amenities in accordance with AR-PW-PM-SPE-00129008 Station Toilet Facilities - Train System - D067.

15 Fencing

The Contractor must design fencing:

a) for rail stations and related amenities in accordance with: AR-PW-PM-SPE-00129009 Station Fencing -Train System - D068;

b) generally in accordance with RD-BF-C4 "Supply and Installation of Fencing and Gates"; and

c) for the Rail Corridor in accordance with CS1-DOC-000454 Fencing and Gates for Rail Corridors and Facilities.

16 Signage and pavement marking

a) The Contractor must design signage and pavement marking:

   i) for rail station facilities and maze ways in accordance with AR-PW-PM-SPE-00129010 Station Signage and Pavement Marking -Train System - D070; and

   ii) tram stops in accordance with CS2 DOC 003445 Tram Stops Signage and Pavement Marking Tram System.

b) Where there is a requirement for a sign to be placed on land not in the ownership or management of the Principal, the Contractor must comply with the requirements PC-SM2 “Site and Access Management”.

c) In the event that a non-standard sign is required or proposed, the Contractor must provide details in the Design Documentation.

d) Bus only areas must be provided in accordance with AR-PW-PM-SPE-00129010 Station Signage and Pavement Marking -Train System - D070 or CS2 DOC 003445 Tram Stops Signage and Pavement Marking Tram System (as applicable), and the details submitted in the Design Documentation.

e) The Contractor must submit evidence in the Design Documentation that the performance requirements set out in AR-PW-PM-SPE-00129010 Station Signage and Pavement Marking - Train System - D070 or CS2 DOC 003445 Tram Stops Signage and Pavement Marking Tram System will be met.

Table RW-STS-D1 16-1 Provision of pavement marking

Pavement marking description	Installation
Platform edge hazard line	At all times whilst platform open to the public
Platform “stand behind” line	At all times whilst platform open to the public
Platform “stand behind the white line” advisory warning	At all times whilst platform open to the public
Platform stopping marker for rail cars	At all times whilst platform open to the public
Accessible boarding indicator patch	At all times whilst platform open to the public
Maze edge hazard line / tactile ground surface indicators	At all times whilst platform open to the public
Maze “stand behind” lines	At all times whilst platform open to the public
Car parking spaces	Prior to opening parking facility
Accessible parking spaces	Prior to opening parking facility
Motor cycle spaces	Prior to opening parking facility
Restricted access / parking areas	Prior to opening parking facility
Kerb ramp areas	Prior to opening parking facility
Dedicated bus lanes	Prior to opening bus interchange facility
Cycle lanes	Prior to opening cycle lanes

17 Bus interchanges

The Contractor must design roads and associated pavements within railway station precincts and related amenities in accordance with:

a) AR-PW-PM-SPE-00129011 Station Bus Interchanges - Train System - D071;

b) AR-PW-PM-SPE-00129012 Station Parking - Train System - D072; and

c) RD-PV-D1 “Pavement Investigation and Design”.

18 Car parking

a) The Contractor must design carparks and associated pavements for rail stations and related amenities in accordance with:

i) AR-PW-PM-SPE-00129012 Station parking - Train system - D072; and

ii) AR-PW-PM-SPE-00129011 Station bus interchanges - Train system - D071.

b) The Contractor must determine and comply with the relevant Drainage Authority regarding drainage requirements and include those requirements in the Desing Documentation.

19 Bicycle facilities

a) The Contractor must design bicycle facilities for rail stations and bus interchanges in accordance with AR-PW-PM-SPE-00129013 Station bicycle facilities - Train system - D073 and for tram stops in accordance with CS2 DOC 003448 Tram stops bicycle facilities tram systems.

b) For bicycle enclosures, the stationary validator (SV), model Proxibus CAB411 will be supplied by the Principal. The Contractor must design the SV requirements in accordance with AR-PW-

PM-SPE-00129013 Station bicycle facilities - Train system - D073 and for tram stops in accordance with CS2 DOC 003448 Tram stops bicycle facilities tram systems.

20 Electrical infrastructure

The Contractor must design electrical infrastructure for rail stations, tram stops and related amenities in accordance with

a) AR-PW-PM-SPE-00129014 Design - Stations - Electrical infrastructure - D074;

b) CS5 DOC 003511 Public transport standard electrical infrastructure engineering design; and

c) conduit systems must be undertaken in accordance with:

   i) AR-PW-PM-SPE-00129014 Design - Stations - Electrical infrastructure - D074; and

   ii) CS5 DOC 003511 Public transport standard electrical infrastructure engineering design.

21 Security and terrorism

a) The Contractor must design security systems for rail stations, tram stops and related amenities in accordance with P14-DOC-000897 Public transport infrastructure - Security Systems and PI5-DOC-003512 Public Transport Standard - Security Systems - Design - Engineering.

b) The final security level must be agreed with the Department's Risk, Security and Emergency Management and the Department's Rail Infrastructure/Bus Infrastructure Management and included in the Design Documentation.

c) The Contractor must consider the need for safety barriers for the safety of motorists at station precincts in accordance with AGRD Part 6 Roadside design, safety and barriers.

22 Passenger information systems

The Contractor must design passenger information systems for rail stations and bus interchanges in accordance with AR-PW-PM-SPE-00129016 PTS - RAIL - EMS - D076 - Design-Stations-Passenger information systems and for tram stops in accordance with PI6-DOC-003515 Public transport standard bus and tram passenger information.

23 Equipment room

The Contractor must design rail station equipment rooms in accordance with CE5-DOC-003514 - Public Transport Standard: Equipment Room and tram stop equipment rooms in accordance with CE5-DOC-003514 Public Transport Standard Equipment Room - Engineering - Design.

24 Landscaping

a) The Contractor must design landscaping for all rail stations, tram stops and related amenities in accordance with:

   i) PR-LS-D1 "Landscape and Urban Design" or PR-LS-D2 "Landscaping General" (as applicable); and

   ii) CS2 DOC 003449 Tram Stop Landscaping Tram System.

25 Luminance and contrast

a) The Contractor must design elements of train stations, tram stops and related amenities and associated infrastructure and amenities to achieve a minimum of 30% luminance contrast in accordance with Disability Standards for Accessible Public Transport.

b) The Contractor must engage an accessibility consultant to provide a statement of compliance with the Disability Standards for Accessible Public Transport in the Design Documentation.

c) Contractors having difficulty meeting luminous contrast requirements must comply with PR-PF-D1 "Designing for Accessibility".

26 Asset ownership and maintenance

a) The asset ownership and maintenance of the rail station, tram stop and surrounding related amenities must be confirmed and documented, in both spreadsheets and drawings, in liaison with the Department's Public Transport South Australia (PTSA) Asset Management Unit and the Network Management Services, Road & Marine Services Unit and the relevant local councils early in the design phase.

b) The applicable standards of Third Parties are to be adhered to and the reviews are to include these Third Parties and recorded in Third Party Agreements.

c) Where a certain feature from the rail station or tram stop is shared across both the Principal and council the asset must be separated in totality; for example lighting of a shared path owned by council must be run from a separate switchboard, so that the lighting does not contribute the lighting of the station platform owned by the Principal.

27 Requirements for construction specification

In addition to the construction specification requirements set out in PC-RW30 "Design", the construction specification must include:

a) a requirement for a statement to be provided, prior to any of the Works being put into service, that the Works comply with DSAPT and/or Disability (Access to Premises - Buildings) Standards.

b) the Contractor must maintain, service and clean the toilet facility for a period of 12 months from the Date of Completion;

c) the Contractor must arrange a joint inspection with the toilet facilities manufacturer and the Principal two weeks prior to the 12 month maintenance period expiring. The Principal must be given at least 14 Business Days' notice of the inspection;

d) the Contractor must ensure the manufacturer of the toilet unit complies with the warranty requirements in PC-CN3 "Construction Management"; and

e) the joint inspection will constitute a Hold Point.

f) if a rail station, tram stop or related facility to be provided by the Contractor is not yet operational, a "Not in Operation" sign must be used. "Out of Order" signs must not be used;

g) a Hold Point for the Contractor to seek approval from the Principal prior to the installation of signage and pavement marking where signage and pavement marking:

   i) is to be installed, altered or removed on roads (including access roads and bus interchanges) that are currently, or will become public roads, or on road related areas; or

   ii) does not comply with AS 1742 Manual of uniform traffic control devices; and

h) that prior to any area in the rail station precinct or tram stop area being opened to the public, the pavement marking required by Table RW-STS-D1 16-1 must be complete (as a minimum).

i) the requirement to construct and maintain the irrigation systems in accordance with PR-LS-C9 "Irrigation".