

ENGINEERING DESIGN SPECIFICATION

D8

CYCLEWAY AND PATHWAY DESIGN

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ENGINEERING DESIGN SPECIFICATION D8

CYCLEWAY AND PATHWAY DESIGN

GENERAL

D8.01 SCOPE

1. This specification sets out requirements to be used in the design of various types of cycleways and pathways.
2. All relevant design principles contained in the Austroads Guide referenced below must be integrated in the design of cycleways and associated infrastructure. This specification serves as a companion document to the Austroads Guide extended to incorporate basic requirements for pathways. **Austroads**

D8.02 OBJECTIVES

1. This specification aims to set standards and document requirements related to the provision of cycleways and pathways which encourage pedestrian activities and cycling for transportation and recreational purposes. Cycleways and pathways are to be safe and convenient and shall maintain a satisfactory level of service for all pathway users. **Safety**
Level of Service

D8.03 REFERENCE DOCUMENTS

1. AS 1742
2. AS 2890 -3 - Bicycle Parking Facilities
3. Guide to Traffic Engineering Practice - Bicycles Part 14 - Austroads 1993 (Austroads Manual)
4. Planning and Designing for Bicycles - NAASRA (now Austroads) Technical Report June 1988.
5. Planning and Design of Bicycle Facilities - State bicycle Committee, Victoria - Ministry of Transport.

D8.04 CONSULTATION

1. The Designer is encouraged to consult with Council, the Developer's Landscape Architects/Designers and relevant authorities prior to and during the preparation of cycleway and pathway design. **Landscape Designers**
Public Authorities

D8.05 PLANNING CONCEPTS

1. Council will provide specific requirements for cycleways and pathways in Council's Subdivision Code or Development Control Plan as well as in a regional or local strategic bicycle plan. The Designer will need to enquire about such documents and comply with requirements defined. **Subdivision Code and Bicycle Plan**

2. The Designer should familiarise himself with cycleway geometric design requirements in terms of:
- width
 - grade
 - stopping sight distance
 - change in grade
 - horizontal curvature
 - crossfall and drainage
 - superelevation
 - sight distance on horizontal curves

Geometric Design

These requirements are discussed in the Austroads Guide.

Austroads Guide

D8.06 CYCLEWAY AND PATHWAY TYPES

1. Cycleways can be provided on road and off road. The Austroads Guide provides detailed descriptions, warrants, widths, pavement marking etc for the majority of these cycleways.

On Road Off Road

2. Common alternative cycleway types include:

On Road

Shared Parking/Bicycle Lanes

Wide Kerbside Lanes

Shared Traffic Lanes

Exclusive Bicycle Lane

Sealed Shoulder

Off Road

Shared Bicycle/Pedestrian Pathway

Segregated Pathway

Exclusive Cycleway

Educational Cycleway

BMX Facilities

The Austroads Guide provides advice on the suitability of pavement conditions, drainage pit grates etc for on road cycleways.

Austroads Guide

3. Common pathway types include:

Exclusive Pedestrian Pathways

Shared Bicycle/Pedestrian Pathways

By definition pedestrian pathways are "off road" in that pedestrian facilities routinely designed adjacent to roadways are termed footpaths and are designed to meet criteria outlined in Council's Subdivision Code and typically related to road cross section detailing.

Footpaths

4. Pathways by comparison diverge from the road alignment either within the road reserve or across land reserves. Pathways can be provided in conjunction with overland floodways or retention basins. **Land Reserves**

D8.07 PROVISIONS FOR CYCLEWAYS AND PATHWAYS AT STRUCTURES

1. Designers shall consider the best way to cater for the uninterrupted movement of cyclists and pedestrians at proposed and existing structures wherever possible. Structures include bridges and underpasses. The Austroads Guide provides information on: **Bridges Underpasses**
- acceptable widths and clearances
 - types of cycleways and pathways
 - handrails
 - bicycle bridges
 - approach ramps
 - etc.

D8.08 SIGNAGE AND PAVEMENT MARKING

1. The Designer shall provide adequate signposting design for cycleways and pathways.
2. Signs and pavement marking will provide for the safe and convenient use of the facility. The signs and pavement marking will comply with AS 1742. **Signs Pavement Marking**

D8.09 END OF JOURNEY FACILITIES

1. Consideration must be given to the design of adequate facilities at common destinations of bicyclists and pedestrians so as to encourage cycleway and pathway usage.
2. Such facilities could include: **Facilities**
- seats
 - standby areas
 - secure bicycle parking
 - picnic facilities
3. Bicycle parking installation design should meet appropriate criteria discussed in the Austroads Guide and be fabricated to meet AS 2890 -3. **Parking**

D8.10 MINIMUM DESIGN STANDARDS

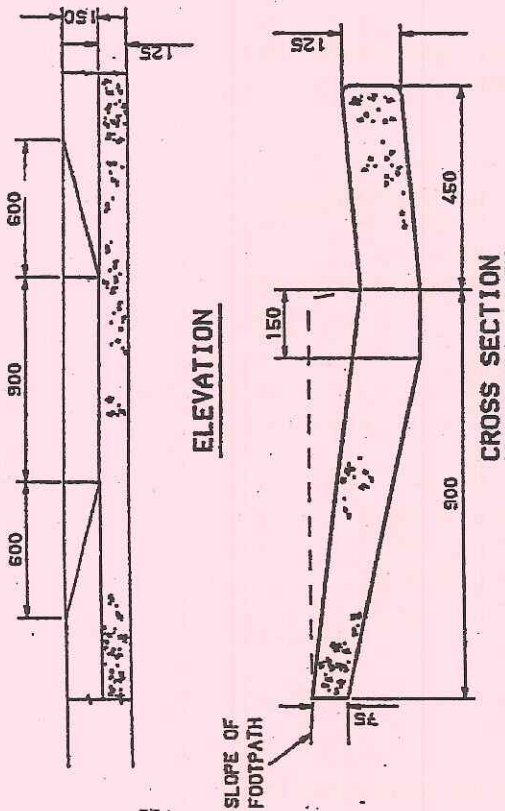
1. Notwithstanding the guidelines provided in this specification and referenced documents the following minimum standards have been determined.

	Cycleway	Pathway	Dual Use Pathway
Path Width	2.0m	1.2m	2.0m
Formation Width	3.0m	2.0m	3.0m
Crossfall min. max.	1:40 1:20	1:40 1:20	1:40 1:20
Clearance Horiz.	2.5m	1.2m	2.5m
Grade max.	2% for 450m 5% for 90m 10% for 30m	NA	2% for 140m 3% for 70m 4% for 40m 5% for 30m

D8.11 DOCUMENTATION

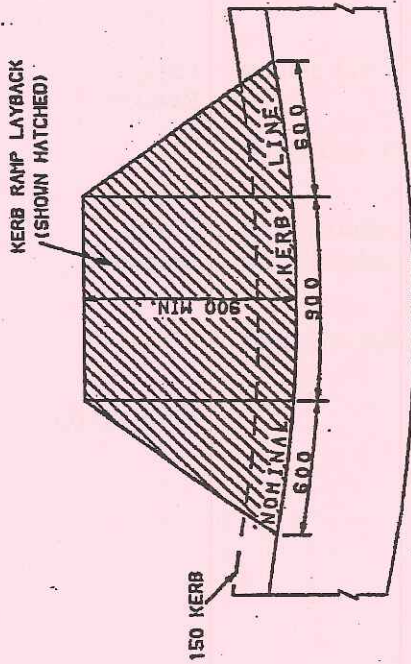
1. The following listing outlines Council's minimum requirements for presentation of cycleway and/or pathway designs.

- All plans for cycleways/pathways are to be presented at the reduction ratio 1:500. **Plans**
- The cycleway plan sheet may be incorporated into the road plan where clarity permits. Specific details are to be provided at reduction ratio 1:200.
- Longitudinal Sections will be required for all off-road cycleways where grades exceed 4%. **Long Sections**
- Longitudinal Sections will have reduction ratios of 1:500 horizontal and 1:100 vertical.
- Cross Sections will be presented at 1:100 reduction ratio (natural) and transition tables will be required where cross falls vary or superelevation is provided. **Cross Sections**
- A typical cross section will be detailed to indicate pavement materials and layer depths.
- Kerb ramps are to be provided and as shown on Fig D8.1 **Kerb Ramps**



NOTES

1. KERB RAMPS SHALL BE CONSTRUCTED AT ALL ROAD INTERSECTIONS AND IN FRONT OF PATHWAY. THE RAMPS SHALL BE LOCATED IN THE POSITIONS SHOWN ON THIS DRAWING, EXCEPT THAT WHERE DRAINAGE PITS OR OTHER STRUCTURES NECESSITATE A DEPARTURE FROM THE NORMAL POSITION AN ALTERNATIVE POSITION SHALL BE INDICATED BY COUNCIL. WHERE THE POSITION OF A RAMP FALLS WITHIN 3.6 m OF A VERTICAL CURVE THE KERB RAMP SHALL BE OMITTED. WHERE THE SPECIFIED CONSTRUCTION OF THE ROAD KERB HEIGHT VARIES FROM THE 150 mm DIMENSION SHOWN ON THIS DRAWING THE DEPTH OF THE KERB RAMP INTO THE FOOTPATH SHALL BE ADJUSTED FROM THE 900 mm MINIMUM TO A MINIMUM DEPTH OF SIX (6) TIMES THE SPECIFIED KERB HEIGHT.
2. ROAD BASECOURSE TO BE EXTENDED BENEATH KERB RAMPS. MINIMUM THICKNESS OF 50 mm TO BE MAINTAINED.
3. CONCRETE TO BE OF 20 MPa COMPRESSIVE STRENGTH AT 28 DAYS.
4. DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
5. FORTY-EIGHT (48) HOURS NOTICE IS TO BE GIVEN PRIOR TO THE PLACING OF CONCRETE TO ALLOW FOR INSPECTION BY COUNCIL'S OFFICER.
6. THIS PLAN SUPERSEDES 6202606.



PLAN

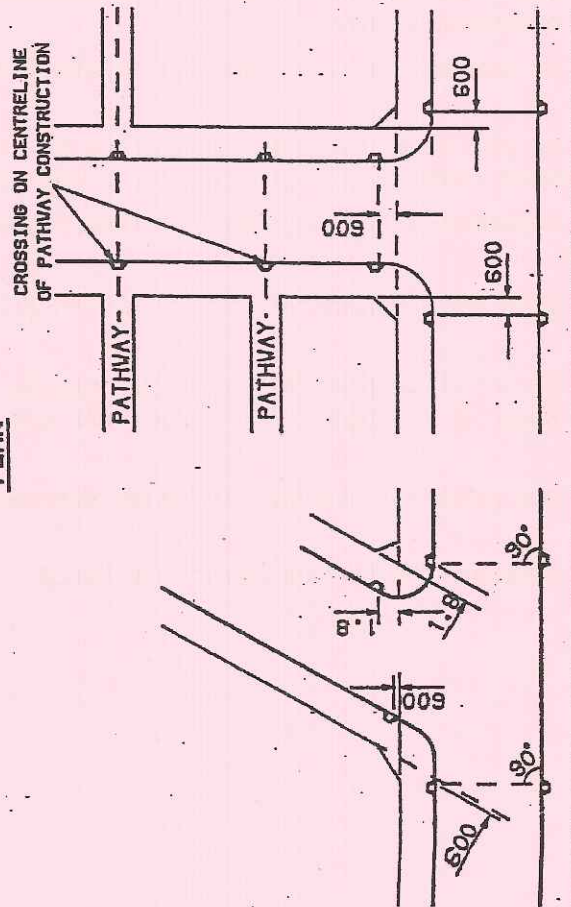


Fig. D8.1

PLAN SHOWING KERB RAMP CROSSING
(NOT TO SCALE)

<p>SCALE IS N.T.S.</p>	<p>SUBDIVISION CODE</p>	<p>CITY OF SHOALHAVEN STANDARD KERB RAMPS</p>	<p>ENGINEERING WORKS MANAGER</p>	<p>DRAWN G. FRIEHLER</p>
				<p>CHECKED J. BLON</p>
		<p>PLAN REF. 263723</p>		<p>DATE 04-MAY 1994</p>