

Tasmania Fire Service Water Supply Signage Guideline

Guidelines for the design and installation of water supply signs & fire hydrant marking in bushfire-prone areas

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This Guideline has been developed in consultation with TasWater.



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1.0 Identification

1.1 Guideline Title

1.1.1 This Guideline is called the *Tasmania Fire Service Water Supply Signage Guideline*.

1.2 Composition of this Guideline

1.2.1 This Guideline consists of:

- (a) This document;
- (b) Design drawing TFS-WS01; and
- (c) Design drawing TFS-WS02.

2.0 Purpose

2.1 The purpose of this Guideline is:

- (a) To ensure that fire fighting water points are appropriately identified to reduce the risk to human life and property, and the cost to the community, caused by bushfires; and
- (b) To describe the water supply signage requirements which are referred to in the *Bushfire-Prone Areas Code*¹ and the *Directors Determination Requirements for Building in Bushfire-Prone Areas*².

3.0 Application

3.1 Where referenced by the relevant planning and building regulations, the content of this Guideline forms a statutory requirement for development within bushfire-prone areas.

3.2 This Guideline may be voluntarily adopted as required.

3.3 This Guideline applies to:

- (a) Private and water corporation owned or managed fire fighting water points;
- (b) Fire fighting water points servicing a bushfire-prone area; and
- (c) Fire fighting water points connected to:
 - i. A static water supply; or
 - ii. A reticulated water supply that does not comply with the design criteria of *reticulated water supply for fire fighting* as defined within the *Bushfire-Prone Areas Code*, and where a single fire fighting water point discharges a minimum of 5 L per second and a minimum of 150 kPa residual pressure.

¹ The *Bushfire-Prone Areas Code* can be accessed via www.iplan.tas.gov.au

² The *Directors Determination Requirements for Building in Bushfire-Prone Areas* can be accessed via <http://www.justice.tas.gov.au/building/publications>

4.0 Definition of Terms

In this Guideline:

bushfire-prone area	<p>means:</p> <p>(a) land that is within the boundary of a bushfire-prone area shown on an overlay on a planning scheme map; and</p> <p>(b)</p> <ol style="list-style-type: none"> i. where there is no overlay on a planning scheme map; or ii. where the land is outside the boundary of a bushfire-prone area shown on an overlay on such a map, land that is within 100m of an area of bushfire-prone vegetation equal to or greater than 1 hectare.
bushfire-prone vegetation	<p>means contiguous vegetation including grasses and shrubs but not including maintained lawns, parks and gardens, nature strips, plant nurseries, golf courses, vineyards, orchards or vegetation on land that is used for horticultural purposes.</p>
carriageway	<p>means the section of road formation which is used by traffic, and includes all the area of the traffic lane pavement together with the formed shoulders.</p>
fire hydrant	<p>means a fire hydrant as described in <i>AS 2419.1-2005 Fire hydrant installations – System design, installation and commissioning</i>.</p>
fire fighting water point	<p>means the point where a fire appliance is able to connect to a water supply for fire fighting purposes. This includes a coupling in the case of a fire hydrant, offtake or outlet, or the minimum water level in the case of a static water body.</p>
property access	<p>means the carriageway which provides vehicular access from the carriageway of a road onto land, measured along the centre line of the carriageway, from the edge of the road carriageway to the nearest point of the building area.</p>
static water supply	<p>means water stored in a tank, swimming pool, dam, or lake, that is available for fire fighting purposes at all times.</p>
water corporation	<p>means the corporation within the meaning of the <i>Water and Sewerage Corporation Act 2012</i>.</p>

5.0 Referenced Documents

The following documents are referenced in this guideline:

AS 1743 Road signs—Specifications

AS 1744 Standard alphabets for road signs

AS 2700 Colour Standards for general purposes

AS 2419.1 Fire hydrant installations - System design, installation and commissioning

AS/NZS 1734 Aluminium and aluminium alloys—Flat sheet, coiled sheet and plate

AS/NZ 1906.1 Retroreflective materials and devices for road traffic control purposes
Part 1: Retroreflective Sheeting.

Australian Paint Approval Scheme Specifications AP-S0041, CSIRO

Bushfire-Prone Areas Code, Tasmanian Planning Commission, Department of Justice, Tasmania.

Determination Director of Building Control Requirements for Building in Bushfire-Prone Areas, Building Standards & Occupational Licencing, Department of Justice, Tasmania.

TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA, TasWater, Tasmania.

6.0 Design Standards for Marking Compliant Fire Hydrants

6.1 Compliant Hydrant Markings (General)

A fire hydrant connected to a reticulated water supply that complies with the design criteria of *reticulated water supply for fire fighting* as defined within the *Bushfire-Prone Areas Code* will be marked in accordance with water corporation specifications³.

Water corporation specified fire hydrant markings include a combination of:

- a) Fire Plug Indicator: a yellow, 250 mm x 450 mm triangle, marked on the pavement, and pointing towards the location of the hydrant;
- b) Fire Plug Kerb Marking: a yellow, 300 mm long rectangle, marked on the carriageway kerb, adjacent to the location of the fire hydrant;
- c) Two-Way Retroreflective Raised Pavement Marker: a blue, square marker, adhered to the pavement, and located perpendicular to the hydrant;
- d) Fire Plug Cover and Surround: a yellow, 400 mm x 400 mm square; surrounding the hydrant cover; and
- e) Marker Post: a yellow post with blue decals, located adjacent to the carriageway.

³ TasWater specifications: <https://www.taswater.com.au/Development/Development-Standards>

7.0 Design Standards for Marking Non-Compliant Fire Hydrants

7.1 Marking Criteria

A fire hydrant connected to a reticulated water supply that:

- a) Otherwise complies with the design criteria of *reticulated water supply for fire fighting* as defined within the *Bushfire-Prone Areas Code*, except for flow and pressure; and
- b) Discharges a minimum of 5 L per second and a minimum of 150 kPa residual pressure;

shall have additional markings to those identified in 6.1, in accordance with the following:

7.2 Pavement Marking Material

Objective:	Pavement markings that identify fire fighting water points are clearly visible and durable.
7.2.1 Pavement marking materials shall conform to Australian Paint Approval Scheme Specifications <i>AP-S0041</i> , or similar.	

7.3 Post Marking Material

Objective:	Pavement markings that identify fire fighting water points are clearly visible and durable.
7.3.1 Post marking material shall be: <ol style="list-style-type: none"> (a) Class 1 retroreflective material, compliant with <i>AS/NZS1906.1</i>; or (b) A suitable outdoor, long-life, UV stabilised coating. 	

7.4 Pavement & Post Marking Design

Objective:	Fire fighting water points are clearly visible and identifiable.
7.4.1 Pavement and post marking shall comprise of a legend designed in accordance with design drawing TFS-WS02.	
7.4.2 The legend shall be: <ol style="list-style-type: none"> (a) Coloured red, 'Signal Red' (R13) in accordance with <i>AS2700</i> (or equivalent colour); and (b) Comprised of the letter 'W' within a circular band. 	
7.4.3 The letter 'W' in the legend shall be: <ol style="list-style-type: none"> (a) Uppercase; (b) No less than 44 mm in height; 	

- (c) Located in the centre of the circular band; and
- (d) Consistent with the form and dimensions of Series F, as defined in *AS1744*.

7.4.4 The circular band in the legend shall have:

- (a) An outer diameter of 100 mm; and
- (b) A line thickness of 6.5 mm.

7.5 Pavement & Post Marking

Objective:	Fire fighting water points are clearly visible and identifiable.
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7.5.1 Where fire hydrants are of the in-ground type (fire plug), the hydrant cover (lid) shall be marked in accordance with 7.2 and 7.4.

7.5.2 Where hydrant location is identified using a marker post, the post shall be marked:

- (a) In accordance with 7.3 and 7.4;
- (b) With legend facing the carriageway; and
- (c) No less than 400 mm above ground level (where practical).

8.0 Design Standards for Signs

Static water supplies shall be identified in accordance with the following:

8.1 Sign Materials

Objective:	Signs that identify fire fighting water points are durable and resilient against the elements.
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8.1.1 The signboard material shall be:

- (a) 1.6 mm thick aluminium alloy, type 5251 or 5052, of temper H36 or H38;
- (b) Free from scratches or other surface blemishes;
- (c) Have edges that are true and smooth; and
- (d) Compliant with *AS/NZS1734*.

8.1.2 The sign background material shall be:

- (a) Non-reflective;
- (b) Of uniform density;
- (c) Compatible with the material used for the legend both in application and durability; and
- (d) Applied to the sign face in accordance with *AS1743*.

8.1.3 The sign legend material shall be:

- (a) Class 1 retroreflective material, compliant with *AS/NZS1906.1*;
- (b) Of uniform density;

- (c) Compatible with the material used for the background in application and durability; and
- (d) Applied to the sign face in accordance with *AS1743*.

8.2 Sign Design

Objective:	Signs that identify fire fighting water points are clearly visible and identifiable.
8.2.1 The sign shall be designed in accordance with: <ul style="list-style-type: none"> (a) Design drawing TFS-WS01. 	
8.2.2 The sign shall: <ul style="list-style-type: none"> (a) Be square; (b) Have rounded corners with a radii of 25 mm; and (c) Have a side length of 300 mm. 	
8.2.3 The sign background shall be: <ul style="list-style-type: none"> (a) Coloured red, 'Signal Red' (R13) in accordance with <i>AS2700</i> (or equivalent colour). 	
8.2.4 The legend shall be: <ul style="list-style-type: none"> (a) Coloured white (N14) in accordance with <i>AS2700</i> (or equivalent colour); (b) Comprised of the letter 'W' within a circular band; and (c) Visually centred on the sign. 	
8.2.5 The letter 'W' in the legend shall be: <ul style="list-style-type: none"> (a) Uppercase; (b) No less than 100 mm in height; (c) Located in the centre of the circular band; and (d) Consistent with the form and dimensions of Series F, as defined in <i>AS1744</i>. 	
8.2.6 The circular band in the legend shall have: <ul style="list-style-type: none"> (a) An outer diameter of 230 mm; and (b) A line thickness of 15 mm. 	
8.2.7 The rear surface of the signboard shall be stamped or engraved with: <ul style="list-style-type: none"> (a) The designation of the sign manufacturer; (b) Four numerals indicating the month and year of manufacture (e.g. 01/17); (c) The design drawing identification (e.g. TFS-WS01); and (d) Letters & numerals no less than 5 mm high. 	

8.3 Sign Mounting

Objective:	Signs that identify fire fighting water points are, and will remain, clearly visible.
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8.3.1 The sign shall be permanently mounted to:

- (a) A vertical surface;
- (b) A surface that cannot change orientation or position; and
- (c) A surface that is:
 - i. Non-flammable; and
 - ii. Non-heat deforming.

8.4 Sign Location

Objective:

Signs that identify fire fighting water points are located adjacent to the fire fighting water point, and are clearly visible.

8.4.1 The sign shall be mounted in a location:

- (a) No further than 2 m vertically and 1 m horizontally from the fire fighting water point;
- (b) No less than 400 mm above ground level;
- (c) That will not impede access or operation of the fire fighting water point;
- (d) That will not become obscured by visual obstructions; and
- (e) That is visible from the property access on approach from a public road.

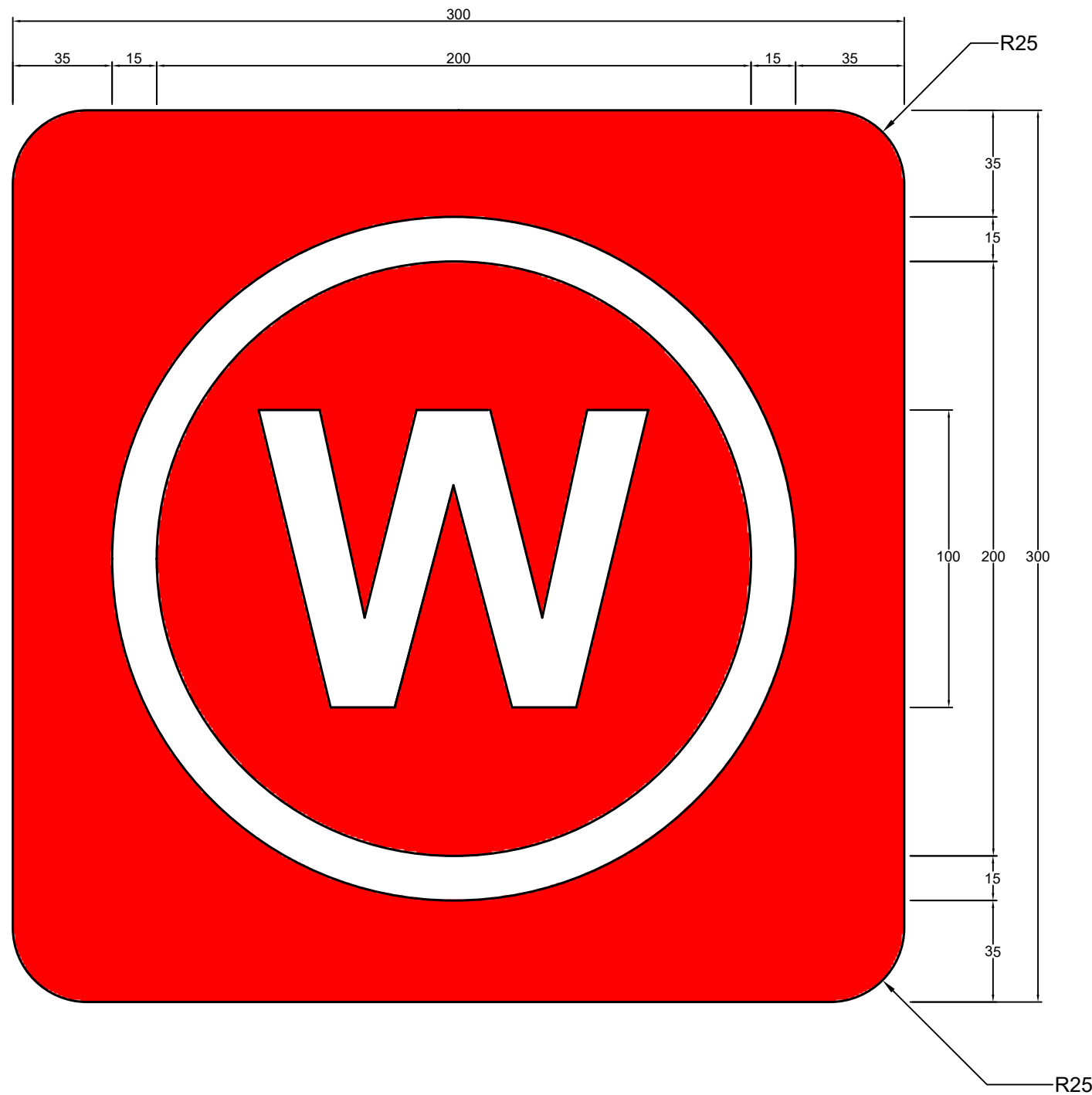
9.0 Design & Manufacture Tolerances of Sign & Legend

9.1 Dimensional tolerances of the signboard

- (a) Overall dimensions of signboard: ± 5 mm;
- (b) Maximum allowable warp, twist or departure from flatness: 1.5 mm; and
- (c) Squareness: corners < 2 mm from theoretical position relative to other corners.

9.2 Dimensional tolerances of the legend

- (a) Shape, size and alignment of legend elements: ± 2 mm; and
- (b) Legend position: ± 2 mm.

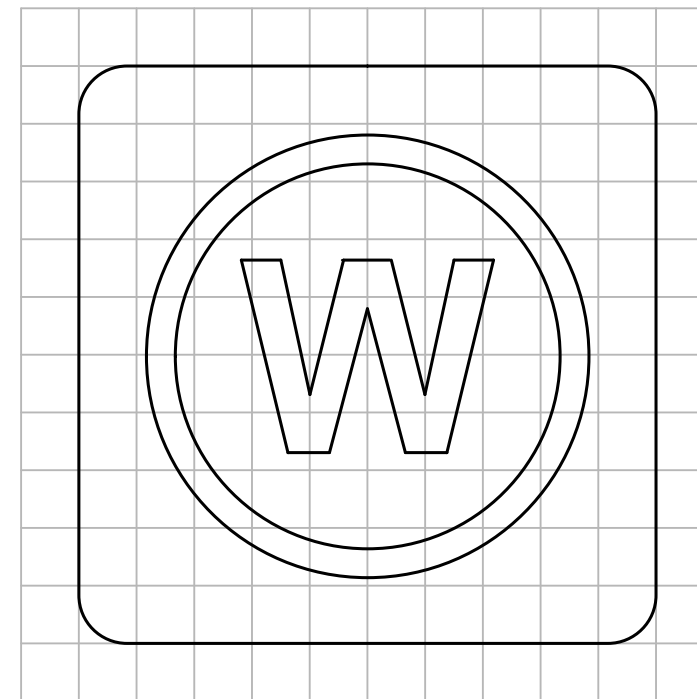


OVERALL SIGN DIMENSIONS (mm): 300 x 300, +/- 5
 SURFACE AREA OF SIGN (sq m) : 0.0895

LEGEND COLOUR: WHITE (N14) IN ACCORDANCE WITH AS2700,
 WITH A RETROREFLECTIVE SURFACE FINISH
 BACKGROUND COLOUR: SIGNAL RED (R13) IN ACCORDANCE WITH AS2700

FOR SIGN FIXING AND LOCATION REQUIREMENTS, REFER TO
 TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES

FOR LEGEND SPECIFICATIONS AND MANUFACTURING DETAIL
 REFER TO TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES



GRID MODULE X = 30mm Y= 30mm

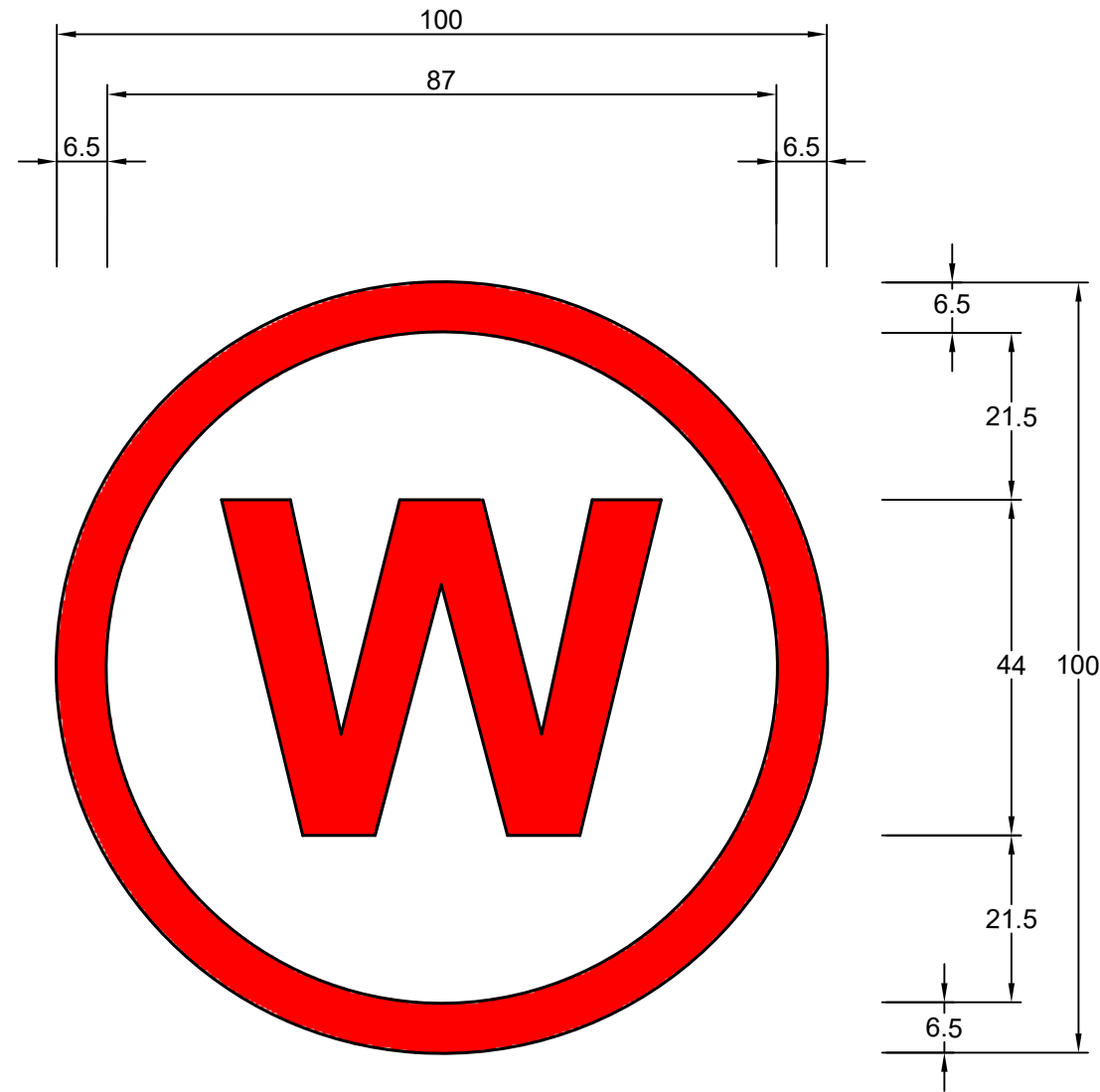


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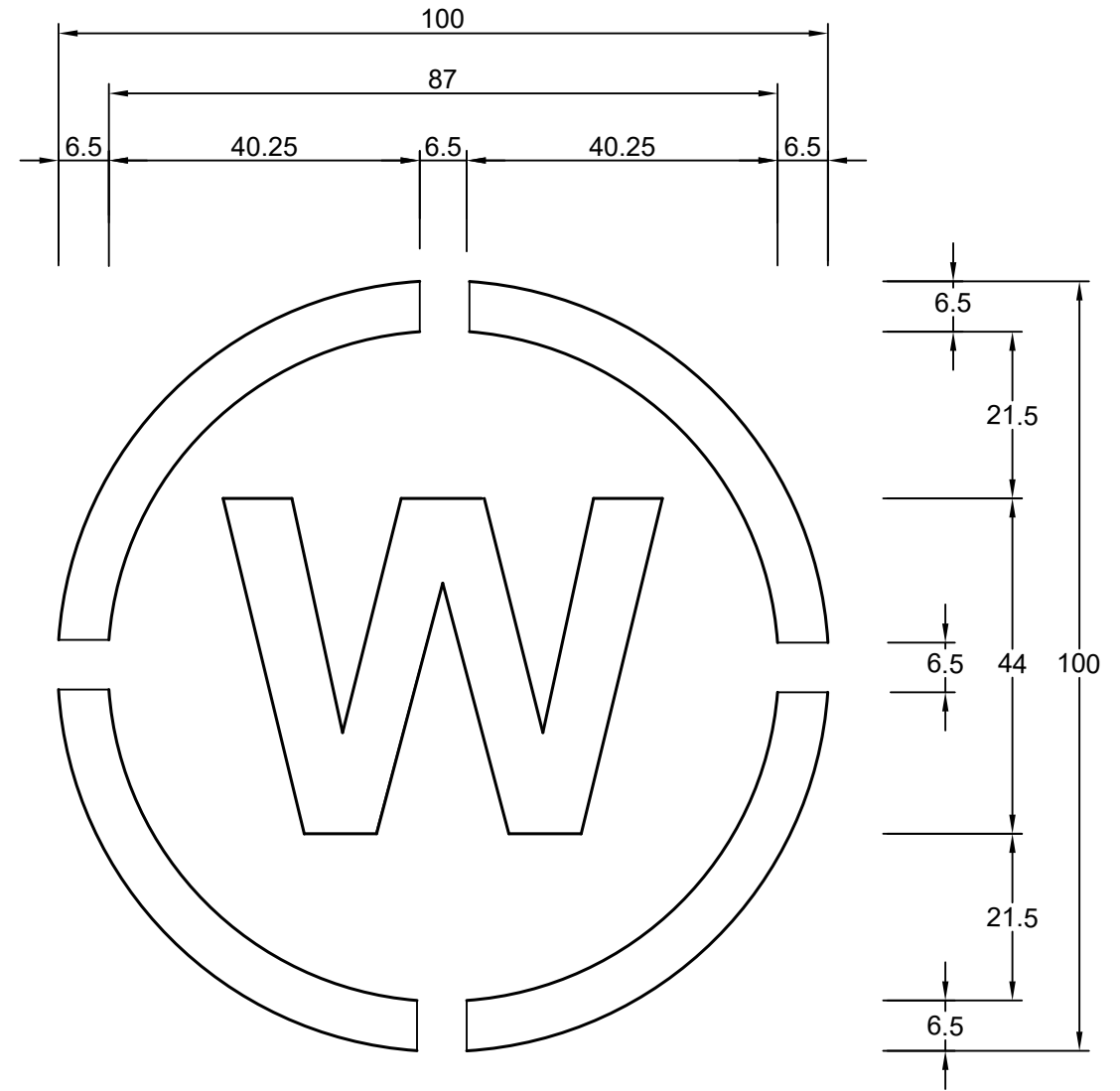
ISSUE	APPR'D	DATE	AMENDMENT
A			
B			
C			
D			

NOTES			
- all dimensions are in mm			
- written dimensions take precedence over scaled measurements			
DRWN	WH	APPR'D	CC
DATE		2/2/2017	

TITLE			
TASMANIA FIRE SERVICE WATER SUPPLY SIGN			
FILE	BPP	DWG NO.	TFS-WS01
SCALE			1:2

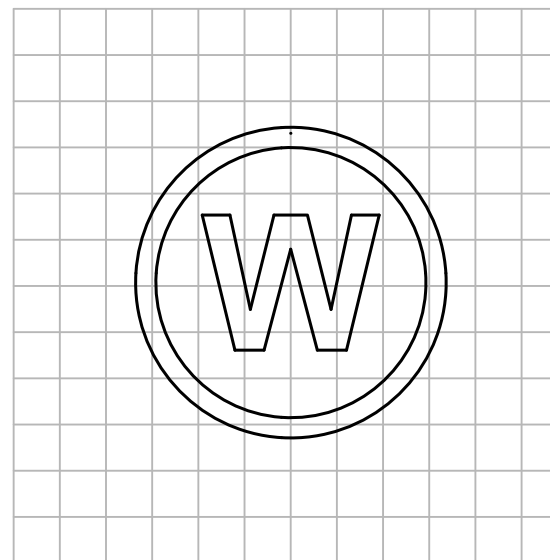


POST AND PAVEMENT DESIGN



TEMPLATE

GRID MODULE X = 15mm Y= 15mm



WHERE A TEMPLATE IS USED, THE CIRCULAR BAND MAY HAVE UP TO FOUR BREAKS OF UP TO 6.5MM IN WIDTH

OVERALL LEGEND DIMENSIONS (mm): 100 x 100, +/- 5

FOR TEMPLATE APPLICATION REQUIREMENTS, REFER TO TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES

FOR LEGEND SPECIFICATIONS AND MANUFACTURING DETAIL REFER TO TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES



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ISSUE	APPR'D	DATE	AMENDMENT
A			
B			
C			
D			

NOTES			
- all dimensions are in mm			
- written dimensions take precedence over scaled measurements			
DRWN	WH	APPR'D	CC
DATE		7/2/2017	

TITLE			
TASMANIA FIRE SERVICE NON-COMPLIANT FIRE HYDRANT MARKING			
FILE	BPP	DWG NO.	TFS-WS02
SCALE			1:1

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