

# Changes to Standard

## AS/NZS 3500.3 Plumbing and Drainage Part 3: Stormwater drainage

### Changes to AS/NZS 3500.3 2018 published

AS/NZS 3500.3 *Plumbing and Drainage Part 3: Stormwater drainage* has been updated. This new version came into effect on 29 June 2018. This document provides information on the key changes in the updated Standard. This Standard was last updated in 2015.

### What work does this Standard apply to?

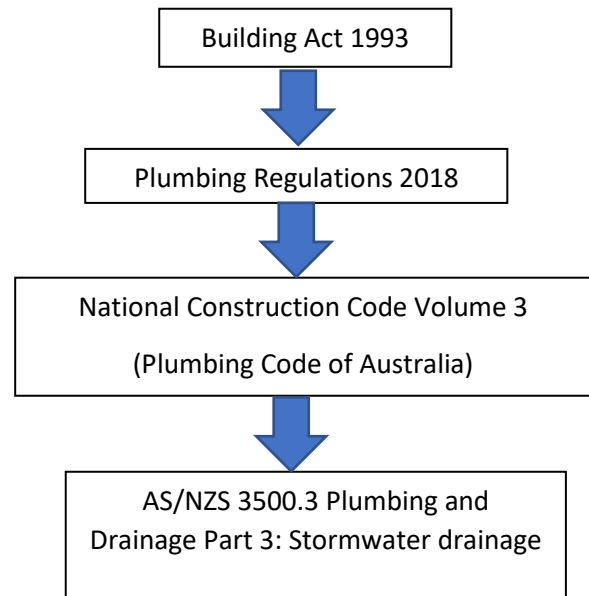
This Standard specifies the requirements for the design and installation of stormwater drainage systems. It applies to new installations as well as alterations, maintenance, additions and repairs.

Relevant work includes metal roofing, gutters, downpipes and stormwater drains.

### When does this Standard have to be used?

All plumbing work on stormwater drainage systems in Victoria must comply with this Standard. The only exception is where a performance solution is used.

**This Standard is part of Victorian law.**  
How this works is shown below:



The *Plumbing Regulations 2018* require that plumbing is carried out in accordance with the *National Construction Code Volume 3*.

The *National Construction Code, Volume 3* states that: The design, construction, installation, replacement, repair, alteration and maintenance of a roof, surface or subsurface drainage system must be in accordance with AS/NZS 3500.3.

Where a plumber does not follow AS/NZS 3500.3 for this work, they are required to use a performance solution. For further information on performance solutions, please read the VBA's [industry guide](#).

### Changes and impact

Key changes from the 2015 version of the

**BUILDING CONFIDENCE**

Standard include:

- **Definitions**

*Section 1*

Several new definitions have been added. These clarify the meaning of some terms but they don't change how the standard functions.

- **Chains as downpipes**

*Clause 2.3.2*

This clause now has a note stating that chains should not be used as downpipes.

- **Drain materials**

*Clause 2.4 (i)*

The list of standards to which non-pressure PVC stormwater pipes may conform now includes: AS/NZS 4765 *Modified PVC (PVC-M) pipes for pressure applications* and AS/NZS 4441 *Oriented PVC (PVC-O) pipes for pressure applications*. This is in addition to the previous listed Standards.

*Clause 2.4 (j)*

The list of standards to which non-pressure PE stormwater pipes may conform now includes AS/NZS 5065 *Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications*. This is in addition to the previous listed Standards.

*Former clause 2.4 (j)*

Vitrified clay or ceramic pipes are no longer listed as an acceptable material for stormwater drains.

- **Calculating catchment area**

*Figures 3.4.2 (A) & (B)*

The definition of an angled, vertical plane has been changed. In the 2015 version a projection of the vertical plane was used; in the new version the actual surface is to be used for calculations. For most applications, this change will not have a significant effect.

*Clause 3.4.6*

A new clause for green, landscaped or garden roofs states that the full run-off rate for an equivalent sized impervious roof shall be used when designing the roof drainage system.

- **Freeboard in box gutters**

*Clause 3.7.2*

This clarifies the current requirement that a box gutter have a minimum 30mm freeboard. This was a requirement in the previous version but was only shown in a diagram, not in a separate clause.

- **Downpipe discharge from box gutters and surface drainage systems**

*Clause 3.7.4, 3.7.8 (b), 5.2.3 and 5.4.12.1*

Where a box gutter is directly connected to a surface water drainage system, this surface water drainage system must be appropriately sized and include appropriate surcharge measures to accommodate run-off from a 100-year ARI event.

While this is not a new requirement, it confirms that when a practitioner is installing, repairing or replacing gutters or downpipes, the connecting downpipes and surface water drainage system must be appropriately sized.

- **Downpipes for box gutters**

*Clause 3.7.8*

This is a new requirement that downpipes serving box gutters shall be at least 90mm diameter or 100mm x 50mm rectangular downpipe.

Dimensions for downpipes were limited in the previous version by the values provided in sizing charts. This new clause makes the minimum sizing requirements clearer.

- **Drainage systems for balconies and terraces**

*Clause 3.8*

New requirement that systems for draining balconies and terraces must be designed for 20 ARI events and for overflow, 100-year ARI events.

- **Expansion joints in box gutters**

*Clause 4.3.2*

New requirement for a 25mm expansion joint for box gutter sections longer than 6m, fixed at both ends. The previous version did not give requirements for gutters fixed at both ends.

- **Jointing of gutters**

*Clause 4.7.1*

New requirement that gutters are not to be jointed along their length to increase the depth of the gutter.

- **Bedding and cover for drains**

*Clause 6.2.2*

In addition to the existing diagram laying out required bedding zones for pipes laid in trenches, a new diagram for pipes laid in embankments has been added.

*Table 6.2.5*

Required cover for all types of pipes has listed in this table have increased. The new table is included below.

**TABLE 6.2.5  
MINIMUM PIPE COVER—FINISHED SURFACE TO TOP OF PIPE**

Location	Ductile iron, galvanized steel	Plastics
	Minimum cover, mm	
1 Not subject to vehicular loading:		
(a) Without pavement—		
(i) for single dwellings; or	100	100
(ii) for other than single dwellings	100	300
(b) With pavement of brick or unreinforced concrete.	100*	100*
2 Subject to vehicular loading:		
(a) Other than roads:		
(i) Without pavement	300	450
(ii) With pavement of—		
(A) reinforced concrete for heavy vehicular loading; or	Nil*	100*
(B) brick or unreinforced concrete for light vehicular loading.	Nil*	75*
(b) Roads—		
(i) sealed; or	600	600
(ii) unsealed.	600	750
3 Subject to construction equipment loading or in embankment conditions	600	750
4 Land zone for agricultural use	600	600

\* Below the underside of the pavement.

- **Stormwater inlet pits**

*Clause 7.5.2 & Table 7.5.2.1*

The table has been amended to include a 350mm x 350mm rectangular pit for depths less than or equal to 450mm.

- **Siphonic drainage systems**

*Section 10*

This new section sets out some of the design parameters for a siphonic drainage system. However, this section is limited in scope and any siphonic drainage system will need to be specifically designed by a suitably qualified person.

- **Rainfall intensities**

*Appendix E*

More locations have been added to Table E1 for rainfall intensities. To determine rainfall intensities that are not in this table, the website of the Bureau of Meteorology is recommended. Maps of rainfall intensity are no longer used. Note that values in the Table and on the Bureau website have been updated.

The VBA strongly encourages practitioners to consult the complete standard in order to ensure they comply with all Deemed-to-Satisfy requirements.

The full text of AS/NZS 3500.3:2018 can be accessed at the SAI Global website:

<https://infostore.saiglobal.com/>