

Master Plumbers Roofing & Gutters

September 2023



The VBA respectfully acknowledges the Traditional Owners and custodians of the land and water upon which we rely. We pay our respects to their Elders past and present.

We recognise and value the ongoing contribution of Aboriginal people and communities to Victorian life.

We embrace the spirit of reconciliation, working towards equality of outcomes and an equal voice.

Master Plumbers Roofing info

Roofing Drainage Systems overview

Warren James & Matt Wilson

Senior Technical Advisors

Victorian Building Authority



National Construction Code



Performance Requirements



NCC 2022 Volume Three - Plumbing Code of Australia: **VIC Part E3 Stormwater - Roof drainage systems**

- Performance Requirements:
- **VIC E3P1 Roof drainage systems**
- A roof drainage system must dispose of stormwater flows from rainfall events having an average recurrence interval appropriate to:
 - (a)The importance of the building.
 - (b)The severity of potential damage to property, **loss of amenity**, illness or injury that would result from the failure of the system.
- **VIC E3P2 Overflow**
- A roof drainage system must provide an overflow device to transfer stormwater flows generated by extreme rainfall events.



Performance Requirements continued:

- **VIC E3P3 Watertightness**
- All internal roof drainage components must be watertight.
- **VIC E3P4 Design, construction and installation**
- (1) A roof drainage system must ensure the following—
 - (a) Stormwater is transferred to a **point of connection**.
 - (b) Access for maintenance and clearing **blockages**.
- (2) A roof drainage installation must avoid the following—
 - (a) **Loss of amenity** due to **blockages** and **uncontrolled discharge**.
 - (b) Foul air and gases accumulating in the roof drainage system. **Loss to buildings and property amenity** due to **blockages** and **uncontrolled discharge**.



Deemed to satisfy pathway: NCC & Victorian Plumbing Regulations

- **VIC E3D1 Application**
- Performance Requirements E3P1 to E3P4 are satisfied by complying with E3D2.
- **VIC E3D2 General requirements**
- The design, construction, installation, replacement, repair, alteration and maintenance of a roof drainage system must be in accordance with **AS/NZS 3500.3 and SA HB 39**, subject to following:
- (a) Insert Clause 4.9.6.3 Fastening in AS/NZS 3500.3 as follows: Downpipes to be securely fastened to walls and structures so as to withstand movement due to thermal expansion or weight due to a partial or total blockage, and **(b) Where there are any conflicts between AS/NZS 3500.3 and SA HB 39, AS/NZS 3500.3 prevails.**



Deemed to satisfy pathway

Victorian Plumbing Regulations 2018

- **Division 5—Roofing (stormwater) work**
- **Standards for roofing (stormwater) work**
- For the purposes of regulation 26, roofing (stormwater) work must comply with the following standards—
 - (a) SA HB 39; (proposed for an update with standards Aus)
 - (b) SAA/SNZ HB 114 (proposed to be removed from regulations)



Other information

Standards & codes

- NCC
- Work Health & Safety: Working at Heights (Prevention of Falls)
- AS1562.1 Design and installation of metal cladding
- AS/NZS 2179.1, Specifications for rainwater goods, accessories and fasteners, Part 1: Metal shape or sheet rainwater goods, and metal accessories and fasteners
- •AS4055 Wind loads for housing
- •AS4200.2 Insulation
- AS3566 Self-drilling screws for the building and construction industries
- •AS3959 Bushfire Standards
- •NASH (Steel Framed Construction in Bushfire Areas)



AS/NZS3500:3:2018 to AS/NZS3500:3:2021

Description of change

- **Table 3.3.4:** 1 % AEP is equivalent to 100 years ARI; 2 % AEP is equivalent to 50 years
- **Table D.1:** The 5 min duration rainfall intensities for representative places in Australia given have been updated to show the latest values from the BOM.
- **Clause 1.7:** Changes have been made to the requirements for the marking of pipes in commercial buildings (class 2 to 9) to assist in the better identification of pipework and avoiding cross connections.
- **Definitions** have been relocated to AS/NZS 3500.0
- **Clause 8.3.2:** The range of materials that can be used for wet wells has been expanded to encompass prefabricated wells with suitable plastics such as PE or PP



Review for public comment AS/NZS3500:03:2021

Proposals for changes/amendments re eaves gutters, valley gutters & rainwater storage.

- updating tables to make eaves gutter overflow sizing normative via tables, appendix will become normative, review whole document in relation to eaves gutters.
- Valley gutters: Figure 3.6.2 as a graph to chart catchment area for valley gutters to accommodate more than 20 sqm catchment for lower AEP's, removal of 20 sqm requirement, based on hydraulic load on valley gutters for effective width.
- Introduce Charged stormwater systems
- To capture the design and installation requirements for rainwater harvesting (Cross over to AS/NZS 3500:1:2021)
- HB 230-2008 - Rainwater Tank Design and Installation Handbook content utilised as a basis for the development of a new section of AS/NZS 3500.1 and AS/NZS 3500.3.

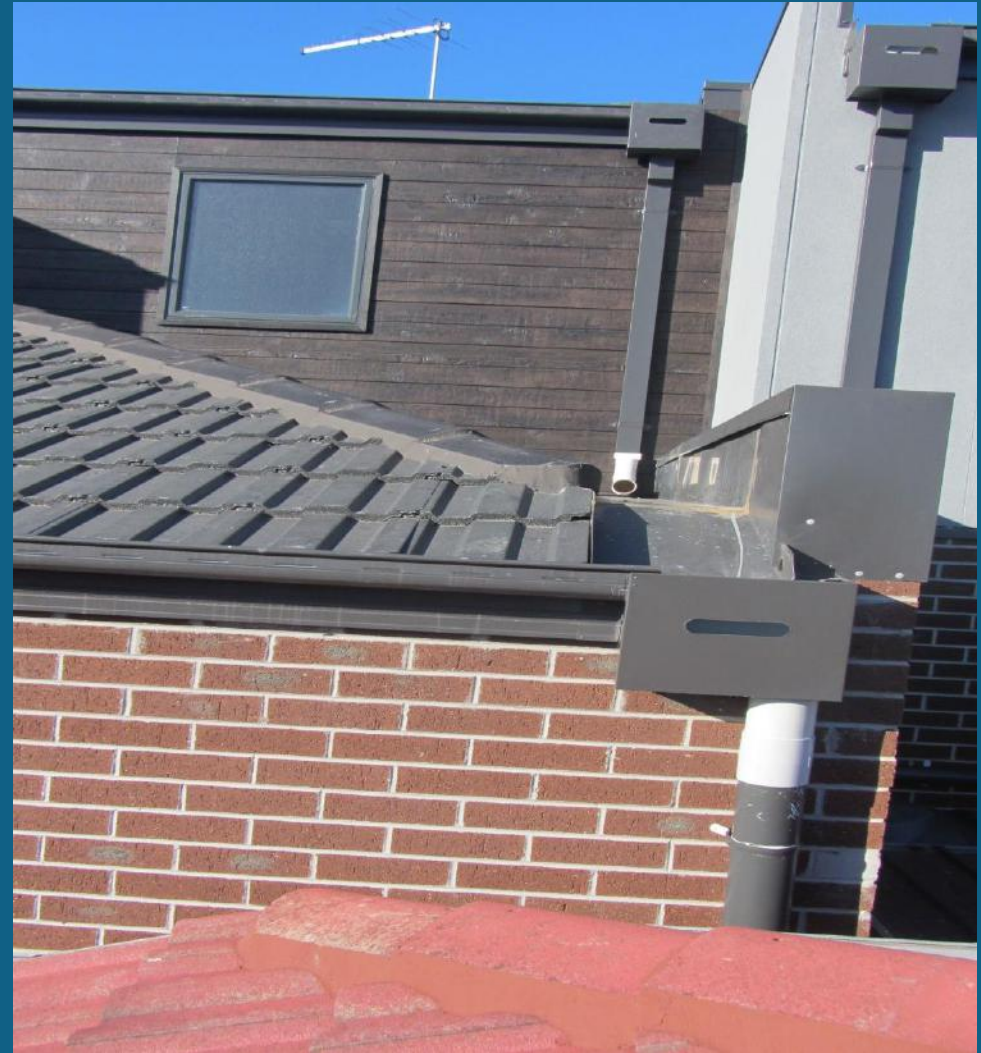


Have a voice

Propose changes to standards

- <https://www.standards.org.au/standards-development/developing-standards/proposal>
- <https://www.abcb.gov.au/propose-change>
- Joint Technical Committee WS-014, Plumbing and Drainage.
- Victorian variations & additions to the NCC

Overflows & controlling the discharge?



**Does this satisfy
the NCC &
AS/NZS3500:3?**



Is the stormwater discharge controlled?



Overflow at front entrance: Design Issue? Installation issue?



Box Gutter or Soaker Gutter?



Box Gutter & Valley Gutter?



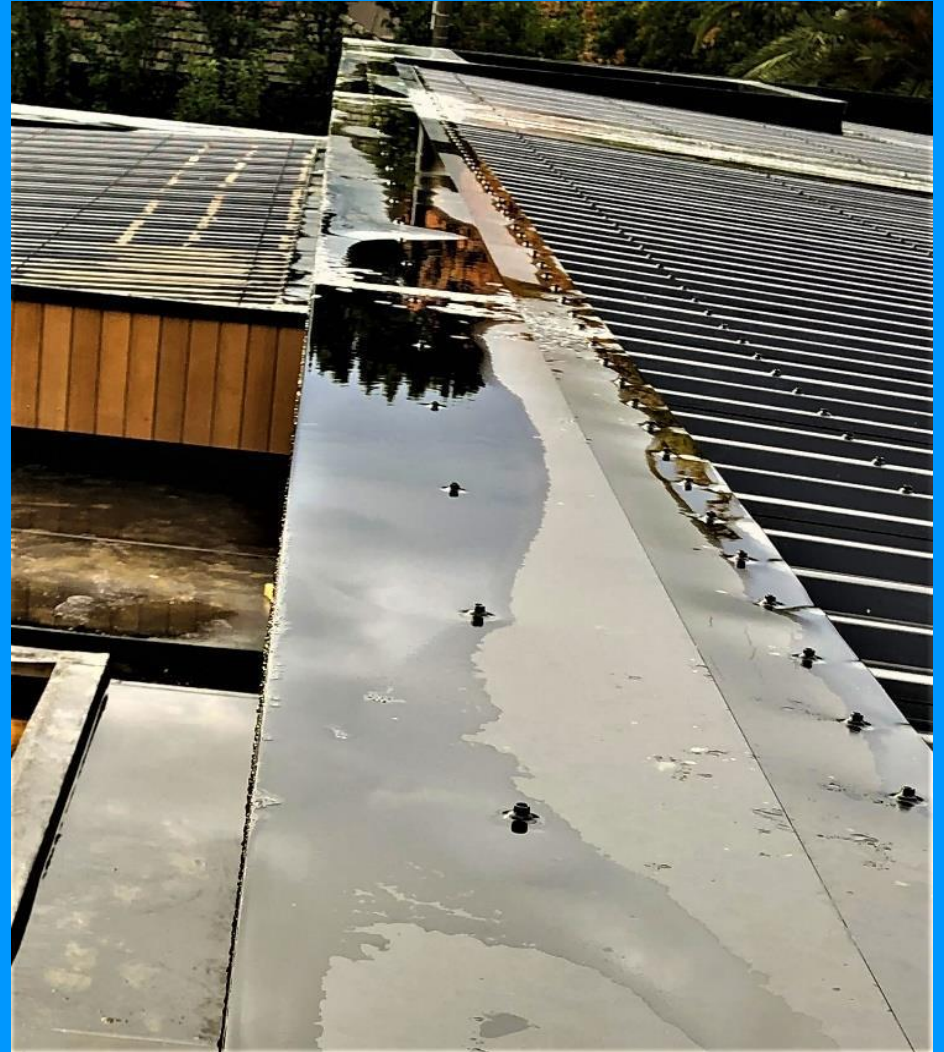
**Hard hat &
raincoat
required**



Rainheads?



Parapet flashings?



Box Gutter depth?



Box Gutter discharges to?



What a mess!
Will this meet
the performance
requirements of
the NCC?



Back flashing/pan flashing requires a performance solution



Diverter/splash guard requires a performance solution





VBA Resources

VBA Webpage

- [Practitioner Education Series previous sessions | Victorian Building Authority \(vba.vic.gov.au\)](#)
- [VBA-Fact-Sheet-Roofing,-common-roof-drainage-faults-and-enquiries-box-gutters.pdf](#)
- [Plumbing Resource Hub Landing Page - Victorian Building Authority \(vba.vic.gov.au\)](#)
- [Audit & Inspection Checklist - 0 Audit Roof Plumbing \(vba.vic.gov.au\)](#)
- [Webinars - Victorian Building Authority \(vba.vic.gov.au\)](#)

Q & A



Thank you