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## SITE INSPECTION AND REPORT

Report by:

Conducted on:



Site address:

Client:

Phone:

Email:

Roof type:

Nature of works:

## Duties

Our role is to assist our client with issues that may be identified as being within the scope of their builder/contractors to ensure that all construction items are correctly constructed and completed in a workmanlike manner and all relevant codes and industry practises as per the building regulatory system. As such the client has engaged our services to provide this report. We were instructed to inspect our client's roof structure and to report on the overall installation of all items within the roof structure.

## Access

Access was gained to all required areas of the residence unless noted otherwise within the report. All high-level areas were accessed with the use of a drone.

## Inspection and Report

This Report is a list of items that in our judgement do not reach an acceptable standard of quality, level of building practice, or have not been built in a proper workmanlike manner, in relation to the Building Code of Australia, (BCA) the Building Regulations, any relevant Australian Standards and the acceptable standards and tolerances as set down by the Building Commission. Visual inspection of the overall finishes and quality of those finishes was completed with the use of a drone to access out of reach areas.

## Report Conditions

The terms and conditions by which our site inspection and report are undertaken and supplied under are listed on the last page of this report.

The building process is progressive, items in this report may or may not be covered during the build. We recommend all clients book a reinspection and items from previous reports that we can no longer view will not be included in future reports. We will use all endeavours to ensure rectification, however we are limited to non-destructive methods of detection.

## Summary

An inspection was conducted at the above address on **20/02/2024** for the purpose of a general inspection, requested by the client.

The inspection was conducted **with** the client present, and details exterior and interior.

The weather was fine at the time of the inspection.

Entry to site was obtained under the Building Act, 1993, section 240 and the Domestic Building Contracts Act, 1995, part 2, sections 17 and 19. We act and make limited representations under the direction of the dwelling owners under these two acts.

The results of our inspection have been fully detailed in the attached schedule of Building Defects.

Should the reader/s of this report have any additional questions in relation to the items set out within, they may contact the author via any of the methods detailed at the top of the cover page.

## Schedule of Defects

Defects, observations, and other related comments from Roofing Inspection on **20/02/2024**:

1.

**NCC 7.2.7 & AS 3500.3 part 4.7.2.2:- Sealant joints shall be used in conjunction with mechanical connections or fasteners, and spaced at not more than 40 mm centres. Flashings and capping connections do not meet these requirements.**

7.2.7 Flashings and cappings

[2019: 3.5.1.7]

(d) Joints in *flashings* and cappings must be not less than 75 mm, lapped in the direction of the fall of the roof, and fastened at intervals not more than 40 mm.

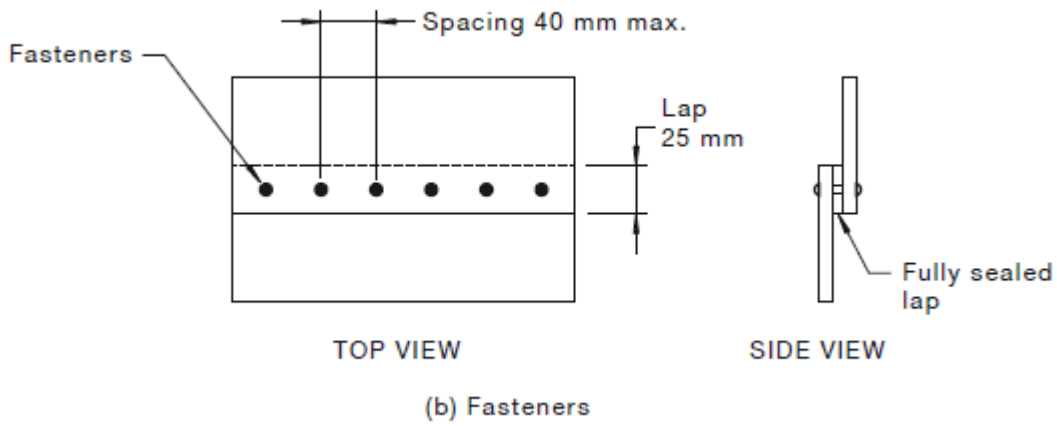
### 4.7.2.2 Sealant

Sealant joints shall be used in conjunction with mechanical connections or fasteners as specified in AS/NZS 2179.1, and spaced at not more than 40 mm centres. The sealant shall be sandwiched between clean surfaces of the components of the joint to ensure a positive seal and to protect the sealant from exposure to ultraviolet radiation.

Laps shall be as per Clause 4.7.2.3.

### 4.7.2.3 Laps

The laps for eaves gutters shall be not less than 25 mm. The laps for box gutter fasteners shall be spaced at not more than 40 mm centres and not less than 10 mm from the edges of the joint.



All areas to comply  
2.

SA HB 39;5.3.1, 3500.3; Figure 3.8: - Over flow size to rainhead are to be calculated in accordance with AS 3500.3.

Builder to clarify calculations.

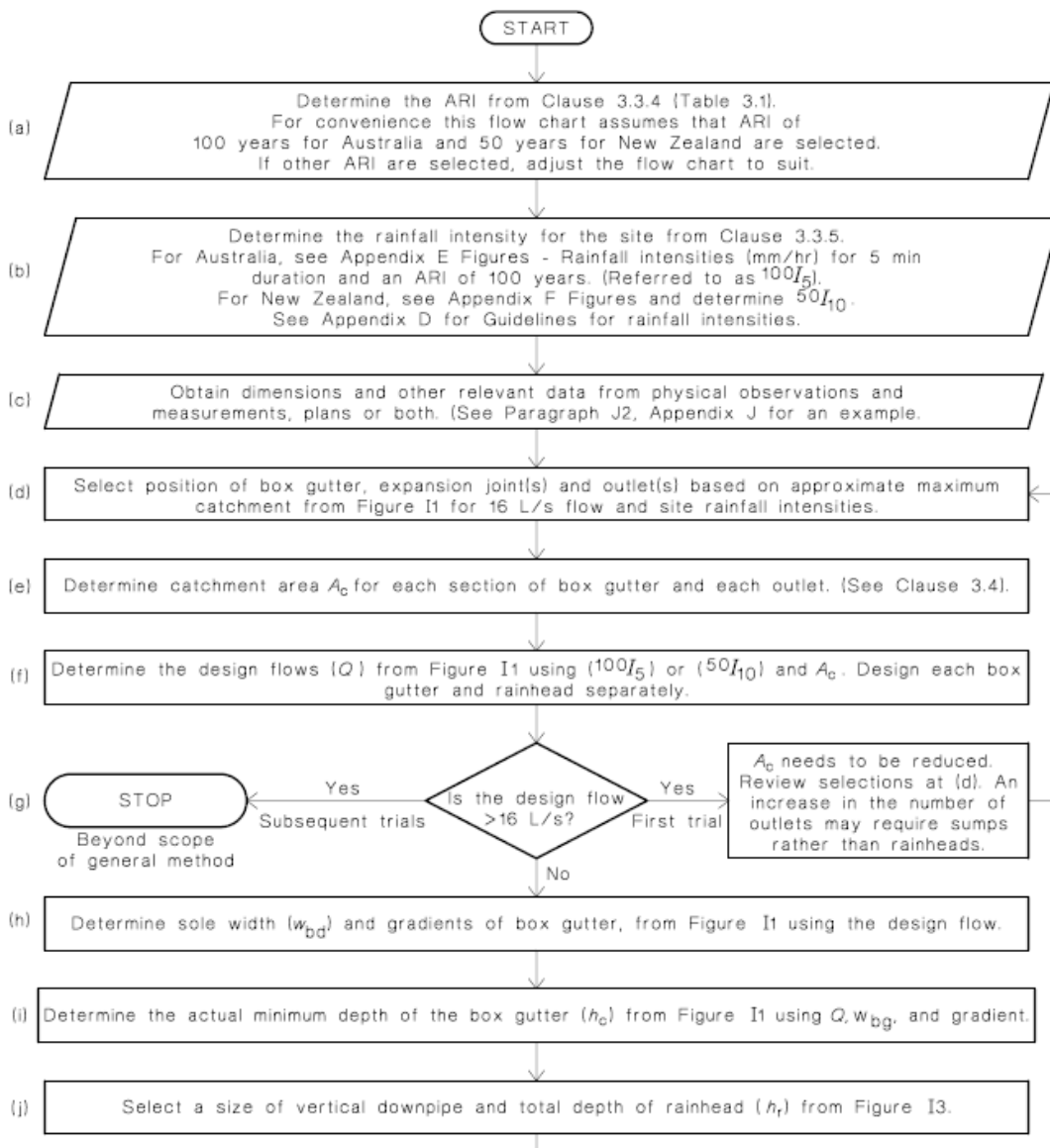
### 5.3.1 Overflow provision and size

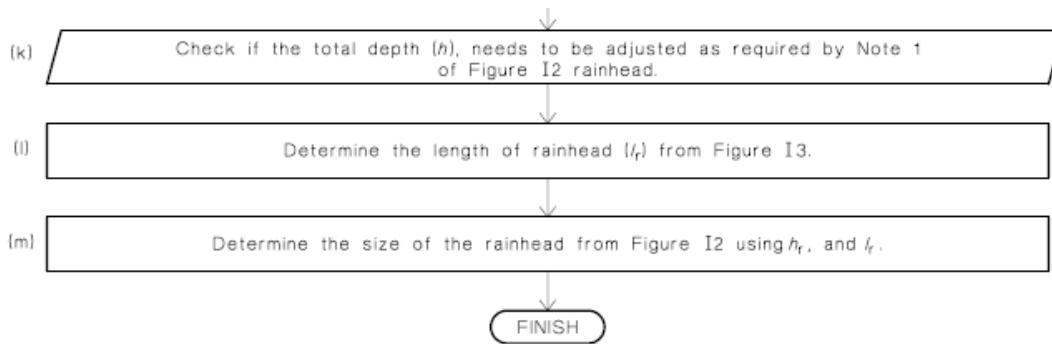
To protect buildings from a total or partial blockage of outlets, downpipes or stormwater drains, it is essential that box gutters discharge all roof water clear of the building via overflows. To ensure that adequate overflow provisions are made and any surcharge is accommodated, the overflow weir of any rainhead is to be not less than 25 mm below the sole of the gutter discharging to the rainhead. Box gutter sumps are to be fitted with overflow ducts, overflow channels or high capacity overflow devices [see Figure 5.3.1(a)].

Particular attention is to be paid to the following (see Figure 5.3.1):

- (a) The size of overflows are to be calculated in accordance with AS/NZS 3500.3.
- (b) Overflows are to be terminated in such a way as to prevent damage to buildings and property.
- (c) The hydraulic capacity of overflow devices are to be not less than the design flow for the associated gutter outlets and discharge to atmosphere.

NOTE: For the design of appropriate overflow devices such as rainhead, sump/side overflow and sump/high capacity overflow devices, see AS/NZS 3500.3.





**NOTES:**

- 1 Selected positions of box gutter, expansion joint(s), rainheads, downpipes and overflow devices shall be compatible with the layout of buildings and site stormwater drains and the criteria for thermal variation (see Clause 4.3).
- 2 Figure I3 is for a box gutter with a gradient of 1:200. For steeper gradients, determine from Figure I1, for the design flow, the equivalent total depth of box gutter with a gradient of 1:200. Determine from Figure I3, for the equivalent total depth, the increased  $l_r$ .

**FIGURE 3.8 FLOW CHART—GENERAL METHOD FOR DESIGN OF BOX GUTTERS, RAINHEADS AND DOWNPIPES**



Ensure rainhead overflow size asd per AS 3500.3

**3.**

**AS 3500.3; 4.4.3:** - Metal roof drainage systems and support systems shall be designed to achieve complete drainage or drying and ensure no premature corrosion.

The current installation has not met these requirements.

**4.4.3 Corrosion due to crevices**

Metal roof drainage systems and support systems shall be designed and installed to achieve complete drainage or drying. Shielded areas capable of causing permanent ponding shall be avoided to prevent the possibility of intense localized corrosion known as crevice corrosion.

NOTE: This type of attack results from contact of metal with moisture and salts under oxygen-deficient conditions in which trapped moisture cannot readily evaporate. It can be caused by lap joints, absorbent gaskets, holes, crevices under bolt or rivet heads, or surface deposits, including non-metallic materials such as elastomeric materials, plastics, fabrics, lifted paint films or accumulated solids.



4.

**SA HB 39;5.8.1:** Soldering or silicone sealed joints are to be flush and lapped 25mm in the direction of the fall.

Dwelling does not meet these requirements.

#### 5.8.1 General

Soldered or silicone-sealed joints are to be flush and lapped 25 mm in the direction of the fall, with one row of rivets or other approved type fastenings at spacings not exceeding 40 mm. This applies to all joints in flashings, cappings, eaves, gutters, box gutters, soakers, penetrations and all general sheet metal joints in roof plumbing.



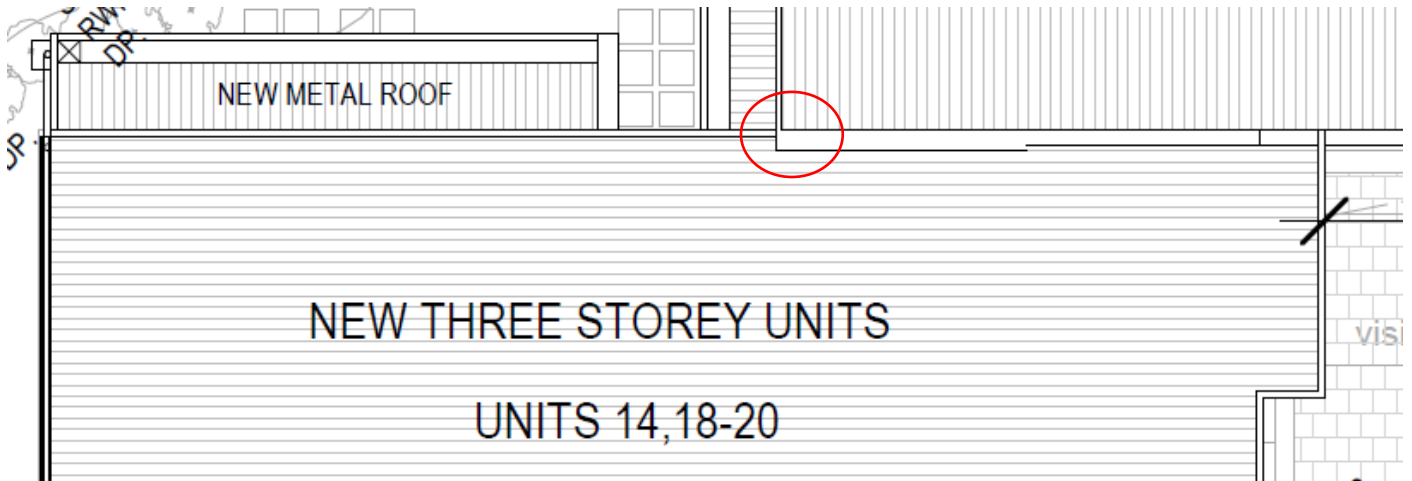
Direction of fall

**The Domestic Building Contracts Act 1995; Implied Warranties, sect. 8(a):** - The building contractor warrants that work will be carried out in accordance with the plans and specifications set out in the contract.

## 8. Implied warranties concerning all domestic building work

The following warranties about the work to be carried out under a domestic building contract are part of every domestic building contract—

- (a) the builder warrants that the work will be carried out in a proper and workmanlike manner and in accordance with the plans and specifications set out in the contract;



5.

**SA HB39; 8.7(b):** - Parapet flashings shall fall back towards the roof coverings so as to prevent water from dripping down the flashing causing unsightly staining. Minimum fall 3 degrees.

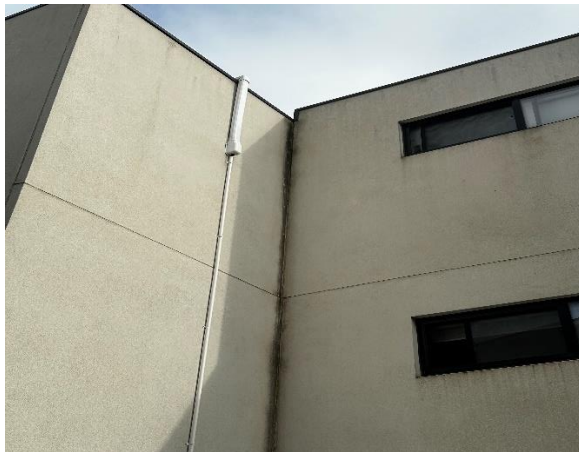
The parapet flashings have not met this requirement.



## 8.7 ALL OTHER FLASHINGS AND CAPPINGS

All other flashings and cappings to be fastened to the metal roof cover at intervals not exceeding 500 mm with self-drilling roof screws into the roof supports or rivets into the roof cover. All self-drilling self-tapping roof screws are to be fastened on crests of roof covers. For particular situations, the following is to be taken into consideration:

- (a) *Thermal movement* Where thermal movement is likely to be a problem, cappings fixed to metal roof covers to be fastened with cleats or sliding supports to all other surfaces.
- (b) *Parapet cappings* Parapet cappings to be fixed to parapet walls at intervals not exceeding 500 mm with masonry anchors and cleats that permit longitudinal expansion and contraction. A minimum fall of 3° to be provided across the width of the flashing, to divert water back onto the roof coverings so as to prevent the water from dripping down the fascia causing unsightly staining [see Figure 8.7(A)].



Garage

All areas to comply.

### 6.

**NCC 2019; P2.2.2; AS 2589 section 4; AS 3999; G2:** -It was noted that the dwelling was not watertight. A roof and external wall including openings around windows and doors must prevent the penetration of water that could cause unhealthy or dangerous conditions and undue dampness or deterioration of building elements.

The dwelling does not meet these requirements.

## Part 2.2 Damp and weatherproofing

Explanatory information:

Objective

O2.2

The Objective is to—

- (a) safeguard occupants from illness or injury and protect the building from damage caused by—
  - (i) *surface water*; and
  - (ii) external moisture entering a building; and
  - (iii) the accumulation of internal moisture in a building; and
  - (iv) discharge of *swimming pool* waste water; and

## **P2.2.2 Weatherproofing**

A roof and *external wall* (including openings around *windows* and doors) must prevent the penetration of water that could cause—

- (a) unhealthy or dangerous conditions, or loss of amenity for occupants; and
- (b) undue dampness or deterioration of building elements.

## **AS 2589-Gypsum Linings-Application and finishing**

### SECTION 4 INSTALLATION

#### **4.1 SITE CONSIDERATIONS**

##### **4.1.1 Site organization prior to commencement of lining**

Sufficient areas in proper sequence shall be available to enable the lining or partitioning work to commence and maintain continuity as part of the programme. The areas to be lined or partitioned shall be protected from the weather and sufficiently dry to ensure that the fixed gypsum lining will not suffer subsequent deterioration due to moisture absorption.

## **AS 3999-Bulk thermal insulation-Installation**

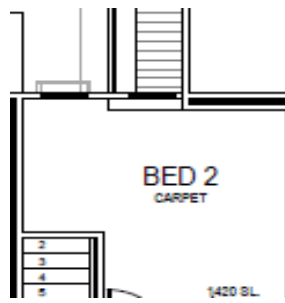
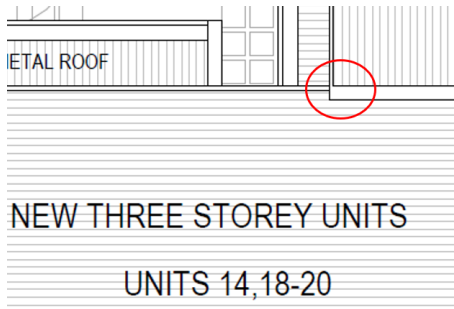
### **G2 MOISTURE ISSUES**

Moisture gives rise to the following problems:

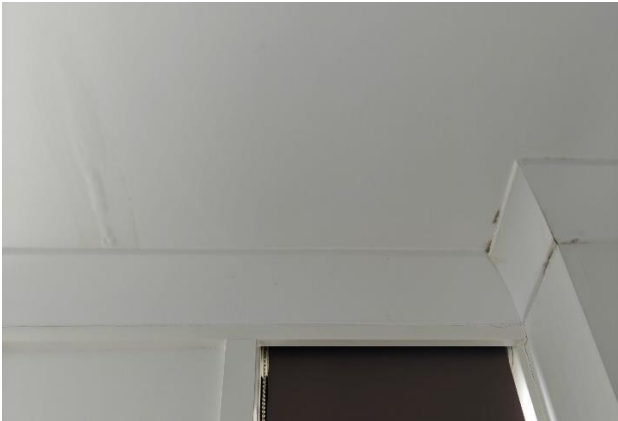
- (a) Surface condensation occurs when the temperature of a surface is at or below dew point temperature of water vapour in the air adjacent to the surface.
- (b) Mould growth on internal surfaces—moulds and their spores are one of the most significant causes of respiratory problems.
- (c) Interstitial condensation occurs within building cavities such as roof spaces and wall cavities, this can give rise to—
  - (i) corrosion of metal components;
  - (ii) decay of timber based components;
  - (iii) nail plate pull-out;
  - (iv) reduction of the performance of insulations; and
  - (v) concealed mould growth.

Minimization of these problems depends on—

- (i) appropriate thermal design of the building fabric for the given climate;
- (ii) consideration of moisture production and ventilation within the building use of combinations of materials that allow for the possibility of storage and movement of moisture within the structure; and
- (iii) use of materials and detailing appropriate to the location and use of the building.



**Note:** Water ingress has been detected in Bedroom 2 of the dwelling. Defects 1, 3 and 4 are found directly above this area of concern.



Photos provided by client

# Rectification Required: YES

## TERMS & CONDITIONS OF BRD Drones Pty Ltd SITE INSPECTION AND REPORT

### 1. Scope

Our engagement is confined to that of a Building Consultant and not that of a Building Surveyor as defined in the Victorian Building Act 1993. We therefore have not checked and make no comment on the structural integrity of the building, nor have we checked the title boundaries, location of any easements, boundary setbacks, room dimensions, height limitations and or datum's, glazing, alpine and bush-fire code compliance, or any other requirements that is the responsibility of the Relevant Building Surveyor, unless otherwise specifically noted within this report.

### 2. Purpose

The purpose of our inspection is to identify any defects in the finishes and the quality of those finishes presented at the time of the inspection. This report contains a schedule of building defects that in the authors judgement do not reach an acceptable standard of quality, level of building practice, or have not been built in a proper workmanlike manner in line with the Building Code of Australia, the relevant Australian Standards or Manufacturers Specifications.

### 3. Assumed Finishes

Our inspection was carried out on the quality of the fixtures and finishes as installed, and no investigation of any documentation or statutory requirements was carried out to verify their correctness.

### 4. Documentation

Unless otherwise noted any contractual documentation made available to us during our inspection is only viewed on an informal basis and we make no certification that the building has been constructed in accordance with them.

### 5. Non-Destructive Inspection

Unless otherwise noted our inspection was carried out on a non-destructive basis and exclude anything that would have require the removal of any fixtures, fittings, cladding, roofing, lining materials or the removal of any part of the pliable membrane.

### 6. Measurements/Levels

Unless otherwise noted no levels or measurements have been taken at the time of inspection.

### 7. Services, Appliances, Plants and Equipment

Unless otherwise noted, we did not test or check for appropriateness, capacity, correct installation or certification of any service, appliances, plant, and equipment,

## 8. Client Use

This report has been prepared for the exclusive use of the client/s whose name/s appear/s on the front of this report as supplied by BRD Drones Pty Ltd ABN 88 672 634 329 Any other person who uses or relies on this report without the author's written consent does so at his or her own risk and no responsibility is accepted by BRD Drones Pty Ltd or the author of this report for such use and or reliance.

## 9. Report Reproduction

This report cannot be reproduced in part; it must only be done so in full.

## 10. Reference

Any reference contained within this report to the Building Code of Australian, an Australian Standard, a manufacturers technical data sheet or installation instruction is neither exhaustive nor a substitute for the original document and are provided as a guidance only. BRD Drones Pty Ltd or the author of this report for the use or reliance upon of the part references contained within this report will accept no responsibility.

## 11. Report Exclusions

- a) Defects in inaccessible parts of the building including, but not limited to, inside the roof space;
- b) Defects not apparent by visual inspection, or only apparent in different weather or environmental conditions as to those prevailing at the time of the inspection;
- c) Defects that we did not consider significant enough to warrant any rectification work at the time of our inspection;
- d) Defects outside the scope of the client brief;
- e) Check measure of area and the overall building, for size, parallel and squareness unless otherwise noted;
- f) Enquiries of Council or any other Authorities;
- g) Defects in relation to PVC sewage and storm water pipes are not covered in this inspection. Clients must seek the services of a licenced plumber to check all sewage and storm water pipes.

## 12. VCAT Suitability

Unless specifically noted this report has not been prepared in-line with the requirements of Practice Note VCAT 2.