Proactive Inspections Program Activity Report

JULY - SEPTEMBER 2021

VICTORIAN BUILDING AUTHORITY
BUILDING CONFIDENCE

VICTORIA State Government

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1. ABOUT

The VBA's Proactive Inspections Program (PIP) is an early-intervention regulatory initiative which aims to identify non-compliant building and plumbing work under construction and ensures the work is rectified. Our team includes experienced building inspectors, building surveyors and licensed plumbers, who typically inspect over 1,000 domestic and commercial sites each month. Inspections focus on either building or plumbing work and sites are chosen using a variety of methods. These include:

- **Random -** identification of building permits (lodged with the VBA) based on pre-defined risk-factors, (e.g. buildings intended for human occupation, buildings that are more than two storeys or costs of works etc.)
- **Intelligence based -** typically involves targeted inspections of practitioners or sites of interest (based on a variety of information, including risk data) and/or a class of builder/building surveyor.
- **Ad-hoc -** inspectors use flexibility to inspect sites that come to their attention while attending other pre-determined sites.

When our inspectors identify compliance risks (that is, potentially non-compliant building and plumbing work), they write to the practitioner or plumber, notifying them of the issues that need to be addressed. Once notified, the practitioner responsible (builder, plumber or building surveyor) must respond to the VBA within three days for serious issues and within 14 days for moderate or lesser risk. Critical life-safety issues must be addressed immediately, and, in these cases, the VBA will telephone the practitioner and relevant building surveyor, as well as notifying co-regulatory agencies such as WorkSafe.

- In some circumstances, the VBA will issue a Direction to Fix to resolve the most critical issues. For example, where non-compliant wall cladding is identified, the VBA will issue a Direction to Fix, requiring the cladding's removal before an occupancy permit is granted.
- The VBA uses a risk-rating scale (Appendix 1) to determine the level of scrutiny applied to a potential issue. The scale considers the potential adverse effects on the future safety of building occupants and people nearby and on the amenity of the building itself.

1.1. MINISTER'S STATEMENT OF EXPECTATIONS

In line with the Minister's Statement of Expectations, our goal is to inspect 10 per cent of all building permits issued in Victoria each year. When selecting inspection sites, we analyse building permit data and consider a range of risk factors. We sometimes target certain types of construction to manage risk and ensure intervention at the earliest possible stage.

1.2. BENEFITS

PIP improves safety and compliance outcomes for building and plumbing work in Victoria through early identification and rectification and, in some cases, by taking other enforcement action. By inspecting work under construction, the VBA can address significant failures earlier, resulting in better outcomes for all involved. At the same time, rectification is often easier and less costly (and covered by practitioners, not the owner) and avoids impacts on the safety, health and amenity of future occupants if the compliance risk had remained undetected or unresolved.

Information and intelligence gathered through PIP enables the VBA to provide advice on building and plumbing standards and education and training in the industry.

1.3. HOW WE CONDUCT PROACTIVE INSPECTIONS

Building and plumbing inspectors are provided with comprehensive electronic inspection checklists. The checklists have more than 500 elements grouped into three parts that address:

- building and plumbing work broken down into different building stages under the National Construction Code – Volumes 1 and 2 (Building Code of Australia).
- mandatory requirements under the Building Act 1993, Building Regulations 2018 and Plumbing Regulations 2018.
- the display of permit information.
- occupational health and safety (OHS) elements such as working at heights, temporary fencing, adequacy of propping and bracing and working in trenches. If any OHS items present an unacceptable risk, the relevant co-regulators (Environment Protection Authority, WorkSafe or Energy Safe Victoria) are contacted immediately by the building or plumbing inspector.

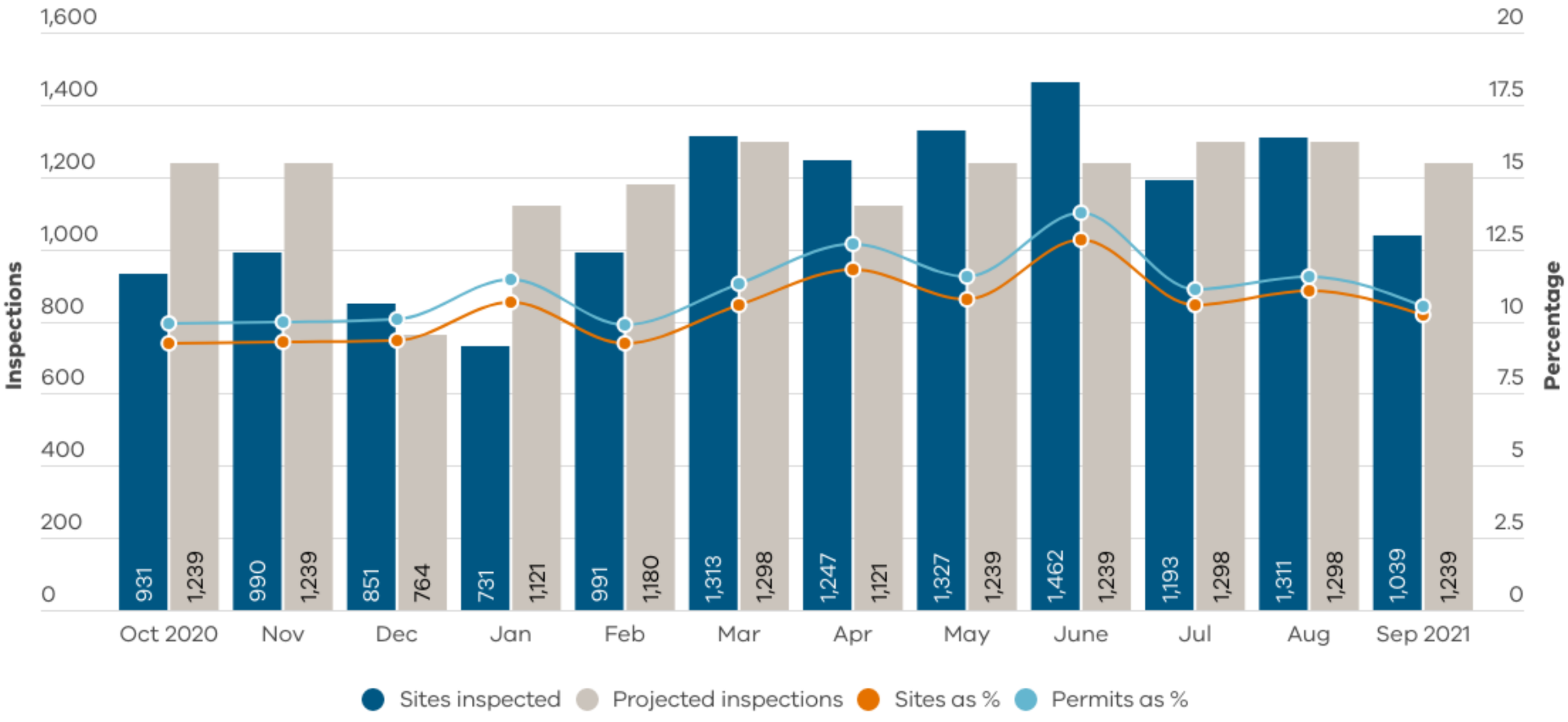
A comprehensive outline of the electronic inspection checklists is detailed in Appendix 2.

1.4. PERFORMANCE YEAR TO DATE

The graph below illustrates the number of sites inspected each month and demonstrates how the VBA is tracking against the Minister's Statement of Expectations to inspect 10 percent of new building permits every year.

INSPECTIONS YEAR TO DATE - OCTOBER 2020 TO SEPTEMBER 2021

Projected inspections are based on full financial year forecast of building permit activity across the State as well as historic monthly building permit activity trends. Actual activity is reported from building permit levy data and may vary from projected totals. Discrepancies between projected and completed inspections may occur depending on unforeseen industry activity and resource allocation (e.g. COVID-19 restrictions).

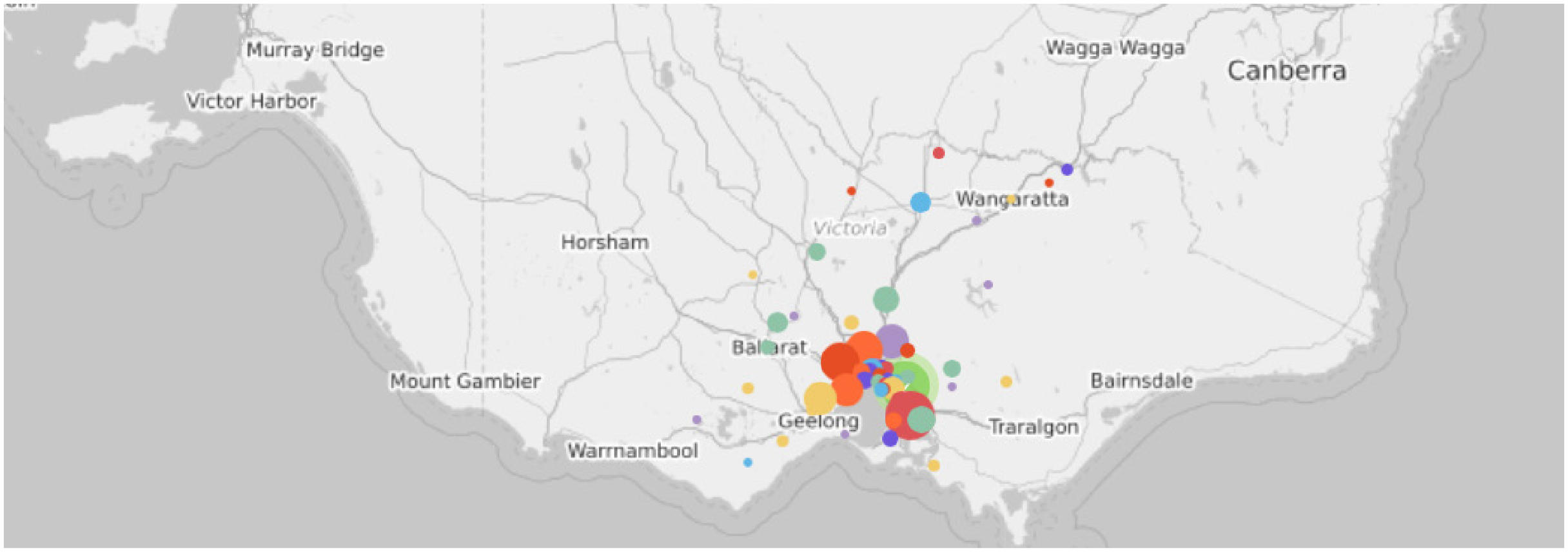


2. Q1 IN FOCUS

A total of 3,546 inspections (comprising 2,041 building and 1,505 plumbing inspections) were conducted across 56 municipalities in Victoria, covering 1,504 builders and 239 building surveyors across the state.

Due to the escalation of COVID-19 outbreaks occurring on construction sites in September, about 600 fewer inspections than anticipated were conducted in this quarter. During this time, the two week closure of construction sites resulted in an increase in the number of "abandoned" inspections. For the period of 15 September to 29 October 2021 VBA Inspection and Audit resources were redeployed, with 14 building and plumbing inspectors undertaking joint COVID-19 compliance observations as part of the Victorian Government joint agency Operation Construction.

Q1 INSPECTION MAP - JULY 2021 TO SEPTEMBER 2021



Larger Dots = More Inspections

https://vba.vic.gov.au/building/complaints-compliance-enforcement/proactive-inspections-program/proactive-inspections-program-reports

2.1. WHAT WE FOUND

1,329 or 37% per cent of inspections conducted during the quarter identified at least one compliance risk which if not appropriately considered or addressed, had the potential to cause:

- an adverse effect on the safety or amenity of future building occupants, and the public.
- financial loss for future occupants or loss of structural integrity.

This quarter has seen a 9% increase in the rate of compliance risk observed, from 28% last quarter. This increase is linked to higher non-compliance rates observed on domestic construction sites, for both plumbing and building.

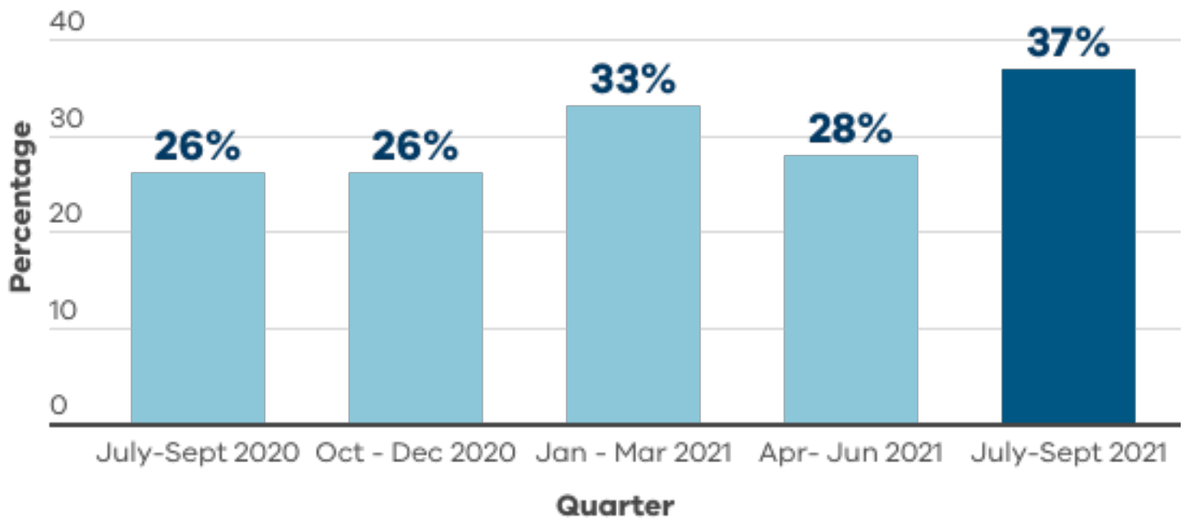
The non-compliant **plumbing** issues increased in prevalence this quarter. The top 12 non-compliant elements in plumbing collectively increased by 34%, from 519 non-compliance items last quarter to 697 this quarter.

The non-compliant **building** issues also increased in Q1, despite 74 less inspections undertaken compared to the previous quarter. The top 20 non-compliant elements in building, collectively increased by 20%, from 1023 to 1228.

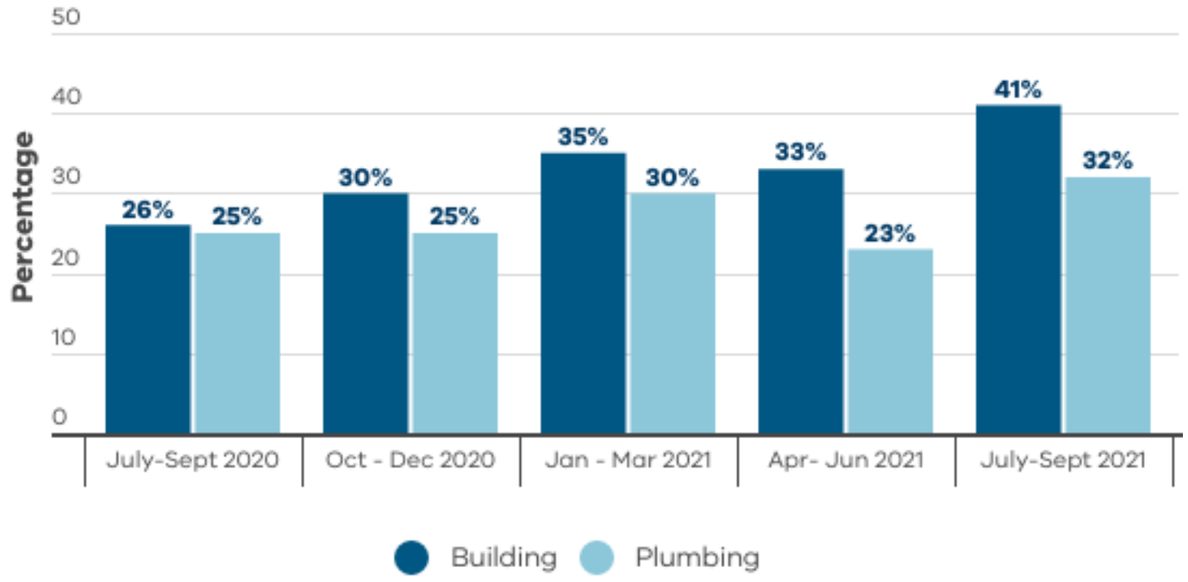
The most likely reason for this increase in non-compliance rates is related to a shift in site selection criteria used by the VBA, which:

- sought to select more sites that had progressed beyond slab stage (by identifying slightly older permits),
- targeted municipalities with high volumes of permits, and
- targeted practitioners of interest as a result of intelligence sources.

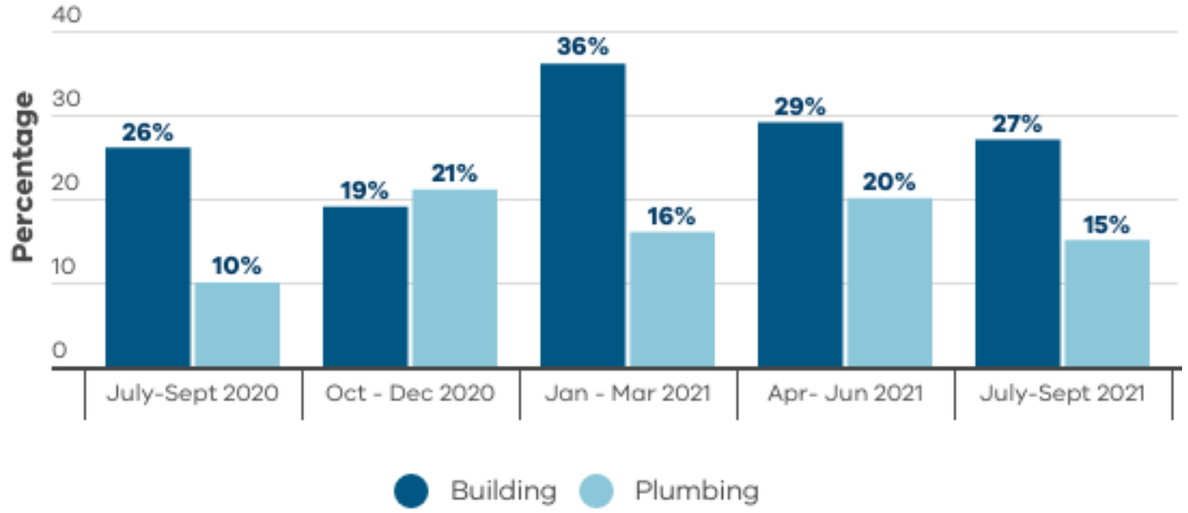
YEAR TO DATE - OBSERVED COMPLIANCE RISK - ALL INSPECTIONS



YTD - OBSERVED COMPLIANCE RISK - DOMESTIC WORKS



YTD - OBSERVED COMPLIANCE RISK - COMMERCIAL WORKS



CRITICAL ISSUE

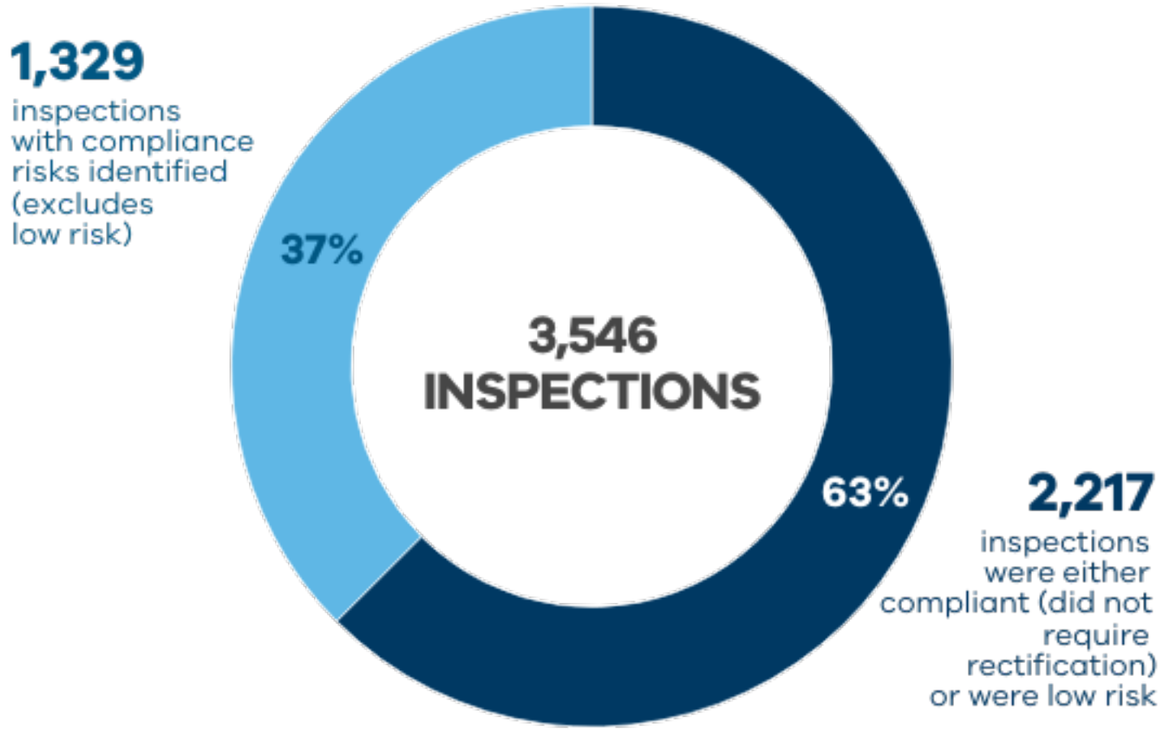
1.5% of inspections identified non-compliant issues of a severity that could result in adverse effects on safety or amenity, financial loss for future occupants or loss of structural integrity if left untreated. This rate is consistent with previous quarters since January 2020. Sites with OHS risks are reported in this category, with breaches referred to the relevant regulator on the same day. Details of the critical issues are outline in Appendix 3.

2.2. ACTIONS TAKEN BY THE VBA

The VBA sent 1,329 notifications to practitioners requiring them to respond to the compliance risks identified by the PIP.

Typically:

- 15 to 18 % of the notifications sent to practitioners result in them providing all relevant documents (such as an approved performance solution, engineering drawings or certificate of compliance from a registered practitioner) showing how the work meets the requirements of the relevant building legislation. This is because practitioners are not currently required to lodge this documentation with the VBA.
- 1 to 2 % of the notifications results in them demonstrating the work is incomplete rather than non-compliant and will be resolved as the build progresses.
- The remaining notifications of non-compliant work identified requires rectification and the practitioners must provide the relevant building surveyor (RBS) or the VBA with proof the work has been brought into compliance.



2.3. ENFORCEMENT ACTIVITY

The VBA expects the RBS to manage any required rectification using their enforcement powers.

Typically, a verbal Direction to Fix is issued to the builder. However, depending on the severity and risk of the issue, the RBS may choose to issue a written Direction to Fix or a Building Notice to the builder or owner and notify the VBA. The VBA monitors all sites needing rectification to ensure the appropriate work is carried out.

In exceptional circumstances, the VBA will issue a written Direction to Fix to the builder instead of the RBS. This may occur when the RBS appears to have contributed to the non-compliance or where the issuance of an occupancy permit is imminent, and the VBA wants to ensure the non-compliance is addressed before the property is handed over to the owner. In Q1 2021–22, the VBA issued no written Directions to Fix.

WHO RECEIVES THE NOTIFICATIONS?

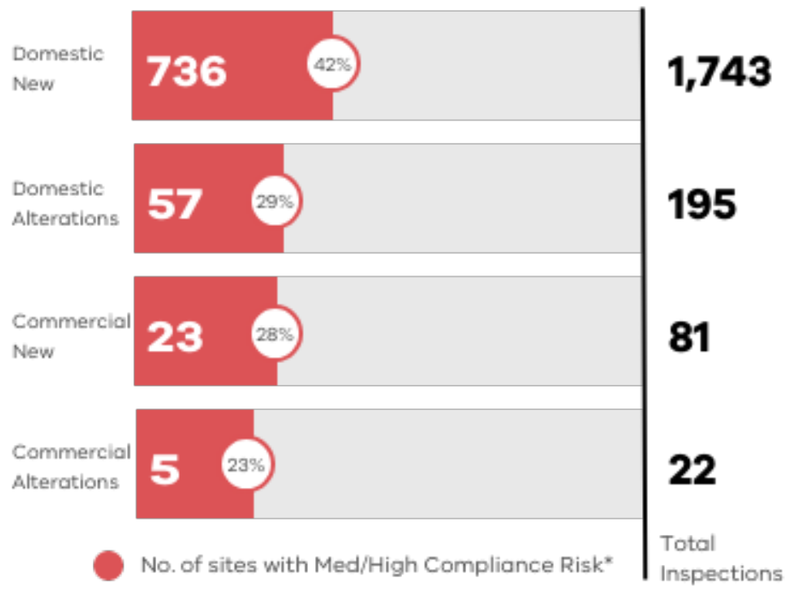
The builder and relevant building surveyor (RBS) are notified when compliance risks are identified. However, the builder is the primary addressee for potentially non-compliant building work if the elements have not been subject to a mandatory inspection stage. Where elements have been subject to mandatory inspection, the RBS is the primary addressee.

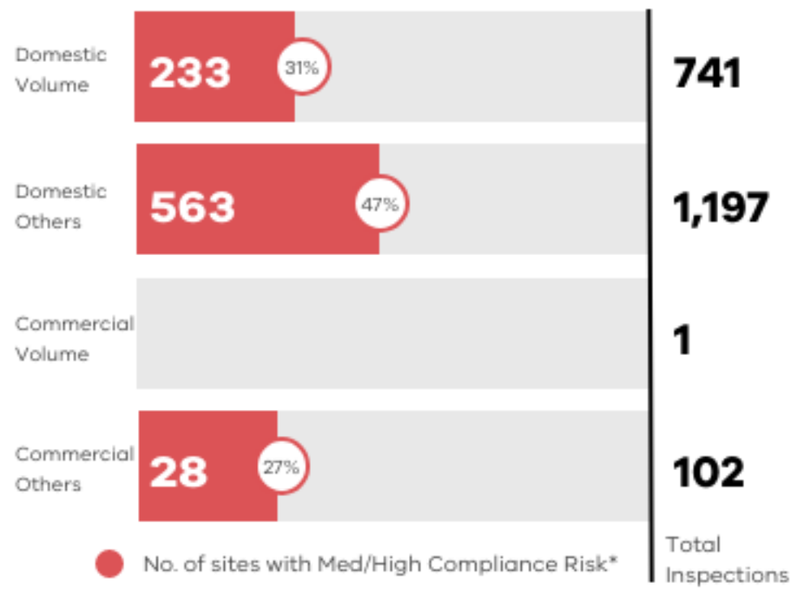
The RBS will also be the primary addressee when the endorsed building permit documentation is considered to lack sufficient information to show compliance for the purposes of the inspection (such as a performance solution) or in situations where the RBS has not considered mandatory items (such as fire separation in dual-occupancy buildings) .

The builder is also the primary addressee for potentially non-compliant plumbing work because the plumber is not named in the building permit documents. The VBA relies on the builder to provide the plumber's details. If provided, the VBA will also notify the plumber of any potential issues.

3. BUILDING INSPECTIONS

3.1. OVERVIEW OF BUILDING INSPECTIONS CONDUCTED IN Q1





GEOGRAPHIC TRENDS

Volume – Greater Melbourne 'Growth Corridors' had the highest number of inspections undertaken, where building permit activity is also the greatest.

Inspection outcomes comparisons – the comparisons across different regions of Victoria provide an interesting trend.

- **Domestic Class 1 buildings –** a slightly higher prevalence of non-compliant issues was observed on Domestic Class 1 building sites in 'Greater Melbourne' (43%) compared to other regions of Victoria.
- **Commercial Class 2-9 buildings –** a different trend was found in commercial building sites. 'Regional' and 'Growth Corridor' areas of Victoria have the highest prevalence (33%) of non-compliant issues observed and 'Greater Melbourne' the lowest (26%). Noting the commercial building sample size in Regional Victoria is small.

NEW BUILDS VS ALTERATIONS

Volume – 'New Builds' in Q1 had the highest number of inspections undertaken, where building permit activity is also the greatest.

Inspection outcomes comparisons – a much higher prevalence of non-compliant issues were observed during inspections of 'New' buildings (42%), compared to buildings going under 'Alterations' (29%) in domestic building sites. The same trend was observed in commercial building sites, but not to the same extent.

VOLUME VS OTHER BUILDERS

Volume – 'Large Volume Builders', proportionately have a higher volume of inspections undertaken because 'Large Volume Builders' typically build new dwellings in growth corridors areas of Melbourne.

Inspection outcomes comparisons – a lower prevalence of non-compliant issues were observed during inspections of sites managed by 'Large Volume Builders', compared to all other builders for domestic building sites.

The VBA reviews trends like this to update its risk-based site selection to ensure it selects sites based on the highest risk to the adverse effect on the safety or amenity of future building occupants, and the public.

3.2. OVERVIEW OF WHERE THE COMPLIANCE RISKS ARE FOUND

This quarter the VBA introduced an enhanced method of calculating the prevalence of non-compliant issues. Previously, the percentage prevalence was calculated by the relationship between the number of non-compliant items in a category over the 'number of inspections' conducted, and at the most relevant stage the item is likely to be visible to inspect. Improved reporting tools for PIP inspections, (reconfigured in July 2021), allows the inspectors to record if an item was available for inspection or not. As a result of this, the 'number of times an item was inspected' is now recorded and applied to calculate the prevalence percentage of non-compliant items instead of 'the number of inspections'.

What has changed using this method:

This new method of determining the prevalence of non-compliant building work has enhanced the insight provided by identifying that some elements were previously under recorded or not recorded at all. An example of this is, domestic buildings under construction, reveals:

- The previous percentage prevalence for 'wet areas and external waterproofing' was reported as being between 5% and 10%. It is now shown to be 18%.
- 'Timber framing' prevalence is higher at 40%, (previously reported between 22% and 32%).
- 'Structural steel members' prevalence had previously been reported at around 3%, and now is 12%.

Similarly, in commercial buildings under construction, 'damp and weatherproofing' % prevalence is much higher at 22%. (previously reported between 6% and 11%).

What hasn't changed using this method:

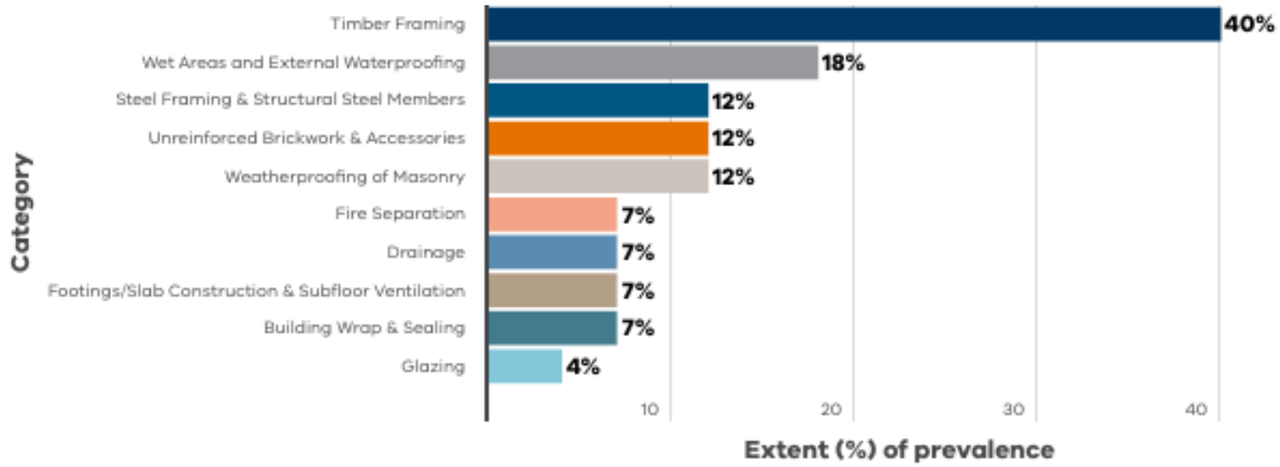
The top non-compliant categories remain largely the same, being:

- Timber Framing;
- Unreinforced masonry and accessories;
- Fire separation,
- Footings and slabs; and
- Weatherproofing of masonry.

An exception to this is 'building wrap and sealings' reported in the top non-compliant catergories for the first time, this quarter.

DOMESTIC

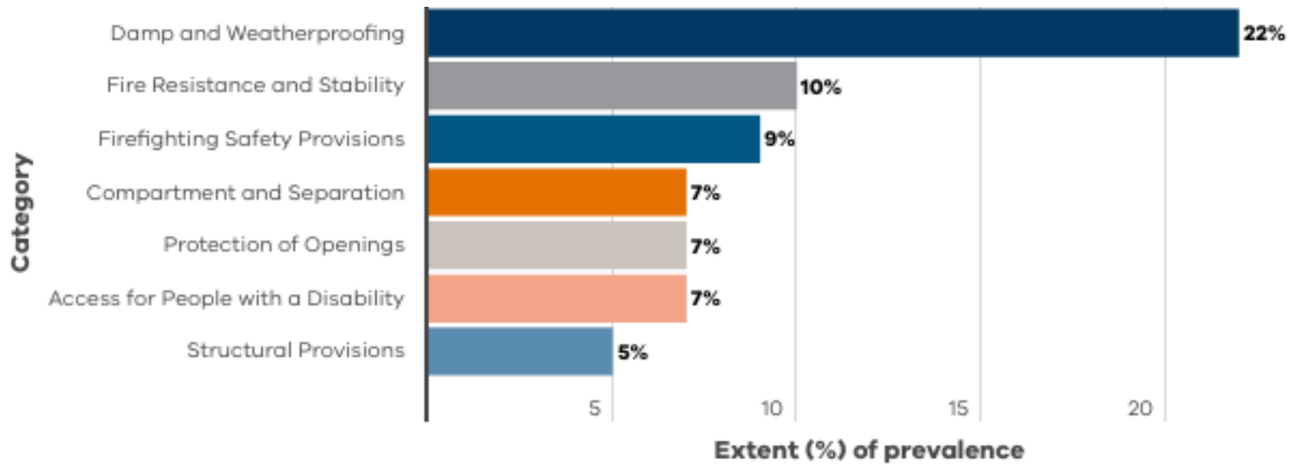
The most prevalent categories where non-compliance risks are observed (medium and high risk).



It is important to note that the prevalence of non-compliance risks observed in timber frames is higher than other categories, as it reflects the large number of items assessed in a timber frame compared to the other categories. Percentages, therefore should not be compared between categories due to this variable.

COMMERCIAL

The most prevalent categories where non-compliance risks are observed excluding low risk.



For more information on the nature of non-compliant issues observed in this quarter go to Section 3.3 ('Overview of Building Compliance Risks').

3.3. OVERVIEW OF BUILDING COMPLIANCE RISK

DOMESTIC (CLASS 1)

Approximately 30,000 elements were assessed across 1,938 domestic building sites in Q1 (an average of 15 elements per inspection), of which 1,467 elements were identified as a compliance risk (across 793 sites) and required rectification or justification. Of these elements, 75 were critical (across 40 sites) and required immediate attention.

Examples of these issues included the following issues observed in buildings under construction:

WET AREAS AND WATERPROOFING

- Across several sites, water stops were not installed across door openings and wall to floor waterproofing not correctly installed.
- Water stops installed in wet area not sealed to the floor with waterproofing and mounted higher than the tile bed contrary to section 5.7.2.2 of AS3740. Observed in a new single-story dwelling under construction in the City of Maroondah.
- The waterproofing of the shower recess, in a new double storey dwelling, was affected by retrospective installation of a wall niche, in the City of Glen Eira.
- Windows located within the shower areas, of a multi-unit dual occupancy development, was not waterproofed, in accordance with AS 3740 – 2010, in the City of Hume.
- Construction of two new dual occupancy units, in the City of Boorondara and another single occupancy dwelling in Cardinia Shire, had no overflow facility to the balconies to comply with NCC 2019 Volume 2 Part 3.8.1.3, AS3500.3 Part 3.8 and AS4654.2 Part 2.11.

STRUCTURAL STEEL MEMBERS AND STEEL FRAMES

- The top plate connections to the steel columns in the stairwell void were not made in accordance with the approved engineering documentation, in a single occupancy dwelling, in the City of Melton. The connection used was a flat plate with 1 M12 bolt instead of 100 x 6EA with 2 M12.
- Coach bolts were not used to connect the steel floor beams to the timber top plate, in the construction of two new townhouses and alterations to existing dwelling, in the City of Maroondah.

FIRE SEPARATION

- Construction of fire separating walls not constructed as per manufacturers guidelines at several sites and included: shaft liner panel damage, lack of mineral wool installed at external wall intersections, gaps not maintained between frame, wall clips were nailed (not screwed) and only installed to one side of the shaft liner.
- Clear spaces between fire separation walls were observed in three new double-storey dual occupancy units, in the City of Monash, not in accordance with BCA 2019 Vol 2 Part 3.7.3.2 (d).

UNREINFORCED MASONRY AND ACCESSORIES

- Lintels to openings of brickwork of a two-storey dwelling in the City of Hume, were not galvanised (as per with BCA 2019 Vol 2 Part 3.3.5.12) but painted in primer which was already showing signs of surface rust.
- There was no expansion foam within articulation joints throughout the construction of a single storey dwelling in the City of Greater Geelong.
- Construction of six double storey dual occupancy units, in the City of Casey, had multiple issues with unreinforced masonry. Articulation joints were not continuous beside openings, contrary to AS 4773.2-2015 clause 7.1. Brick walls were incorrectly tied/bonded, contrary to AS 4773.2 -2015 clause 10.4. Wall ties were not attached to the timber frame, contrary to NCC Vol 2 – clause 3.3.5.10.

COMMERCIAL (CLASSES 2–9)

Approximately 900 elements were assessed across 103 sites (an average of 13 elements per inspection), of which 59 elements (across 28 sites) were identified as a compliance risk requiring rectification or justification. Of these elements seven were critical (across two sites) and required immediate attention.

Examples of these issues included:

DAMP AND WEATHER PROOFING

- The windows of several units were installed directly onto the slab, without any hob, in a three-storey apartment and carpark development in the City of Manningham.

DRAINAGE

- The finished floor level in a new four-story apartment development, in City of Manningham was the same height as the external path, in front, with the doorframe sitting directly on top of the slab, in contradiction of AS 4654.2—2012 clause 2.8.3. The basement level was also flooded.

STRUCTURAL STEEL MEMBERS

- In a four-story apartment development, in City of Manningham, multiple bolts were not tightened on the connection of the steel column to the steel floor beam, and the dome head bolt for the LVL connection to the structural steel had not been installed to the Structural Engineer's requirements.

FIRE RESISTANCE STABILITY

- The RBS and fire engineer had incorrectly applied the C1.5 concession to a three-storey apartment and carpark development in the City of Darebin. A Type B Construction was required as a concession cannot be applied where the class 2 building is above a class 7a building.
- The fire rated shaft liner was not installed as required by the manufacture's installation guide, in a three-storey apartment and carpark development in the City of Manningham. Aluminium clips were screwed into the shaft liner separating wall in lieu of the steel studs and not installed to both sides of wall, 16mm plaster was also not installed and services were attached to the shaft liner. The shaft liner was also damaged in several locations.

PROTECTION OF OPENINGS

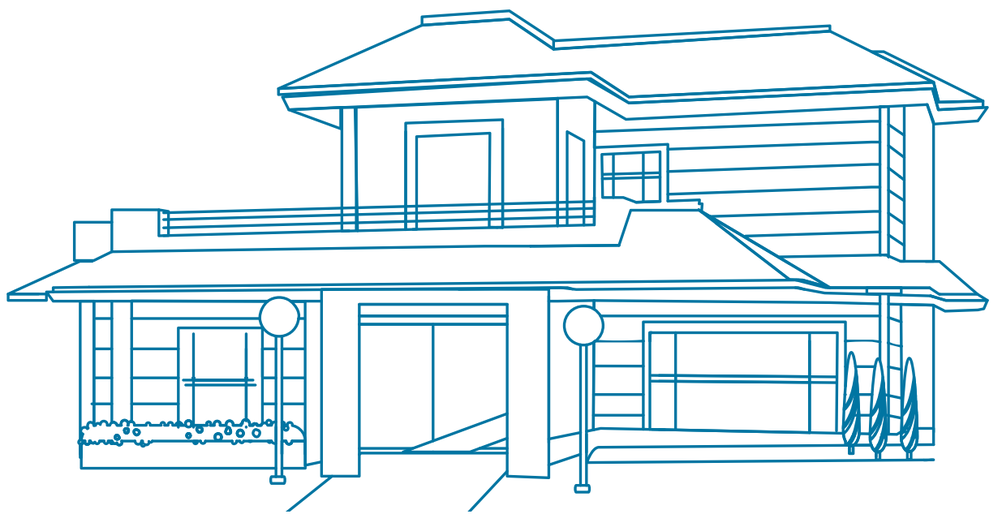
- Service was running horizontally through fire rated walls with no protection as per Spec C3.15 of the NCC 2016 Volume, in a four-storey apartment and carpark development in the City of Greater Geelong .

FIRE FIGHTING EQUIPMENT, CONSTRUCTION OF EXITS AND PROVISION OF ESCAPE

- An area adjacent to the bicycle storage area did not achieve the required 1m clear path of egress required by the NCC 2016 Part D1.6 in a new apartment development with carpark in the City of Melbourne.
- The location of the fire hydrant was not in accordance with clause 3.2.2.2(e) of AS2419.1-2005 as the doorway was located within 2m from the hydrant, in a new warehouse construction in the City of Hume.

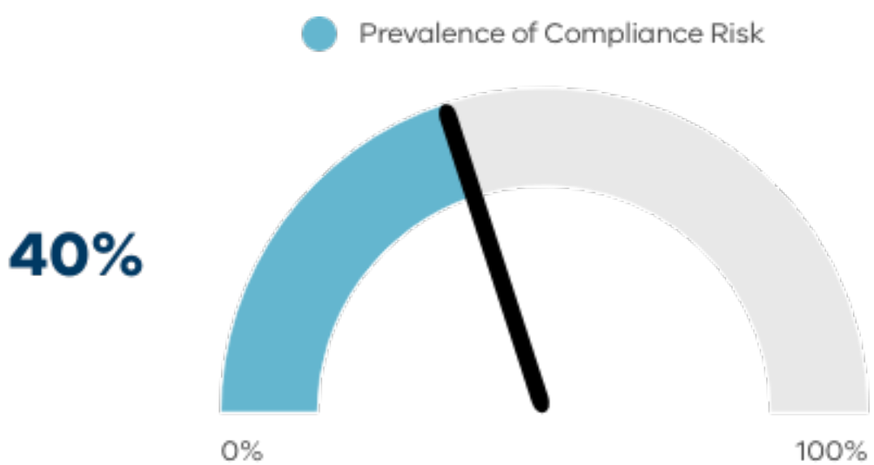
3.4. PREVALENCE OF COMPLIANCE RISKS IN DWELLINGS

SINGLE OCCUPANCY

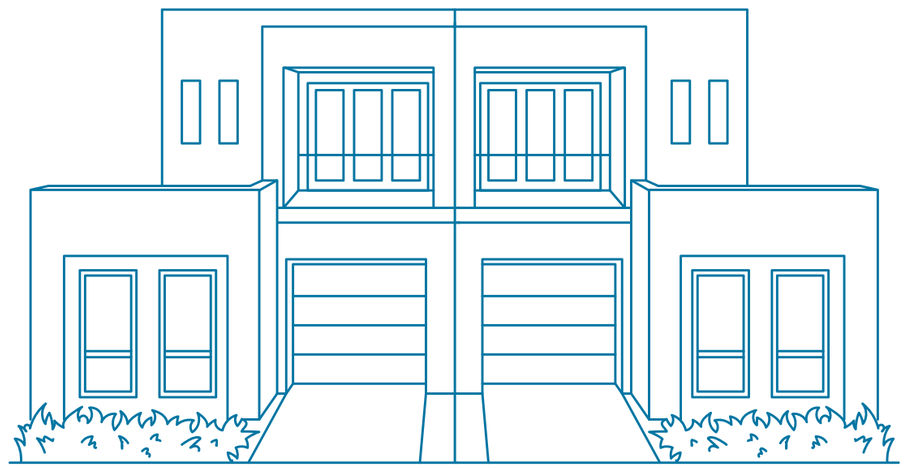


Common Building Issues

- Timber Framing
- Unreinforced Brickwork and Accessories
- Wet Areas and External Waterproofing
- Fire Separation
- Weatherproofing of Masonry
- Structural Steel Members



DUAL OCCUPANCY



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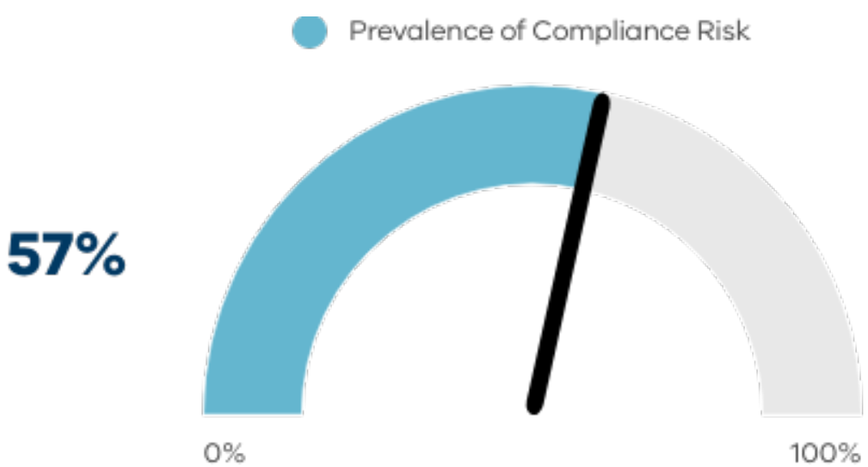


3.5. PREVALENCE OF BUILDING COMPLIANCE RISKS BY CLASS

Class	No. of sites inspected in Q1	% of compliance risks across class from all inspections	Areas of serious compliance risk for building
Domestic (Class 1 and 10)	**1,938**	**41%**	• Timber Framing • Wet Areas and External Waterproofing • Unreinforced Brickwork and Accessories • Weatherproofing of Masonry • Fire separation • Drainage
Apartments ≥2 sole occupancy (Class 2 + mixed use) and group dwellings and hospitals (Classes 3, 4, 9)	**52**	**35%**	• Damp and Weatherproofing • Fire Resistance and Stability • Fire Fighting Equipment, Provision of Escape, Construction of Exits • Compartment and Separation • Protection of Openings • Structural Provisions
Assembly building with no dwellings (Class 9b)	**12**	**25%**	• Damp and Weatherproofing • Structural Provisions • Timber Framing
Office buildings and cafes, shops and markets with no dwellings (Classes 5, 6 + mixed use)	**10**	**30%**	• Damp and Weatherproofing • Protection of Adjoining Property • Provision of Escape • Access for People with a Disability
Warehouse and factories and carparks – no dwellings (Classes 7a, 7b, 8)	**29**	**14%**	• Fire Fighting Equipment • Compartment and Separation • Protection of Adjoining Property

3.6. CASE STUDIES

ALTERATIONS AND ADDITIONS TO AN EXISTING SINGLE STOREY DWELLING

Serious structural framing issue

Overview

A proactive inspection identified several structural framing issues. Various I-Joists were found to have excessive holes that exceeded tolerances permitted by the manufacture; holes had been made within 660mm of the ends and were too close together. The top cord of the roof trusses over the front porch were also missing fixings.

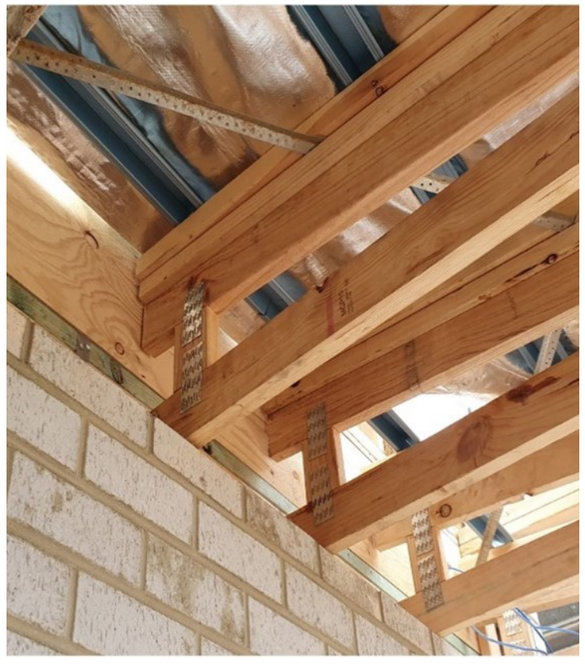
The most serious issue was the top plate connections to the steel columns, (in the stairwell void), that was not made in accordance with the approved engineering documentation; the connection used was a flat plate with 1 M12 bolt instead of 100 x 6EA with 2 M12.

Response

A VBA notification of high-risk building activity sent to the RBS and builder prompted immediate action by the builder who engaged their engineer and joist supplier to provide rectification solutions.

Outcome

The VBA closed the matter after receiving comprehensive photographic evidence of the rectified work from the builder and the engineer's report for the repairs.



NEW TWO-STOREY SINGLE OCCUPANCY DWELLING

Footings and edge beam construction compromised

Overview

A proactive inspection identified cracks in piers poured to the depth of 50mm and service pipes located within an edge beam reducing the beam width.

Response

A VBA notification of high-risk building activity, sent to the RBS and builder, prompted immediate action by the builder to rectify the issues.

Outcome

The piers were unable to be justified and were subsequently removed as a result of the inspection. New piers were installed and the service pipes were relocated, all of which were re-inspected by the VBA to ensure compliance was being achieved on site.

The VBA closed the matter after receiving the relevant mandatory inspection reports and photographic evidence of the rectification process.

CONSTRUCTION OF A MULTI-UNIT DEVELOPMENT (28 TOWNHOUSES & 8 APARTMENTS)

Serious fire separation and fire resistant and stability issues

Overview

The proactive inspection of a multi-unit development revealed, among other non-compliances, multiple issues with how the shaft liner systems were constructed throughout the development; the shaft liner was were not installed in accordance with the building permit, tested systems and manufacturers requirements and had the following issues:

- Wall clips were not used either side of shaft liner, throughout the construction.
- Additional 16mm fyrcheck laminated at floor joist level was not installed between the class 2 and class 1a dwellings and between the class 2's.
- Additional 16mm layer of fyrcheck (installed at ceiling/floor joist level) was not screwed at 400mm cuts in both directions throughout the construction.
- The shaft liners installed on site had gaps greater than 40mm to the studs (as no wall clips have been installed, the shaft liners are not aligned to ensure a max 20-40mm gap was achieved).
- Services were installed in the gap between the shaft liner and studs and therefore not in accordance with the manufacturer's installation requirements.
- A section of one of the shaft liners was unsupported on the concrete slab due to the slab being removed/cut.

Additionally, the RBS did not list a mandatory inspection relating to fire and smoke (Regulation 172) of the Building Regulations 2018 on the Building Permit and the concrete slab had been broken/cut removing and exposing the slab mesh in one of the apartments.

Response

A VBA notification of high-risk building activity sent to the RBS and builder prompted them to rectify the issues and obtain supporting documentation demonstrating compliance.

Outcome

The VBA closed the matter after receiving a range of documents from the RBS that included a fire engineering report, inspection records from the RBS and an amended building permit.

Shaft liners not installed as per manufactures requirements.

Concrete cut exposing the slab mesh.

CONSTRUCTION OF SIX DOUBLE STOREY DWELLINGS

Over 40 non-compliant matters

The proactive inspection of multiple double-storey units observed more than 40 non-compliances after the mandatory frame inspection had been approved. These items ranged from, poorly compacted concrete and insufficient concrete coverage to steel reo, multiple timber framing and structural steel non-compliances, pliable building membrane not installed to external walls throughout and EPS installed contrary to the manufactures requirement. Due to the high number of non-compliances detected, the VBA is continuing to work with the RBS and builder to ensure the non-compliant work is rectified before building work is completed.

Unreinforced Masonry & Accessories

- No sill flashings were installed to openings in masonry veneer walls, contrary to NCC Volume 2 2019 clause 3.3.5.8.

- Wall ties were not attached to the timber frame, contrary to NCC Vol 2 – clause 3.3.5.10

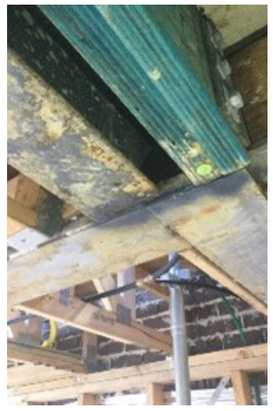
Wall Cladding

- EPS used as the external cladding was not installed in accordance with the manufacture's installation manual.

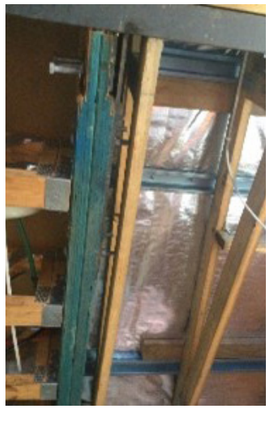
Structural Steel Issues

VBA has requested the engineer to inspect and approve all welds carried out on site.

- Welding of structural steel members on site was substandard and in contravention of AS/NZS 1554.1.



- Connections of structural members were not in accordance with approved engineer's design.

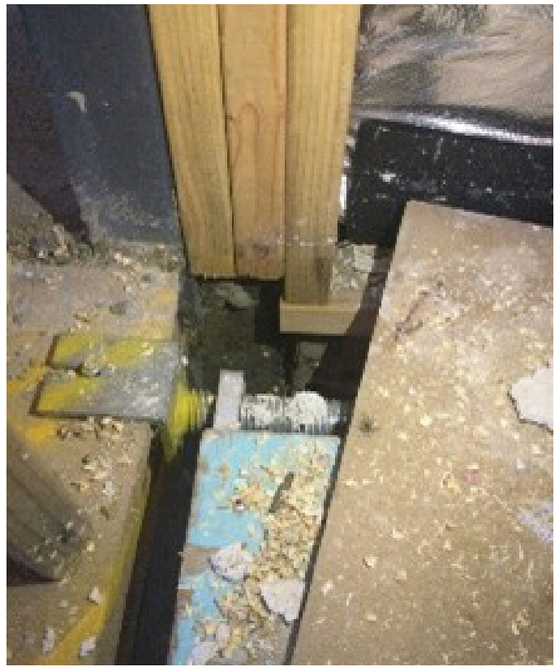


CONSTRUCTION OF SIX DOUBLE STOREY DWELLINGS CONTINUED.

Over 40 non-compliant matters

Timber framing

- Specified timber beam in master bedroom and bedroom two are missing in unit one.
- Timber frame throughout all units were exposed to excessive wetting with mould growing in parts.
- Joist hangers were missing to some posi-strut floor trusses throughout all units, contrary to approved posi-strut floor layout.
- Load transfer blocks and stiffening blocks were not installed to support concentrated loads (point loads, jamb studs to openings exceeding 1200mm) between first floor to ground floor supports, contrary to AS1684.2 clause 6.2.2.2 and floor truss installation manual.
- Sections of the strong backs were removed, contrary to floor truss layout and are not fixed at their ends, contrary to manufactures installation manual.
- Truss ties not connected sufficiently.
- Tie down of plates to studs were not in place from the first floor to ground floor and beside openings in load bearing walls, contrary to clause 9.6 of AS 1684.4 -2010.
- Waling plates were installed to support posi-struts floor trusses and beams supporting floor loads, contrary to engineers design.
- Part of wall frame adjacent column is unsupported.
- Base plate over hanging concrete slab, no structural grouting was installed under baseplates.
- Bolts to steel base plates were not tightened.

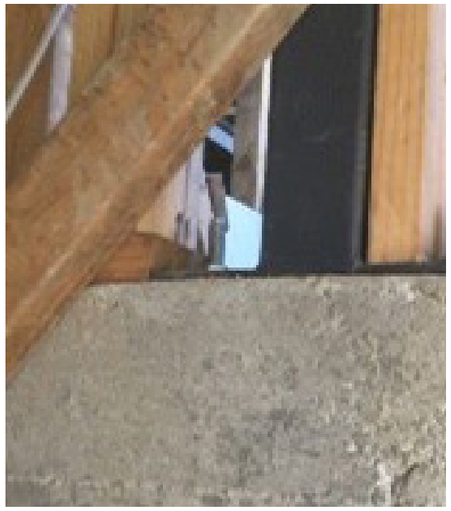


CONSTRUCTION OF SIX DOUBLE STOREY DWELLINGS CONTINUED.

Over 40 non-compliant matters

Slab Construction

- Suspended slab adjacent to garage was poorly compacted and reo exposed, contrary to AS 2870-2011.



- Brick overhanging edge rebate of approximately 40mm was observed along the west side of unit four, contrary to NCC Vol 2 clause 3.2.2.7.

Earth works

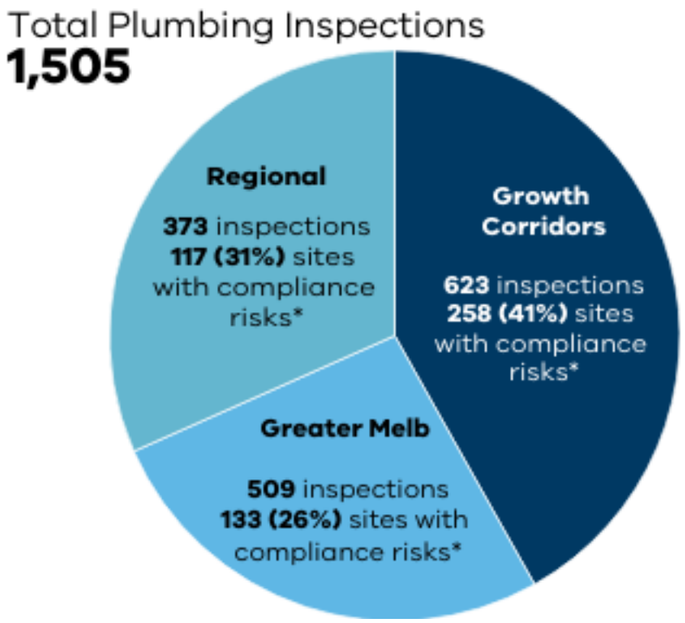
- No retaining structure was installed to North side of unit six, contrary to approved engineers design.

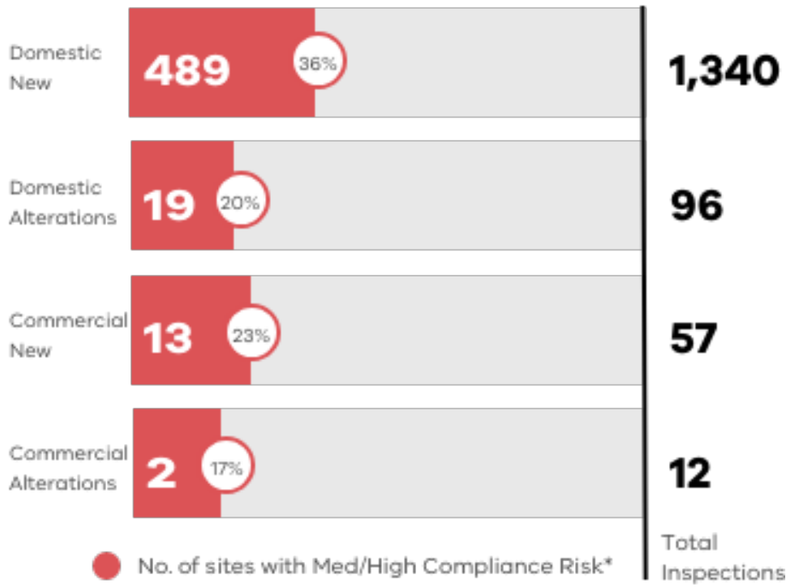
Building envelope

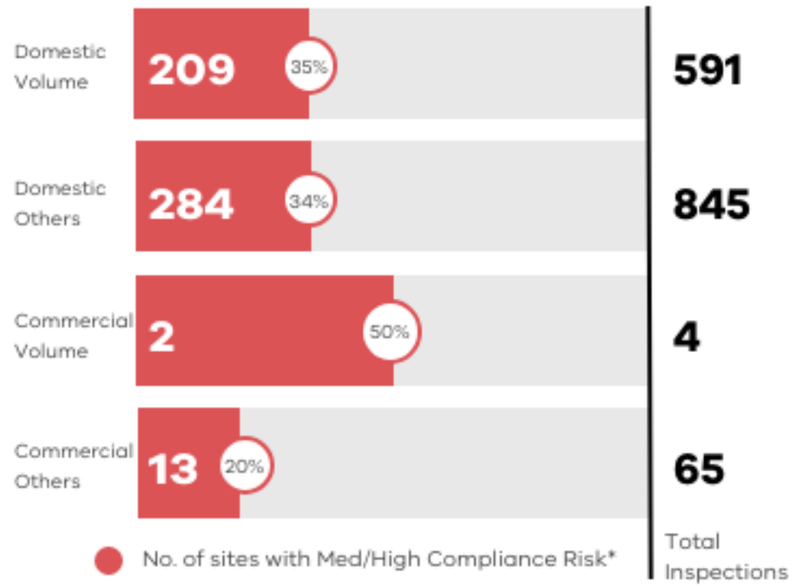
- Pliable building membrane was not installed in all external walls throughout all units, contrary to NCC Vol 2 clause 3.8.7.2.

4. PLUMBING INSPECTIONS

4.1. OVERVIEW OF PLUMBING INSPECTIONS CONDUCTED IN Q1







GEOGRAPHIC TRENDS

Volume – In Greater Melbourne 'Growth Corridors' in Q1, had the highest number of inspections undertaken, where building permit activity is also the greatest.

Inspection outcomes comparisons – The comparisons across different regions of Victoria provide an interesting trend.

- **Domestic Class 1 buildings –** Higher prevalence of non-compliant plumbing issues were observed on Domestic Class 1 building sites in Greater Melbourne 'Growth Corridors' (41%) compared to all other suburbs in Greater Melbourne (27%) and Regional Victoria (31%).
- **Commercial Class 2-9 buildings –** A different trend exists in commercial sites. Prevalence of non-compliant plumbing issues observed on Class 2-9 sites in 'Greater Melbourne' (21%) were similar to Greater Melbourne 'Growth Corridor' (19%) sites. Noting there were no plumbing inspections of Commercial sites in regional Victorian this quarter.

NEW BUILDS VS ALTERATIONS

Volume – 'New Builds' had the highest number of inspections undertaken, where building permit activity is also the greatest.

Inspection outcomes comparisons – Significantly higher prevalence of non-compliant issues is observed during plumbing inspections of 'New' buildings compared to buildings going under 'Alterations' for both domestic and commercial sites, however, the difference was not as pronounced in commercial sites.

LARGE VOLUME BUILDERS VS OTHER BUILDERS

Volume – 'Large Volume Builders', proportionately have a higher volume of inspections undertaken compared to all 'Other Builders' because 'Large Volume Builders' typically build new dwellings in growth corridors areas of Melbourne.

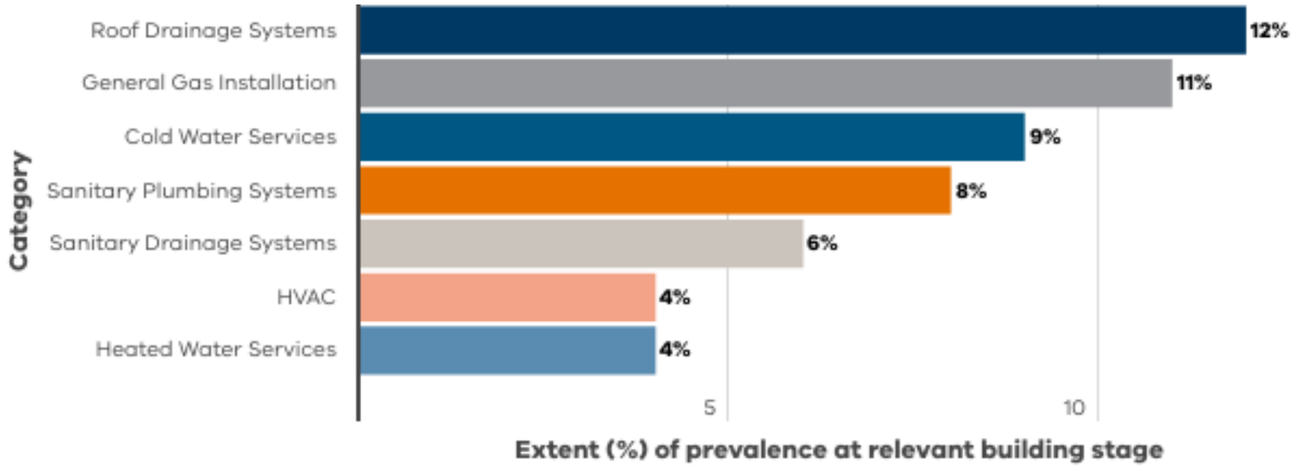
Inspection outcomes comparisons – Prevalence of non-compliant issues observed in domestic plumbing inspections of 'Large Volume Builders' is similar to inspections of all 'Other Builders'. The sample size of commercial plumbing inspections in 'Large Volume Builders' is too small to compare.

The VBA reviews trends like this to update its risk-based site selection, ensuring that it selects sites based on the highest risk to the adverse effect on the safety or amenity of future building occupants, and the public.

4.2. OVERVIEW OF WHERE THE COMPLIANCE RISKS ARE FOUND

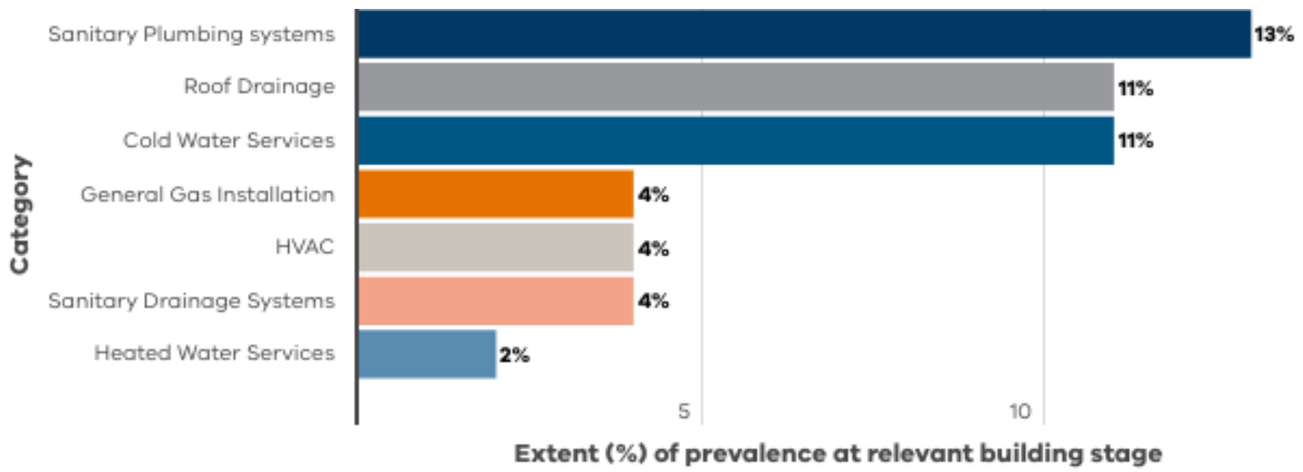
DOMESTIC

The most prevalent categories where non-compliance risks are observed (excluding low risk), remain consistent each quarter.



COMMERCIAL

The most prevalent categories where non-compliance risks are observed (excluding low risk), remain consistent each quarter.



For more information on the nature of non-compliant issues observed this quarter go to Section 4.3 (‘Overview of Plumbing Compliance Risks’).

4.3. OVERVIEW OF PLUMBING COMPLIANCE RISK

DOMESTIC (CLASS 1)

Approximately 15,000 elements were inspected across 1,436 sites (an average of 11 elements per inspection) and 851 elements (across 493 sites) were identified as a compliance risk requiring rectification or justification. 15 critical issues (across 11 sites) were found. Examples of these issues included the following issues observed in buildings under construction:

EXCAVATION WORK - SITE CUTS >1.5M DEEP

Excavation works at unsecured sites had unprotected deep site cuts and included:

- five properties with site cuts over 2m deep without fall protection
- 2.5-metre-deep trenches holding 1,100mm of water
- no control measures installed to prevent falls from heights at the bored pier holes (depth greater than 2m) in accordance with OH&S requirements

These matters were immediately reported to WorkSafe who attended the most serious matters where they issued an improvement notice to the building practitioners to make the sites safe.

GENERAL GAS INSTALLATIONS

- No reversion fittings installed on the multilayer gas pipe and multilayer gas pipework exposed to UV, and gas and electrical separation issue at several sites.
- Gas point for the cooking appliance not supported at the appropriate intervals and no reversion fittings on the multilayered gas line installed within the ceiling, in a new dual occupancy dwelling, in the City of Casey.

OHS (REPORTED TO WORKSAFE ON SAME DAY

Inadequate OHS provisions were identified at several sites during the quarter. The sites had:

- inadequate fall protection in openings in platforms/ stair voids
- unsecured makeshift ladders

These serious matters are referred to WorkSafe on the same day and/or rectified immediately.

ROOF DRAINAGE SYSTEMS, ROOF CLADDING GUTTERS AND DOWNPIPES

- At several sites, undersized roof flashings (under 150mm in width) were used on roof penetrations for solar hot water pipes and evaporative cooler cold-water pipes.
- Insufficient downpipes for the capacity of the eave gutters, as per AS/NZS 3500.3:2018 clause 3.5, in a new single-story dwelling in Melton City Council.
- Box gutters terminated at an under sized sump, apron flashings upstands were less than the 100 mm, not as per SA/HB 39-2015 clause 5.5 (g) and not fixed to the roof at appropriate intervals, (as per SA/HB 39-2015 clause 8.7), observed in a new double storey dwelling in Melton City Council.
- A leaking roof caused black mould in the ceilings of all units in a dual occupancy development in the City of Yarra Ranges. Additionally, no temporary downpipes were installed causing water ponding around the footings of the development.
- Box gutters fixed to the structure were restricting the expansion and contraction of the gutter, and sumps were undersized, with no overflow provision for sumps and box gutters throughout the construction of a new single storey dwelling in the City of Shepparton. Additionally, there were unsealed lap joins contrary to SA/HB 39-2015 clause 2.9.

SANITARY DRAINAGE AND PLUMBING SYSTEMS AND SUB-SURFACE DRAINAGE

- At several sites, 88° junctions installed on above-ground-sewers, flat reducer installed on grade, junctions installed in exclusion zones, drainage and electrical separation issues, and below ground stormwater drains not installed with suitable bedding.
- Construction of a new dual occupancy dwellings, in the Shire of Campaspe, had a floor waste trap which was not accessible, due to 2 x 90-degree bends installed at 500mm Off-set. AS/NZS 3500.2:2018 clause 6.5.1.
- A plumber had drilled through a load-bearing wall for vent pipe in a construction of a new single storey dwelling, in the City of Wyndham.

WATER SERVICES

- At several sites, water pipe not sealed or protected through concrete slabs, proximity to electrical services above ground and solar hot water pipes did not have the required separation from other services.
- Possible cross connections between rainwater and potable water supplies in several sections throughout the development, in a construction of two new dual occupancy dwellings, in the City of Darebin. Additionally, there were non-drinking branch offtake water pipes with an internal diameter of 12.5mm, exceeding the maximum allowable length of 6m as per AS/NZ 3500.1:2018 clause 3.5.2.

COMMERCIAL (CLASSES 2–9)

Approximately 350 elements were inspected across 69 sites and 40 elements (across 15 sites) were identified as a compliance risk requiring rectification or justification. Two critical issues across two sites were found. Examples of these issues included the following non-compliant work observed in buildings under construction:

SANITARY DRAINAGE AND PLUMBING SYSTEMS AND SURFACE DRAINAGE

- At several sites, 88° junctions installed on an above-ground-sewers, drainage and electrical separation issues, and expansion joints on stacks not secured.
- Construction of a three-story apartment block, in the City of Bayside, had multiple sanitary drainage issues. The above ground sanitary drains throughout the development did not have the minimum 100mm separation from electrical services as per AS/NZS 3500.2:2018. Expansion joints had not been used on graded lines and the sewer drain did not have the appropriate grade where a 50 mm discharge pipe is required to achieve a 1:40 fall AS/NZS 3500.2:2018 Table 3.4.1.
- A balcony, in a new three-story apartment block, in the City of Bayside was constructed without any overflow provisions.

FIREFIGHTING WATER SERVICES

- Fire hydrants were installed in the loading dock/ vehicle access areas without the required bollards for protection as per AS 2419.1:2017 Clause 3.5.3.1 (e), in a new warehouse and associated office in the City of Whittlesea. Additionally, the hose reel signs were not installed at the time of inspection.

OHS (REPORTED TO WORKSAFE ON SAME DAY)

Inadequate OHS provisions were identified at three sites during the quarter. The sites had:

- no fall protection for openings in platforms at three sites and working in trenches >1.5m
- poor rubbish control

These serious matters were referred to WorkSafe on the same day and/or rectified immediately.

COLD WATER SERVICES

Water services throughout the development of a new Warehouse & Office Building in the City of Whittlesea, have not been protected through the concrete slab as per AS/NZS 3500.1:2018 Clause 5.4.4 (c). Additionally, Holes broken in or formed in walls of pits and arresters for insertion of pipes or fittings were not made watertight in line with AS/NZS 3500.3:2018 clause 7.5.5.9

WORKING IN TRENCHES >1.5M DEEP

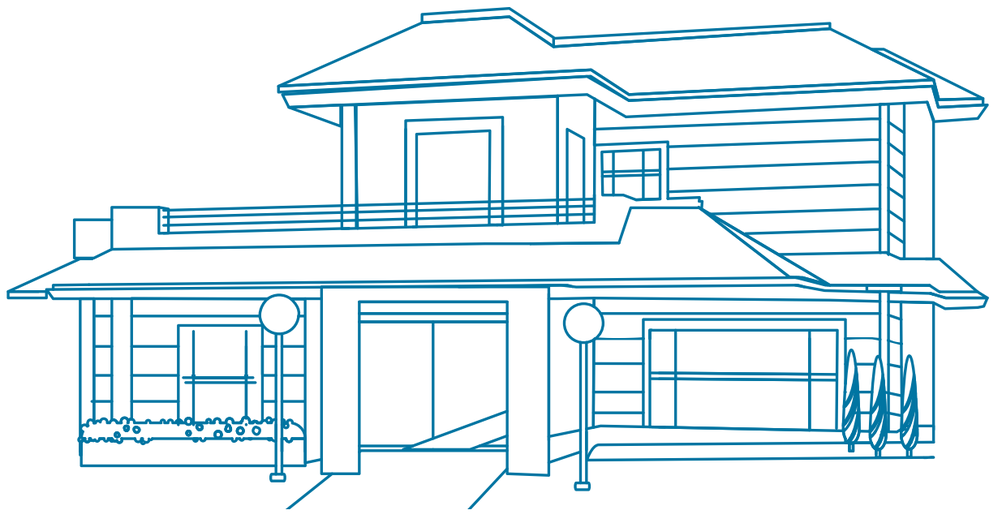
No protection barriers were installed to prevent falls, in accordance with OH&S requirements, in the construction of new retail and office buildings in the City of Knox and Port Philip.

HEATING, VENTILATION AND AIRCONDITIONING SERVICES

Refridgeration pipes were not clipped and insulated appropriately, as per HB 276 – 2004 clause 7.3 and ductwork was damaged and squashed throughouta two triple-storey townhouses with basement car park development in the City of Bayside.

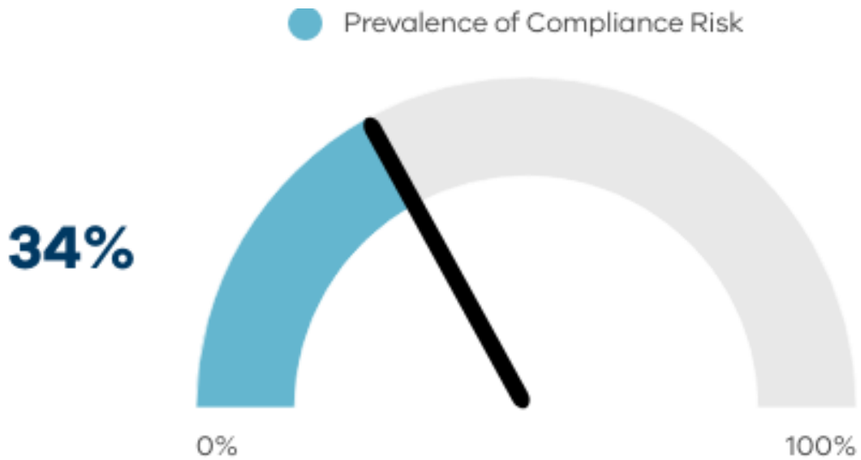
4.4. PREVALENCE OF COMPLIANCE RISKS IN DWELLINGS

SINGLE OCCUPANCY

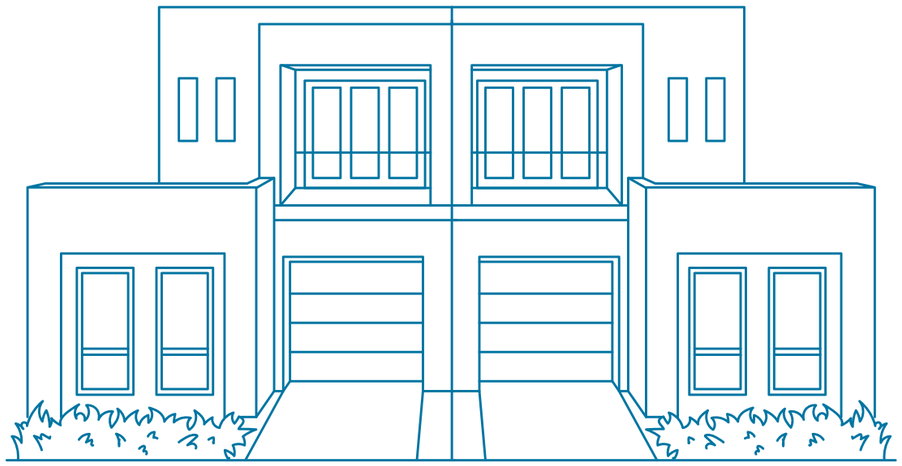


Common Issues

- General Gas Installation
- Sanitary Plumbing Systems (above ground)
- Roof Drainage Systems
- Cold Water Services
- Heating, Ventilation and Air-conditioning Systems

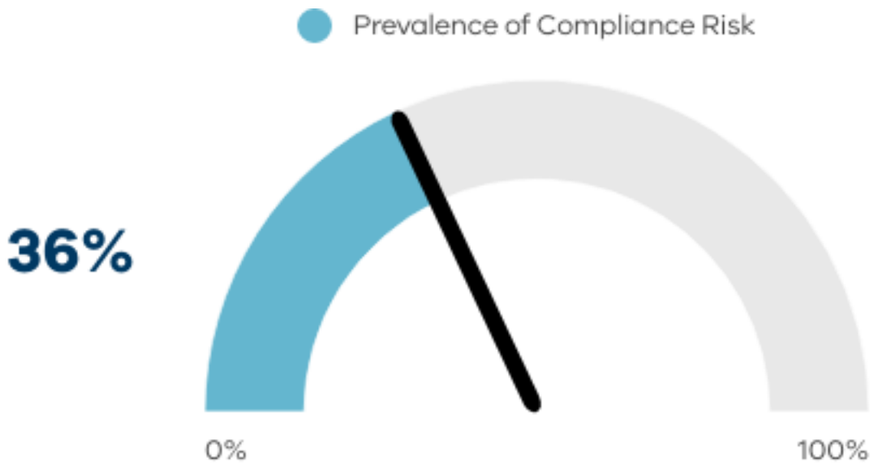


DUAL OCCUPANCY



Common Issues

- Roof Draining Systems
- Sanitary Plumbing Systems (above ground)
- General Gas Installation
- Site Signage
- Sanitary Drainage Systems



4.5. PREVALENCE OF PLUMBING COMPLIANCE RISKS BY CLASS

Class	No. of sites inspected in Q1	% of compliance risks across class from all inspections	Areas of serious compliance risk for building
Domestic (Class 1 and 10)	**1,436**	**34%**	• Roof Drainage Systems • Cold Water Services • Sanitary Plumbing Systems • Sanitary Drainage Systems • Heated, Ventilation and Air-Conditioning Systems • Heated Water Services
Apartments ≥2 sole occupancy (Class 2 + mixed use) and group dwellings and hospitals (Classes 3, 4, 9)	**28**	**18%**	• Sanitary Plumbing Systems • Non-Drinking Water Services • Surface and Subsurface Drainage Systems • General Gas Installation • Cold Water Services • Heating, Ventilation and Air-Conditioning Systems
Assembly building with no dwellings (Class 9b)	**16**	**13%**	• Roof Drainage Systems • Cold Water Services • Sanitary Plumbing Systems
Office buildings and cafes, shops and markets with no dwellings (Classes 5, 6 + mixed use)	**2**	**sample size too small**	• OHS issues
Warehouse and factories and carparks – no dwellings (Classes 7a, 7b, 8)	**23**	**30%**	• Roof Drainage Systems • Cold Water Services • Sanitary Plumbing Systems • Firefighting Water Services

4.6. CASE STUDIES

ALTERATIONS TO CLASS 1 DWELLINGS AND SWIMMING POOLS

No fall protection provided at four sites with swimming pools under construction.

Overview

The proactive inspections team carried out an inspection of four properties undertaking alterations to the dwelling and addition of swimming pools. It was found that swimming pools had temporary fencing however, the temporary fencing was unsecured, allowing young children to access the swimming pool area.

Response

The plumbing inspectors immediately reported the issues to the builder, relevant MBS and WorkSafe.

Outcome

Rectification works were completed within one or two business days.

BAYSIDE

DAREBIN

GREATER BENDIGO

DAREBIN

CONSTRUCTION OF A NEW CLASS 1 DWELLING AND SWIMMING POOL

Inadequate temporary swimming pool fence and multiple plumbing issues

Overview

A proactive inspection of a Class 1 double storey dwelling (and swimming pool) under construction found insufficient temporary fencing around the swimming pool (containing greater the 300mm of water) and multiple sanitary drainage non-compliances which included:

- Branches from the vertical sections of the sewer stacks were installed within 600mm below the bend to the graded section of drain. AS/NZS 3500.2:2018 clause 9.8.5.
- Suspended sewer did not have appropriate provision for expansion. AS 2032-2006 Clause 6.4.2.4.
- The expansion assembly installed on the stacks throughout have not been securely clamped to prevent movement and not installed immediately upstream of the entrance to the vertical stacks. AS/NZS 2032 2006 cl 6.4.4. AS/NZS 2032 2006 cl 6.4.2.4 (a).
- The expansion assemblies installed on stacks have not been installed Immediately upstream of the entrance to the vertical stacks. AS/NZS 2032 2006 cl 6.4.2.4 (a).
- Several level invert taper (LIT) fittings have been used off alignment in the suspended sanitary drainage pipes. The soffit of the pipework is to remain in common alignment.AS/NZS 3500.2 2018 cl 6.6.2.1.

Response

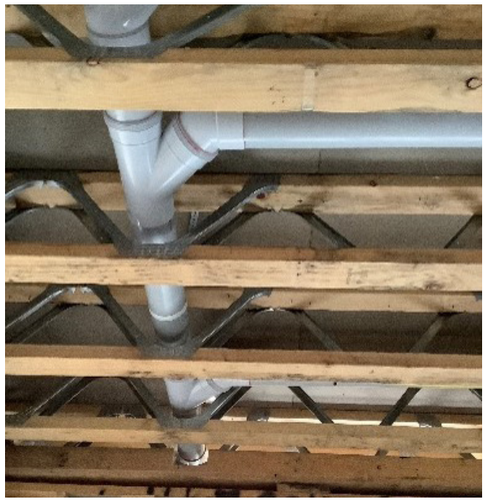
In relation to temporary fencing around the swimming pool, the inspector notified the builder and MBS on the same day and the temporary fencing was rectified and made safe within 24 hours. A VBA notification of medium-risk plumbing activity was sent to the builder, prompting the builder to direct the plumber to rectify the plumbing non-compliances.

Outcome

The VBA closed the matter after receiving comprehensive photographic evidence of the rectified plumbing work.

Non-compliant sewer stack branches (AS/NZS 3500.2:2018 clause 9.8.5.)

Non-compliant expansion assembly (AS/NZS 2032 2006 cl 6.4.4. AS/NZS 2032 2006 cl 6.4.2.4 (a))



Non-compliant suspended sewer (AS 2032-2006 Clause 6.4.2.4.)

Non-compliant L.I.T fittings (AS/NZS 3500.2 2018 cl 6.6.2.1.)

ADDITION OF A BALCONY AND STAIRS TO A CLASS 9B ASSEMBLY BUILDING

Multiple roof drainage issues

Overview

A proactive inspection of a balcony and stairs addition to a Class 9b assembly building had multiple roof drainage issues and included:

- The downpipe was discharging into the sewerage system (via the overflow relief gully); a non-compliant method of terminating a stormwater installation that had the potential to cause significant damage and health risks to the dwelling and occupants.
- A box gutter sump was not sized to the standard of 400 mm in length and 150mm in depth and the downpipe connected to it was also undersized to the standard of min 90mm or 100mm x 50mm.
- The overflow provision required to be installed into the sump did not meet the standard of discharging any water clear of the dwelling.
- Insufficient support provided at the base of a box gutter as per AS/NZS 3500.3 2015 cl 5.3.4.

Response

A VBA notification of medium-risk plumbing activity was, sent to the builder, prompting the builder to direct the roof plumber to rectify the plumbing non-compliances.

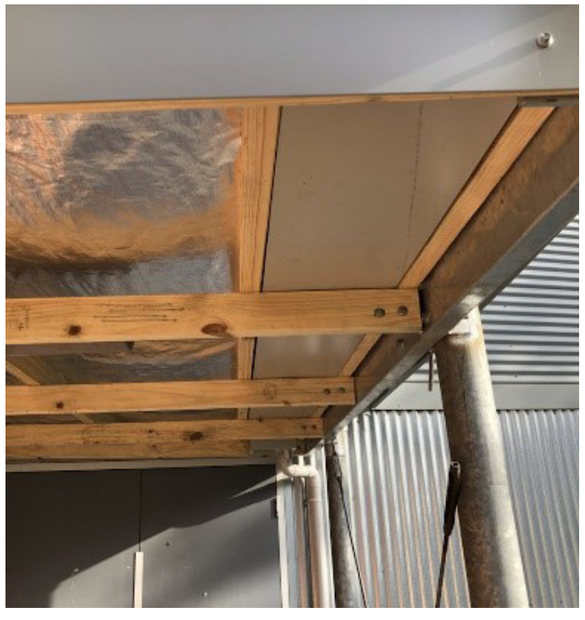
Outcome

The VBA closed the matter after receiving comprehensive photographic evidence of the rectified plumbing work.

Undersized sump as per HB39 2015 cl 5.7.2 and inadequate overflow provisions as per HB39 2015 cl 5.3.1 and AS/NZS 3500.3 2015 cl 3.7.6

Sump is below the minimum required size (AS/NZS 3500.3 2018 cl 3.7.8)

Non-compliant downpipe discharge AS/NZS 3500.3 2018 cl 3.7.8 (b) NCC 2019 Volume Three Section C & Vic Section F



Insufficient support for box gutter as per AS/NZS 3500.3 2015 cl 5.3.4

5. APPENDICES

APPENDIX 1: PROACTIVE INSPECTIONS PROGRAM - RISK RATING SCALE

The following table shows the PIP risk rating matrix.

The level of risk observed during inspection determines the VBA's response and any actions required of the relevant building practitioners.

LOW RISK (PASS)	Non-compliance is not identified at inspection, or any non-compliance is consistent with work in progress and is reasonably expected to be resolved as work progresses.
LOW RISK (LOW-IMPACT)	It is unlikely that the compliance risk, if left untreated, would cause an adverse effect on the safety and/or amenity of the occupants. Financial loss for future occupants or loss of structural integrity is unlikely.
MEDIUM RISK	It is possible that the compliance risk, if left untreated, would cause an adverse effect on safety and/or amenity of the occupants/public. Financial loss for future occupants or loss of structural integrity is possible.
HIGH RISK	It is almost certain that the compliance risk, if left untreated,would cause an adverse effect on the safety and/or amenity of the occupants/public. Structural integrity would be significantly compromised and/or total loss of project value would be incurred.

APPENDIX 2: PROACTIVE INSPECTIONS PROGRAM - ELECTRONIC CHECKLIST

SECTION ONE

Guidance on mandatory requirements under the Building Act 1993 and Building Regulations 2018

Building Regulation 2018 Provision and display of permit information (Regulation 41)

Building Act 1993 Part 3 Building Permits (Section 16 - works without a Building Permit or not in accordance with Building Permit, Section 24A- appropriate certificate of insurance issued for cost of building work >$16,000 , Section 24B – Specification of builders in relation to specific building work, Section 25B – Restrictions on owner builders.

Building Act 1993 Part 5 Occupancy Permits

Building Regulation 2018 Part 5 Siting (Regulation 73 to 97 when applicable)

Building Regulation 2018 Part 7 Protection of adjoining property and public

Building Regulations 2018 Part 8 and Part 10 Building work and Designation of special areas of building work (Regulation 132, 150, 152, 153,154)

APPENDIX 2: PROACTIVE INSPECTIONS PROGRAM - ELECTRONIC CHECKLIST CONTINUED.

SECTION TWO

Guidance on building work relevant to residential inspections and is broken down into different building stages under the National Construction Code of Australia BCA Vol 2 (class 1 and 10)

Site preparation Earthworks and Site cuts, site surface drainage and termite risk management

Footings and Slabs Preparation Concrete and Reinforcing, site classification, and footings and Slab construction

Masonry Unreinforced and reinforced, Accessories, weatherproofing and earth wall construction

Framing Sub-floor ventilation, Timber/Steel Framing, Structural Steel members

Roof and Wall Cladding Roof cladding, Gutters and Down-pipes, Wall Cladding

Glazing

Fire Safety Separation, Smoke Alarms, Heating appliances, bushfire areas, Alpine Area

Health and Amenity Wet Area and External water

Safe movement and Access Stair Construction, Balustrading and Handrails, Swimming pool Safety Barriers, Swimming pool Water recirculation

Additional Construction High Wind, Earthquake and Flood Hazard

Structural Design

Energy Efficiency Building fabric, external glazing, Building Sealing, Air Movement

SECTION THREE

Guidance on building work relevant to commercial inspections and is broken down into different building stages under the National Construction Code of Australia BCA Vol 1 (class 2 to 9)

Section B: Structure

Section C: Fire Resistance Fire Resistance and Stability, Compartment and Separation, Protection of Openings

Section D: Access and Egress Provision of Escape, Construction of Exits, Access for People with Disability

Section E: Services and Equipment Fire Fighting Equipment, Smoke Hazard Management, Lift Installations, Emergency Lighting, Exit Signs and Warning Systems.

Section F: Services and Equipment Damp and Weatherproofing, Sanitary and Other Facilities, Room Heights, Light and Ventilation, Sound Transmission and Insulation.

Section G: Ancillary Provisions Minor Structure and Components, Heating Appliances, Fireplaces, Chimneys and Flues, Atrium Construction, Construction in Alpine Areas and Bush-Fire Prone Areas

Section H: Special Use Buildings Theatres, Stages and Public Halls, Public Transport Buildings

Section J: Energy Efficient Energy Efficient, Building Fabric, Glazing, Building Sealing, Air-Condition and Ventilation Systems, Artificial Lighting and Power, Heated Water Supply and Swimming Pool and Spa Plant, Access for Maintenance and Facilities Monitoring.

APPENDIX 2: PROACTIVE INSPECTIONS PROGRAM - ELECTRONIC CHECKLIST CONTINUED.

SECTION FOUR

Guidance on requirements under the Plumbing Regulations 2018, NCC: Plumbing Code of Australia Volume 3 2019 Victorian section and relevant standards that apply to residential and commercial properties in the following categories.

Water Services (Section B of the NCC PCA Vol 3 2019 Vic and AS/NZS 3500:1:2018 and 3500:4:2018) - Cold Water Services, Heated Water Services, Non-Drinking Water Services, Firefighting Water Service

Sanitary plumbing and drainage systems (Section C of the NCC PCA Vol 3 2019 Vic and AS/NZS 3500:2:2018) - Sanitary Plumbing Systems and Sanitary Drainage Systems

Stormwater Drainage Systems (Section F of the NCC PCA Vol 3 2019 Vic and AS/NZS 3500:3:2018) - Roof Drainage Systems, Surface and Subsurface Drainage Systems

Heating, Ventilation and Air-conditioning (Section G of the NCC PCA Vol 3 2019 Vic)

On-Site Wastewater Systems (Section G of the NCC PCA Vol 3 2019 Vic and AS/NZS 3500:2:2018) - On-Site Wastewater Management Systems; On-Site Liquid Trade Waste Systems

Gas Installations as per AS/NZS 5601:1:201 General Gas Installation, Type A Servicing Work, Type A Conversion Work

Unlicensed plumber in the relevant field Unlicensed in: Drainage, Fire Protection, Gas fitting, Irrigation, mechanical, Roofing -Sanitary Water Supply

SECTION FIVE

Guidance on elements concerning immediate life-safety issues to ensure these items are inspected first.

OHS Practices at the site and hazards etc.

Scaffolding Makeshift working platforms, Guard Rails & Kick boards

Electrical Risk Exposed Live Electrical, Power leads & Power boards

Excavation Working in trenches over 1.5 m Deep, site cut over 1.5 m

Asbestos Debris or removal

Temporary Fencing Site entry is restricted or affecting public

Amenity and housekeeping at the site Rubbish control, materials storage and site toilets

Fall risks Working over 2m in height (Opening in platforms/stair voids, Secured access ladders

Structure Stability Adequate temporary propping & bracing

COVIDSafe Requirements A separate checklist is used during COVID restrictions and covers adherence to mandatory COVIDsafe requirements; physical-distancing, mask wearing, worker limits, QR codes and evidence of a COVIDSafe plans.

IF THESE ITEMS PRESENT AN UNACCEPTABLE RISK, THE RELEVANT CO-REGULATORS ARE CONTACTED IMMEDIATELY BY THE BUILDING INSPECTOR.

APPENDIX 3: OVERVIEW OF Q1 INSPECTIONS

BUILDING INSPECTIONS

BUILDING

DOMESTIC

no of sites inspections	% of inspections per stage		No. Inspections with Potential issues (excludes low risk)	Top categories of non-compliances	Extent of prevalence (% or n)	No. of inspections with Critical issues	Categories of non-compliances	Frequency	Outcome of critical issues
1,938	Demolition	1%	**793** (41%)	Timber Framing	40%	**40** (2%)	Safe movement (site entry restrictions)	n9	5 sites related to existing swimming pool access without temporary fencing that were rectified within 48 hours, and other sites were related to inadequate fencing (allowing access) to sites with deep excavations, all rectified within 48 hours and WorkSafe notified for the most serious issues.
	Foundations	6%		Wet Areas and external water proofing	18%		Swimming pool barriers	n25	Builders provided evidence of rectification.
	Footings	11%		Structural steel members	12%		OHS items (openings in platforms, working at >2m, inadequate propping and bracing)	n13	All items rectified within 48 hours and WorkSafe contacted for the most serious issues.
	Frame	38%		Unreinforced Masonary and Assessories	12%		Fire separation	n5	Work was still in progress at one site. Documentary evidence provided by all other RBSs to confirm compliance was achieved.
	Lock-up	10%		Weatherproofing of Masonary	12%		Timber Framing and Structural design	n6	All sites rectified except one in which the VBA continues to work with the RBS to ensure compliance is achieved.
	Fixing	25%		Fire seperation	7%		Protection of Ajoining property	n2	Protection work arranged as a result of the VBA inspection.
	Final	9%		Drainage	7%				
				Footings and Slabs	7%		Footings and Slab construction	n2	Builders provided evidence of rectification.
	Completed	1%		Building wrap and seal	4%		Masonry and accesssories	n1	Builders provided evidence of rectification.
				Glazing	4%		Minimum setbacks	n1	Part 5 of Building Regulations 2018 for setbacks did not apply.

COMMERCIAL

103	Demolition	5%	**28** (27%)	Damp and Weatherproofing	22%	**2** (2%)	Structural steel members	n1	VBA continues to work with the RBS to ensure compliance is achieved.
	Foundations	3%		Fire resistance and stability	10%				
	Footings	9%		Firefighting safety provisions	9%		Protection of Openings	n1	VBA continues to work with the RBS to ensure compliance is achieved.
	Frame	46%		Compartment and Separation	7%				
	Lock-up	16%		Protection of Openings	7%		Compartmentation and Separation	n1	VBA continues to work with the RBS to ensure compliance is achieved.
	Fixing	16%		Access for people with a disability	7%		Timber Framing	n1	VBA continues to work with the RBS to ensure compliance is achieved.
	Final	4%		Stuctural provisions	5%		Fire Resistance and Stability	n1	VBA continues to work with the RBS to ensure compliance is achieved.
	Completed	1%					Fire Separation	n1	VBA continues to work with the RBS to ensure compliance is achieved.

APPENDIX 3: OVERVIEW OF Q1 INSPECTIONS

PLUMBING INSPECTIONS

PLUMBING

1,505 Proactive inspections

	no of sites inspections	% of inspections per stage	No. Inspections with Potential issues (excludes low risk)	Top 8 categories of non-compliances	Extent of prevalence (% or n)	No. of inspections with Critical issues	Categories of non-compliances	Frequency	Outcome of critical issues
DOMESTIC	1,436	Demolition 1% Foundations 9% Footings 14% Frame 37% Lock-up 14% Fixing 19% Final 6% Completed 0%	493 (34%) →	Roof drainage systems General gas installation Cold Water Services Sanitary plumbing systems Sanitary drainage systems Heated, Ventilation and Air-Conditioning Systems Heated Water Services	12% 11% 9% 8% 6% 4% 4%	11 (0.8%) →	Swimming pool barriers OHS items (Makeshift working platforms, working in trenches 1.5 m deep and Working >2.0m in height) Poor Standards (opened trench) and site cut > 1.5m deep	n7 n5 n2	Builders provided evidence of rectification. All items rectified within 48 hours and WorkSafe contacted for the most serious issues. All items rectified within 48 hours and WorkSafe contacted for the most serious issues.
COMMERCIAL	69	Demolition 5% Foundations 11% Footings 13% Frame 33% Lock-up 11% Fixing 19% Final 9% Completed 0%	15 (21%) →	Sanitary Plumbing systems Roof Drainage Cold Water Services General gas installation Heated, Ventilation and Air-Conditioning Systems Sanitary Drainage systems Heated Water Services	13% 11% 11% 4% 4% 4% 2%	2 (2.9%) →	Swimming pool barriers OHS items (Makeshift working platforms, working in trenches 1.5 m deep and Working >2.0m in height)	n2 n2	All items rectified within 48 hours and WorkSafe contacted for the most serious issues. All items rectified within 48 hours and WorkSafe contacted for the most serious issues.