

Expert Witness Building Report

Property Address: Sample Property, Suburb withheld, QLD

Prepared for: QCAT Proceedings – Reference Number: [case number withheld]

Prepared by: Maison Azdari, Owner Inspections

Address: 97 Pacific Highway, North Sydney NSW 2060

Email: enquiries@ownerinspections.com.au

Mobile: withheld

Table of Contents

1. Introduction
2. Expert's Qualification and experience
3. Expert Declaration
4. Background
5. Purpose of the Report
6. Methodology
7. Regulatory Framework
8. Approved Plans and Permits
9. Site Inspection Findings
10. Engineering Inspection Findings
11. Analysis and Opinion
12. Findings and Technical Reasoning
13. Existing House Roof Damages
14. Causation of Water Ingress and Internal Damage
15. Compliance Breaches
16. Builder Deviation and Certifier Oversight
17. Communication Review
18. Alternative Design Reference
19. Video Evidence
20. Conclusion
21. Recommendations
22. Received documents

1. Introduction

I have been engaged by the homeowners, Name withheld owners of Sample Property,
Suburb withheld QLD to undertake a detailed forensic analysis of the defective patio
construction performed by [company withheld] and certified by [company withheld]. My
scope includes evaluating the difference between the approved plans, regulations and what
is built and its relationship to the water ingress.

2. Expert's Qualification and experience

I hold a Bachelor of Civil Engineering (2006) and have been recognised by Engineers Australia as a Professional Civil Engineer since 2009. I also maintain active registrations as a licensed builder in Victoria (DBU-41642), New South Wales (366172C), and Queensland (15151453).

In addition, I have completed specialist units in building approvals, construction risk management, and pest management, and possess extensive formal and practical training in structural analysis, stormwater hydraulics, and wind load engineering.

Over the past 17 years, I have conducted, supervised, or designed more than 500 residential and commercial projects. This includes the preparation of detailed defect reports and expert witness statements for building tribunals, insurance disputes, and civil litigation matters.

Curriculum Vitae – Maison Azdari

Full Name	Maison Azdari
Position	Senior Building Consultant & Expert Witness
Membership	Member – Australian Society of Building Consultants (NSW)
Summary	Building Consultant and Expert Witness with 21+ years' experience. Expert in defect diagnosis, dispute resolution, and expert reports for legal proceedings.
Core Competencies	• Expert Witness Reporting (NCAT, VCAT, QCAT) • Defect & Structural Inspections • Dispute Resolution Support • Waterproofing & Ingress Diagnosis • Strata & Remedial Advice
Key Skills	• NCC Knowledge • Construction Methods & Materials • Technical Report Writing • Tribunal Experience (NSW, VIC, QLD)
Certifications	• Licensed Building Consultant • Expert Witness Recognition • White Card – Construction Induction • Licensed Building Practitioner (Multiple States)
Experience	Director – Owner Inspections (2014–Present): • Lead consultant on 1000+ inspections • Legal reports, insurance & dispute matters On site quality assurance officer –Site Supervisor (2004–2010): • Specialised in defect diagnosis and water ingress Site Manager – Residential Projects (2001–2004): • Managed construction sites and subcontractors

3. Expert Declaration

I have no conflict of interest or relationship with the parties involved. My primary duty is to assist the Tribunal by providing an independent, professional opinion on the matters before me to support the just resolution of this dispute.

I declare that this report has been prepared in accordance with my obligations under the **QCAT Practice Direction No. 4 of 2009 (Expert Evidence)** and the expert witness code of conduct. The opinions expressed are provided impartially and are based on evidence reviewed in line with my professional expertise and regulatory knowledge.

QCAT Practice Direction No 4 of 2009 Expert Evidence

1. This Practice Direction applies whenever a party proposes to call expert evidence in any proceeding, unless the tribunal orders otherwise.

Limit on number of experts

2. A party to a proceeding may call evidence from only one expert for each area of expertise.

Notice that expert evidence will be relied upon

3. A party who proposes to call expert evidence at a hearing must give each other party notice of each expert's name and area of expertise and the issue(s) that each expert will address.

An expert's primary duty is to the tribunal

4. An expert owes a duty to assist the tribunal which overrides any obligation to any party to the proceeding or any person who is liable for their fee or expenses. The expert's role is to assist and advise the tribunal on issues in dispute within the expert's area of expertise. A person must not give, and an expert must not accept, instructions to adopt or reject a particular opinion in relation to an issue in dispute in a proceeding.

Conclaves and joint reports

5. All experts engaged for a hearing must attend a conclave convened by a member, adjudicator or the principal registrar. The purpose of the conclave is to identify and clarify areas of agreement and disagreement amongst the experts on any issue in dispute, and the reasons for any disagreement.

6. Before a conclave, a party proposing to call an expert must give the expert:
 - (a) reasonable notice of the conclave and any issue(s) in dispute which relates to the expert's area of expertise;

- (b) enough information and opportunity for the expert to adequately investigate the relevant facts.
- 7. The conclave may be conducted in the way decided by the convenor.
- 8. The experts who have attended a conclave must prepare a joint report. The joint report must identify what matters they agree upon, what matters they disagree about, and the reasons for their disagreement. It must also state that each expert understands their duty to the tribunal and that they have complied with it.
- 9. Before the joint report is finalised the experts may, by agreement between them and through the convenor, request all parties to respond to a specific inquiry.
- 10. Otherwise, the joint report must be prepared by the experts without further reference to or instruction from the parties.
- 11. The convenor is responsible for facilitating the conclave process until a joint report has been finalised.
- 12. The joint report must be filed in the tribunal and a copy given to each party.

Confidentiality of a conclave

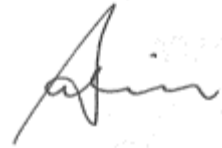
- 13. Except as provided in clause 12 evidence of anything done or said or an admission made at a conclave is inadmissible at any stage of the proceeding.
- 14. Clause 13 does not apply to:
 - (a) those matters included in the joint report; or
 - (b) anything said or done that is relevant to a proceeding either for an offence relating to giving false or misleading information, or for contempt.
- 15. Unless all parties consent, the convenor of a conclave will not constitute or be a member of the panel which constitutes the tribunal for the hearing.
- 16. An expert's participation in a conclave is as a witness in the proceedings and pursuant to section 237(9) of the *Queensland Civil and Administrative Tribunal Act 2009* the expert has the same protection and immunity as a witness in a proceeding before the Sample Property

Expert evidence is based on written reports

- 17. Each expert must prepare a written statement of their evidence.
- 18. If experts have taken part in a conclave, the joint report is taken to be their statement of evidence.
- 19. An expert may submit a further statement of evidence which relates to an issue of disagreement recorded in the joint report.
- 20. Except with the tribunal's leave an expert may not, whether in a

statement of evidence or in oral evidence:

- (a) contradict, depart from or qualify an opinion about an issue the subject of agreement in the joint report; or
 - (b) raise a matter not already mentioned in the joint report.
- 21. The statement of evidence must be filed in the tribunal and a copy given to each party.
 - 22. The statement of evidence must satisfy the requirements of rule 428 of the *Uniform Civil Procedure Rules*. (copy attached)
 - 23. The joint report and statement of evidence are documents used for a hearing and pursuant to section 237(10) of the *Queensland Civil and Administrative Tribunal Act 2009* have the same protection as a document produced at, or used for, a hearing before the Sample Property



Justice Alan Wilson
President

11 November 2009

Uniform Civil Procedure Rules Rule 428

428 Requirements for report

1. An expert's report must be addressed to the court and signed by the expert.
2. The report must include the following information—
 - (a) the expert's qualifications;
 - (b) all material facts, whether written or oral, on which the report is based;
 - (c) references to any literature or other material relied on by the expert to prepare the report;
 - (d) for any inspection, examination or experiment conducted, initiated, or relied on by the expert to prepare the report –
 - (i) a description of what was done;
 - (ii) whether the inspection, examination or experiment was done by the expert or under the expert's supervision;
 - (iii) the name and qualifications of any other person involved; and the result
 - (e) if there is a range of opinion on matters dealt with in the report, a summary of the range of opinion, and the reasons why the expert adopted a particular opinion;
 - (f) a summary of the conclusions reached by the expert;
 - (g) a statement about whether access to any readily ascertainable additional facts would assist the expert in reaching a more reliable conclusion.
3. The expert must confirm, at the end of the report—
 - (a) the factual matters stated in the report are, as far as the expert knows, true;
 - (b) the expert has made all enquiries considered appropriate;
 - (c) the opinions stated in the report are genuinely held by the expert;
 - (d) the report contains reference to all matters the expert considers significant;
 - (e) the expert understands the expert's duty to the court and has complied with the duty.

4. Background

The alfresco structure in question was intended to be built in accordance with Development Approval (DA) plans certified by [company withheld] (Name withheld) dated 30 May 2019. The key non-compliance identified was the construction of the pergola roof with incorrect sloping contrary to the approved documentation caused damage to the roof, water ingress, structural noncompliance and other issues detailed in the report.

5. Purpose of the Report

The primary objective of this report is to identify, document, and evaluate the extent of defects, compliance with regulatory requirements, and deviations from approved plans based on desktop assessment and third-party site inspections.

6. Methodology

- Desktop review of all available documentation, reports, photographs, and video evidence.
- Review of Engineering and Reports
- Review of Jims Building Inspection Report.
- Examination of LYSAGHT [company withheld] drawings dated 29 April 2022 and 26 July 2021.
- Analysis of email communications between the homeowner and the builder.

7. Regulatory Framework

This assessment considers the following regulatory references:

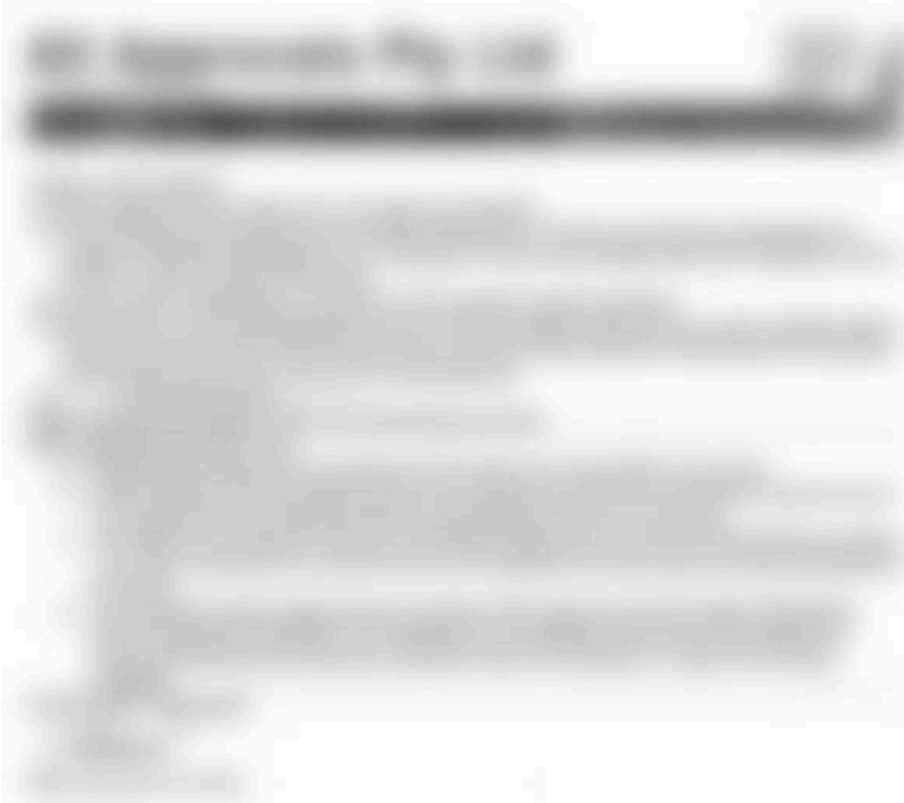
- Building Act 1975 (QLD)
- Queensland Development Code (QDC)
- National Construction Code (NCC), Volume Two
- Relevant Australian Standards including AS3500.3 (Stormwater Drainage)

8. Approved Plans and Permits

Approved Plans and Permits

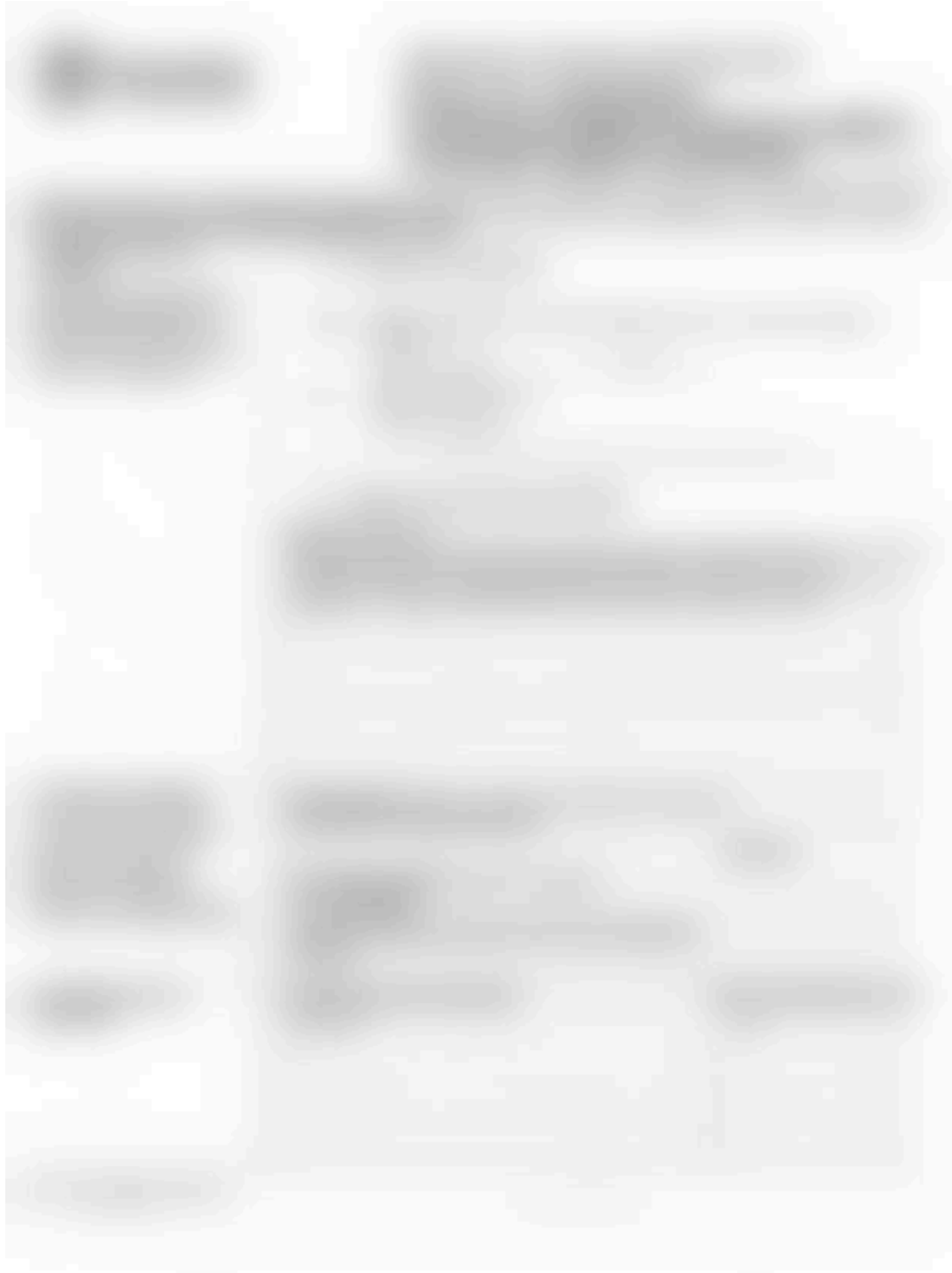
The approved plans for this project required the roof to be constructed with a slope **falling away from the existing building structure**. This was a critical element of the approved design, intended to ensure proper stormwater management and protect the existing roof. However, the constructed roof slope **clearly deviated from this crucial aspect**, fundamentally altering the intended drainage performance and placing the structure at risk of water ingress.

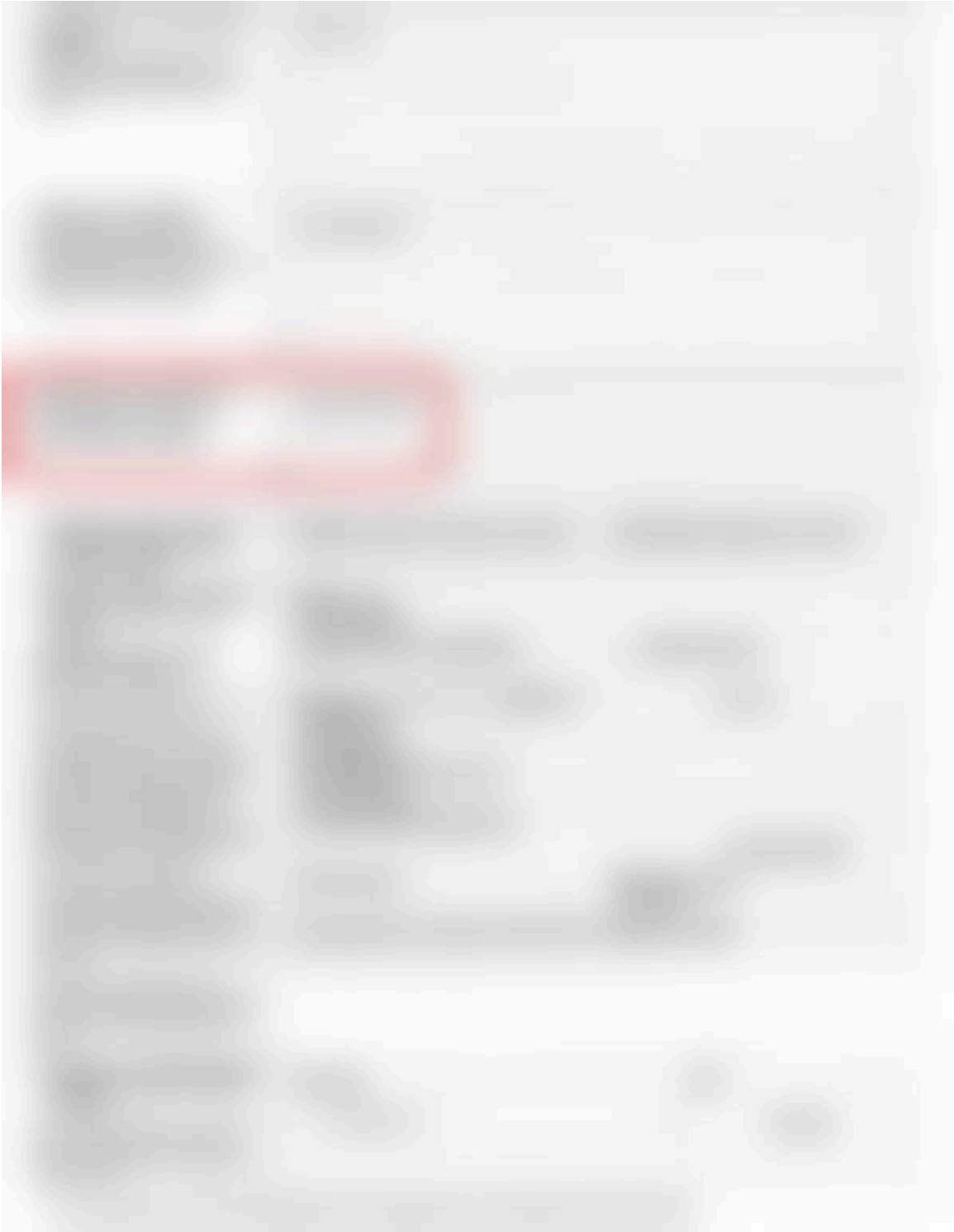




Final Inspection – Forms 16 and 21

The final inspection, conducted by Certifier Name withheld on 1 October 2019, **failed to detect the substantial deviation from the approved plans**. This oversight raises serious concerns regarding the adequacy and diligence of the certification process, as the reversed roof slope was visually apparent and directly contrary to the approved engineering drawings.









9. Document Review Findings

The approved engineering drawings (NM085 and NM086), which formed the basis of the statutory building approval, required the patio roof to be constructed with a slope of **35mm/m away from the dwelling**. This was not a minor design feature; it was critical to the hydraulic performance of the roof catchment area. The specified slope ensured that rainwater would flow to the outer edge of the patio roof, where it would be collected by a slotted gutter and then conveyed via a 90mm downpipe to the stormwater system, in strict compliance with **AS/NZS 3500.3** and **NCC 2022 Volume 2 Part 7.4.2**.

However, by reversing this slope, the builder fundamentally altered the intended drainage regime. As a result, approximately **25 m²** of additional roof catchment area now discharged directly onto the existing tiled roof of the dwelling. This non-compliance can be quantified through standard flow calculations. Under a moderate design rainfall intensity for the Redlands region of **236 mm/hr**, the runoff from this added area equates to:

$$\begin{aligned} Q &= AR/360 \\ &= (25 \text{ m}^2 \times 236 \text{ mm/hr}) / 360 \\ &\approx 1.64 \text{ L/s} \end{aligned}$$

This significant additional flow was never contemplated in the original house roof design, which was engineered solely for its own catchment. Consequently, the house gutters were forced to carry volumes well beyond their hydraulic capacity, inevitably leading to overtopping during rainfall events. Once gutters overflow, water readily tracks over fascia boards, behind flashings, and through even minor defects in roof underlays.

This situation was further exacerbated by the documented insufficient clearance between the patio roof and the house tiles (in some areas **less than 70mm**). This inadequate separation obstructed the normal shedding of water down the roof plane, promoting ponding and capillary backflow beneath the tiles.

In summary, reversing the roof slope was not a minor deviation; it represented a fundamental breach of the engineered design assumptions and statutory obligations under the NCC. It directly caused the repeated water ingress observed inside the dwelling, as confirmed by multiple professional inspections [company withheld], BRIC Engineering), and evidenced by extensive ceiling staining and dampness in both the family and rumpus rooms.

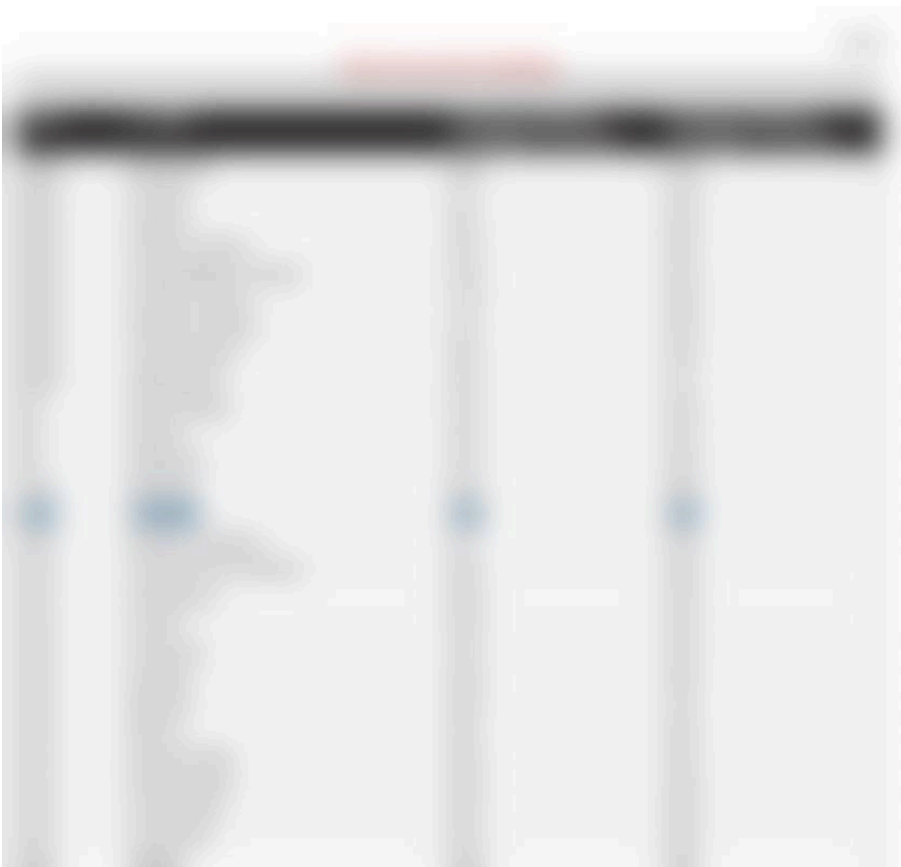
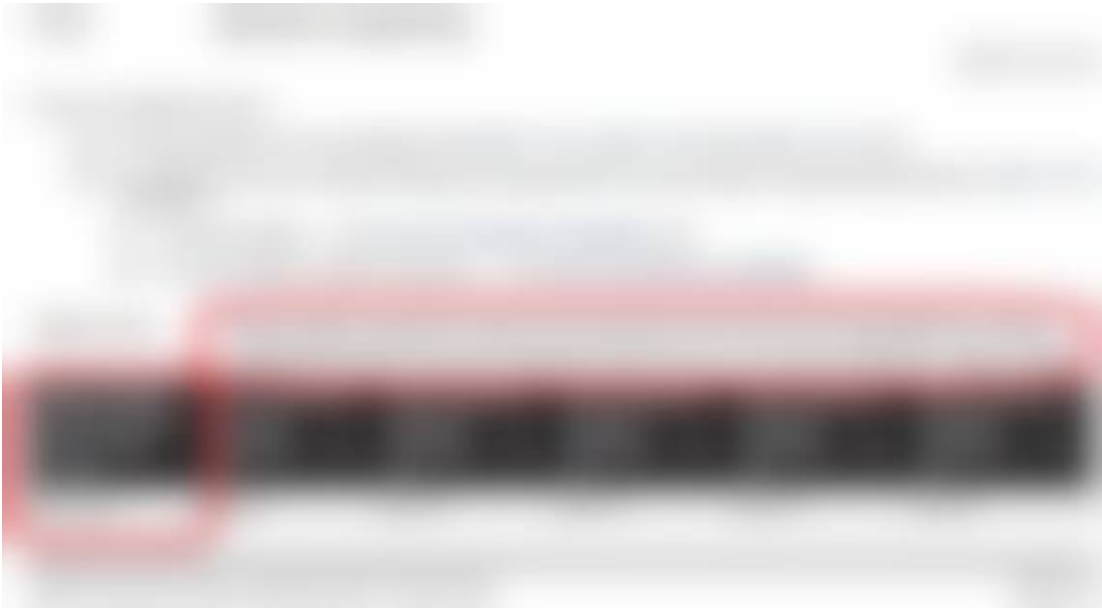
The engineering plans, identified as NM085 and NM086, required the construction to comply with **WIND CLASS N3**, which corresponds to a design wind speed of approximately 41 metres per second. This classification imposes stringent requirements on elements such as **rafter spacing, purlin fixings, bracing walls or struts**, and **tie-down bolts** to wall plates or lintels. The importance of adhering to these structural specifications cannot be

overstated. Any inadequacy in tie-downs or deviations from the approved geometry can allow **uplift forces** during storm events — which are common in the Queensland climate — to exceed the connection capacity, potentially resulting in **partial or catastrophic roof failure**.

In my professional opinion, these deviations render the patio structure **materially non-compliant with AS 4055** and significantly compromise its **structural integrity** under the expected wind conditions. This latent defect represents an ongoing risk to both occupant safety and property, and requires dismantling and reconstruction in strict accordance with the original engineered specifications.



ABCB Housing Provisions Standard 2022 - 7.4.3 Selection of guttering







WIND CLASS - 1000000
WIND CLASS - 1000000
PLANNING - 1000000
RESEARCH - 1000000
ATTACHMENT - 1000000
WIND CLASS - 1000000
WIND CLASS - 1000000

Screenshot of Video supplied by homeowner, showing the house gutters were forced to carry volumes well beyond their hydraulic capacity, inevitably leading to overtopping during rainfall events:

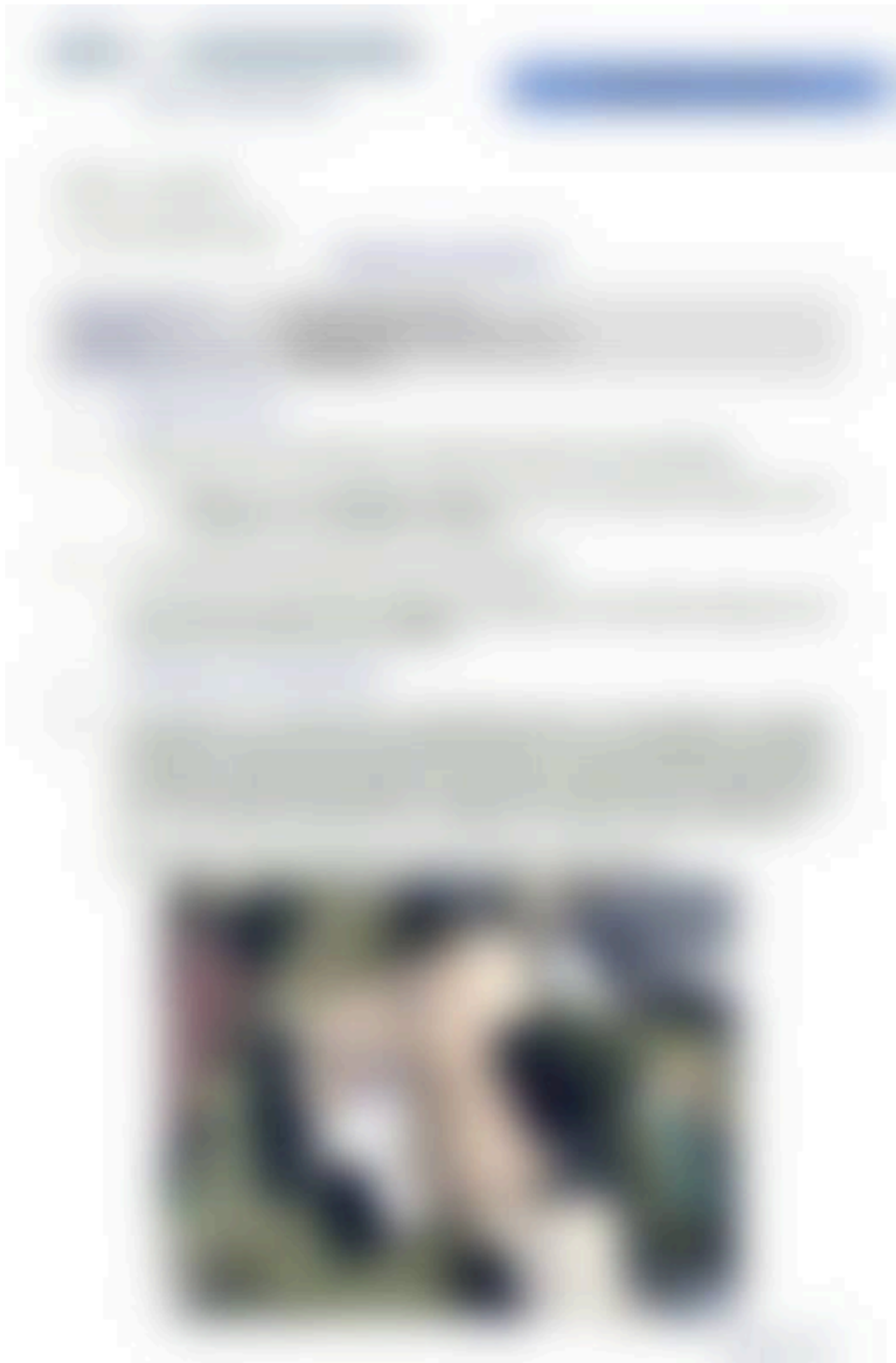


10. Engineering Inspection Findings

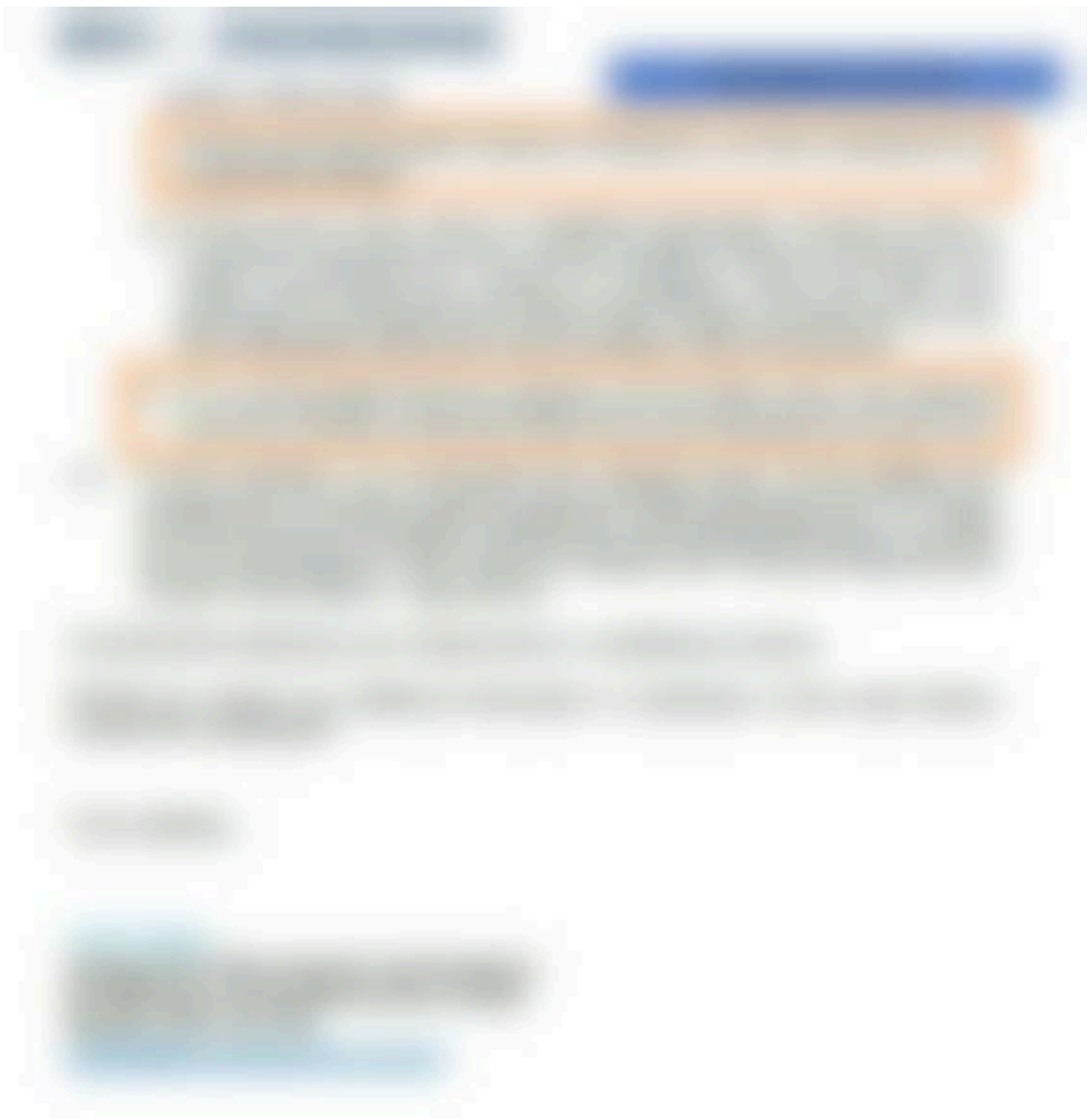
Engineering Inspection Findings (1 July 2022)

The engineering inspection performed on 1 July 2022 identified several critical defects. The **roof slope was constructed incorrectly**, causing stormwater to be directed onto the existing structure's roof rather than away from it. This resulted in **water accumulation due to inadequate drainage and improper construction methods**. Additionally, the minimum required gap of **70 millimetres between the patio roof and the house tiles was not met**, creating further opportunities for water ingress. Based on these observations, the engineer recommended **demolition of the patio structure due to safety and structural integrity concerns**.

Invasive inspections carried out by [company withheld] revealed at least one bracket that was **missing essential fasteners**. Furthermore, due to restricted access, many of the structural connections could not be verified. Compounding these issues, the **alteration of the roof slope** changed the way the structure responds to wind loads. This adjustment potentially shifted areas of **negative pressure** to locations not designed to withstand such forces, placing the entire assembly at increased risk, particularly under the cyclonic gusts typical of the N3 wind classification.







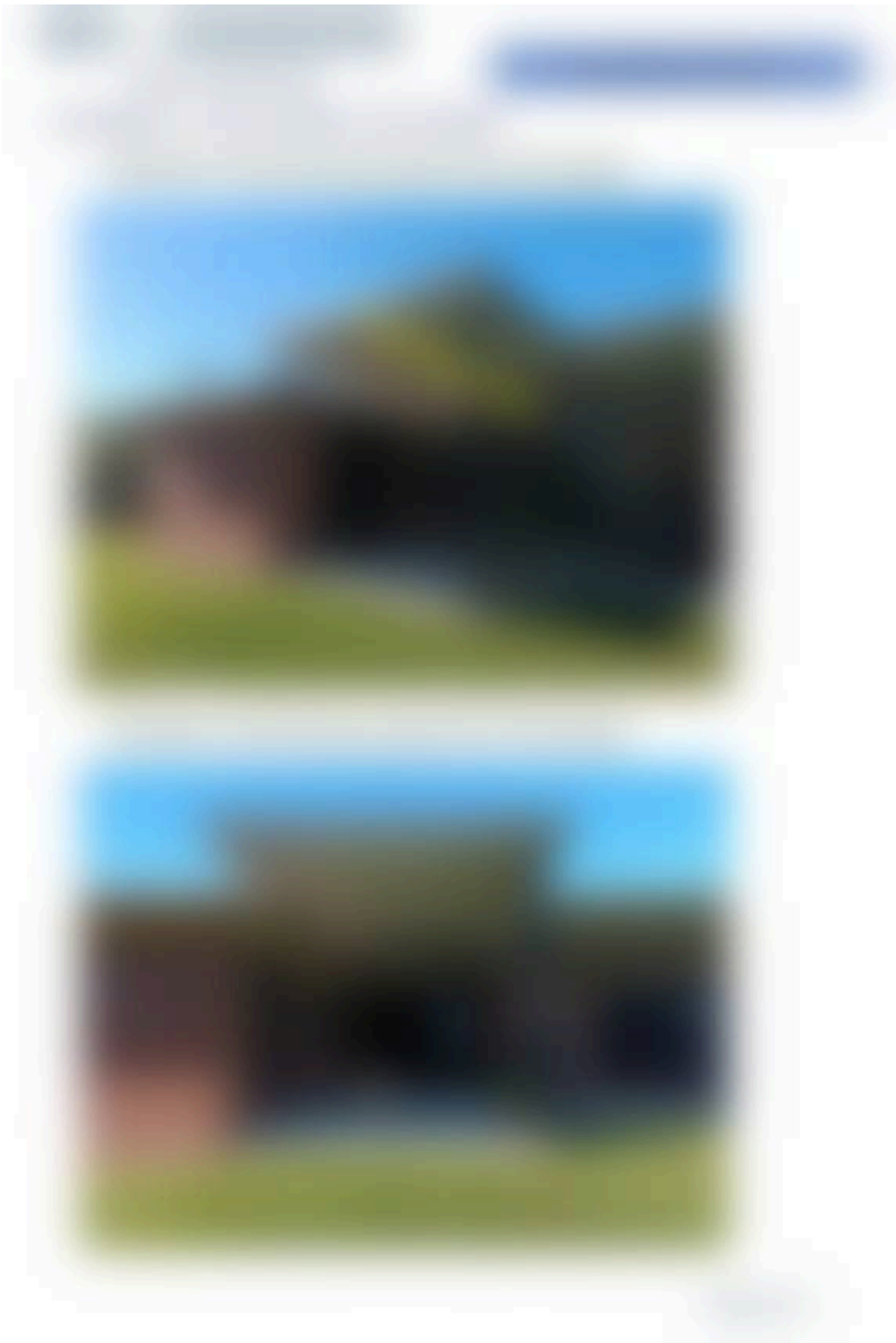


Photo No-5: Photo showing a general view of the pergola.



Photo No-6: Photo showing a lack of separation or clearance between the pergola and the house's roof.



Photo No-7: Photo showing Dektite roof flashing



Photo No-8: Photo showing the pergola's improper roof pitch and how it directs water towards the house



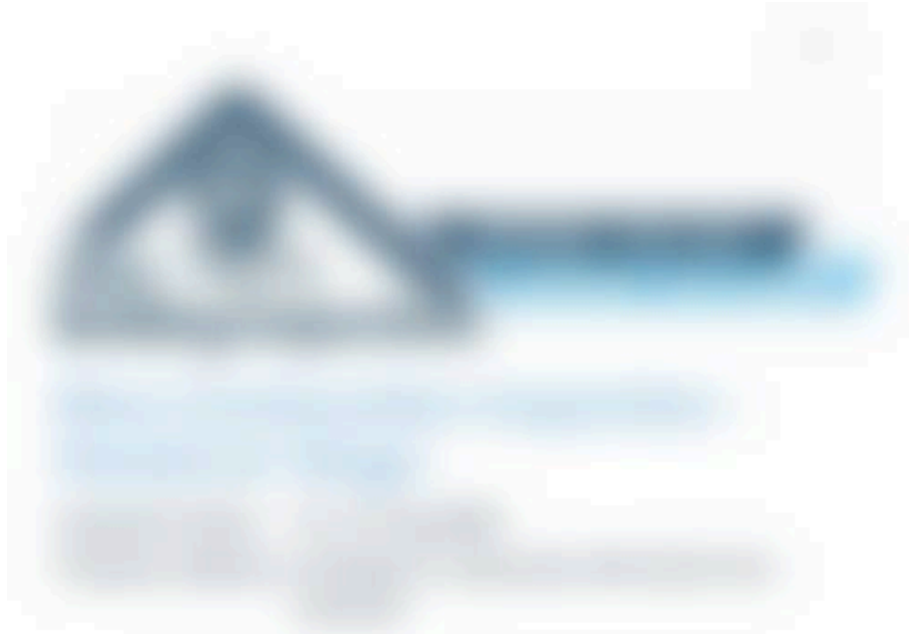
11. Analysis and Opinion

It is my professional opinion, supported by extensive documentation and site evidence, that the construction work was significantly flawed and deviated from the approved plans and applicable regulatory standards.

12. Other Findings

Site Inspection Findings (conducted by [company withheld])

The site inspection conducted by [company withheld] confirmed **substandard workmanship** throughout the construction. There was also clear evidence of **significant water ingress affecting the existing roof tiles**, indicating failures in both the quality of installation and adherence to the approved plans.





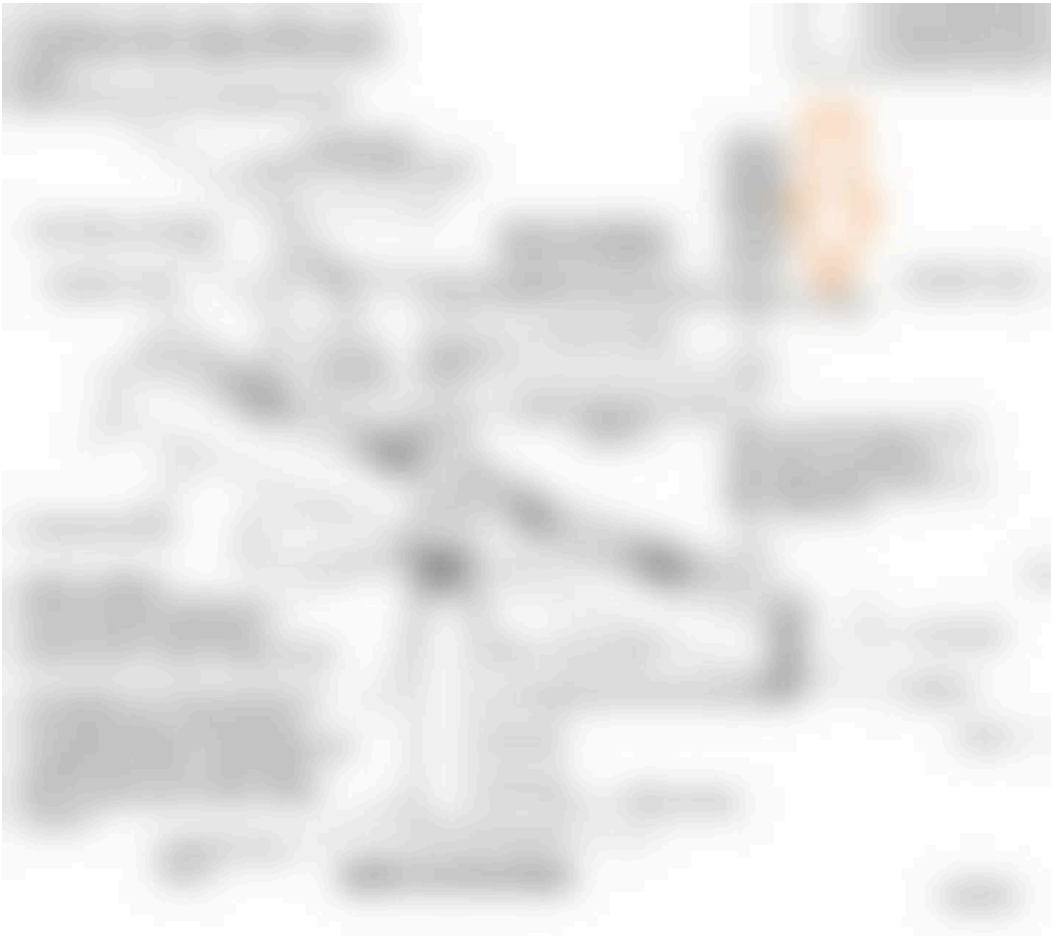
LYSAGHT [company withheld]

Drawings

A review of the LYSAGHT [company withheld] drawings revealed a **clear deviation from the approved construction detail specifications**, particularly regarding the slope direction and the minimum required separation gap. These discrepancies underscore the significant non-compliance with the original engineered design.

NM085 Rev 1 Plan Detail, NM086 Rev 1 Plan Detail:





13. Existing House Roof Damages

The existing house tiled roof and flashings have been left in a compromised condition following the removal of the defective patio structure, which had been constructed too close to the original roof line and improperly cut into the gable. There are clearly visible issues including damaged tiles, temporary coverings using tarpaulins and unsecured flashings, and areas where inadequate patching attempts have left gaps and exposed sections. This creates an immediate risk of water penetration into the roof cavity.

If not rectified as a priority, these defects are likely to result in:

- Continued water ingress during rainfall events, saturating insulation and ceiling linings;
- Staining, swelling or collapse of internal ceilings;
- Favourable conditions for mould growth, posing occupant health risks;
- Gradual deterioration and possible rot of timber roof framing;
- Electrical hazards if water infiltrates areas with wiring.

The damaged sections should be fully restored, including replacing broken tiles, reinstating proper flashings, repointing ridges, cladding, and ensuring the roof is watertight in accordance with relevant Australian Standards and good building practice. This aligns with the independent site-specific inspection by my colleague Dan Winton supporting these findings.

Photographs provided by the homeowner show the condition of this section prior to demolition:



Photographs taken by my colleague show the condition of the area following demolition of the patio:



14. Causation of Water Ingress and Internal Damage

From fundamental principles of building physics and hydraulic flow, it is evident that once the roof slope was reversed, stormwater was redirected onto the house roof. The original house roof had neither the capacity nor the design intent to accommodate this additional load. As a result, the gutters frequently **overflowed during rain events**, exceeding their hydraulic design limits.

Compounding this issue, the reduced clearance beneath the patio structure — as documented by [company withheld] — prevented water from shedding freely down the roof plane. Instead, water pooled and migrated beneath the tiles. **Capillary forces drew moisture upwards and across tile laps**, ultimately allowing water to drip into the ceiling voids.

Inspections by [company withheld] revealed **active leaks in both the family and rumpus rooms**, along with visibly damp plasterboard. Prolonged exposure to moisture promotes **fungal growth and compromises the structural performance of plasterboard**, which may necessitate complete replacement. Further, once ceiling insulation becomes saturated, it loses its thermal properties and creates a concealed environment favourable to mould growth. Electrical systems running through these cavities are also exposed to an increased risk of **short circuit or fire**.

In my professional opinion, without **demolition of the pergola and reconstruction in accordance with the original engineered design**, similar water ingress events are highly likely to recur in the future.

Water Ingress photos supplied by homeowner:



15. Compliance Breaches

The following regulatory breaches have been identified:

- Non-compliance with approved development plans.
- Breach of Building Act 1975, specifically section 73 and 74 relating to approval requirements.
- Breach of NCC Volume Two, Part 3.5.2 – Roof drainage.
- Breach of AS3500.3 related to stormwater management.

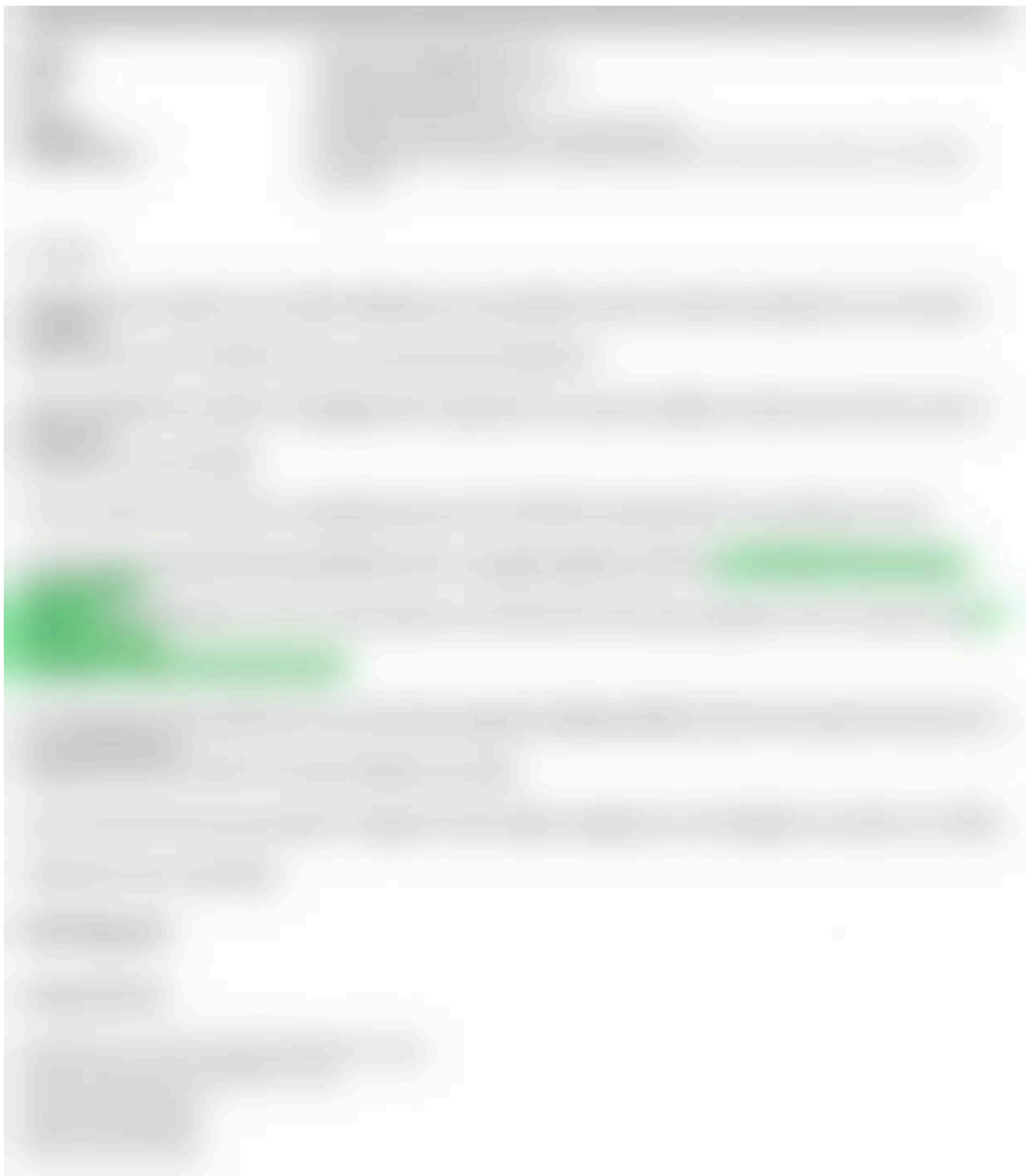
16. Builder Deviation and Certifier Oversight

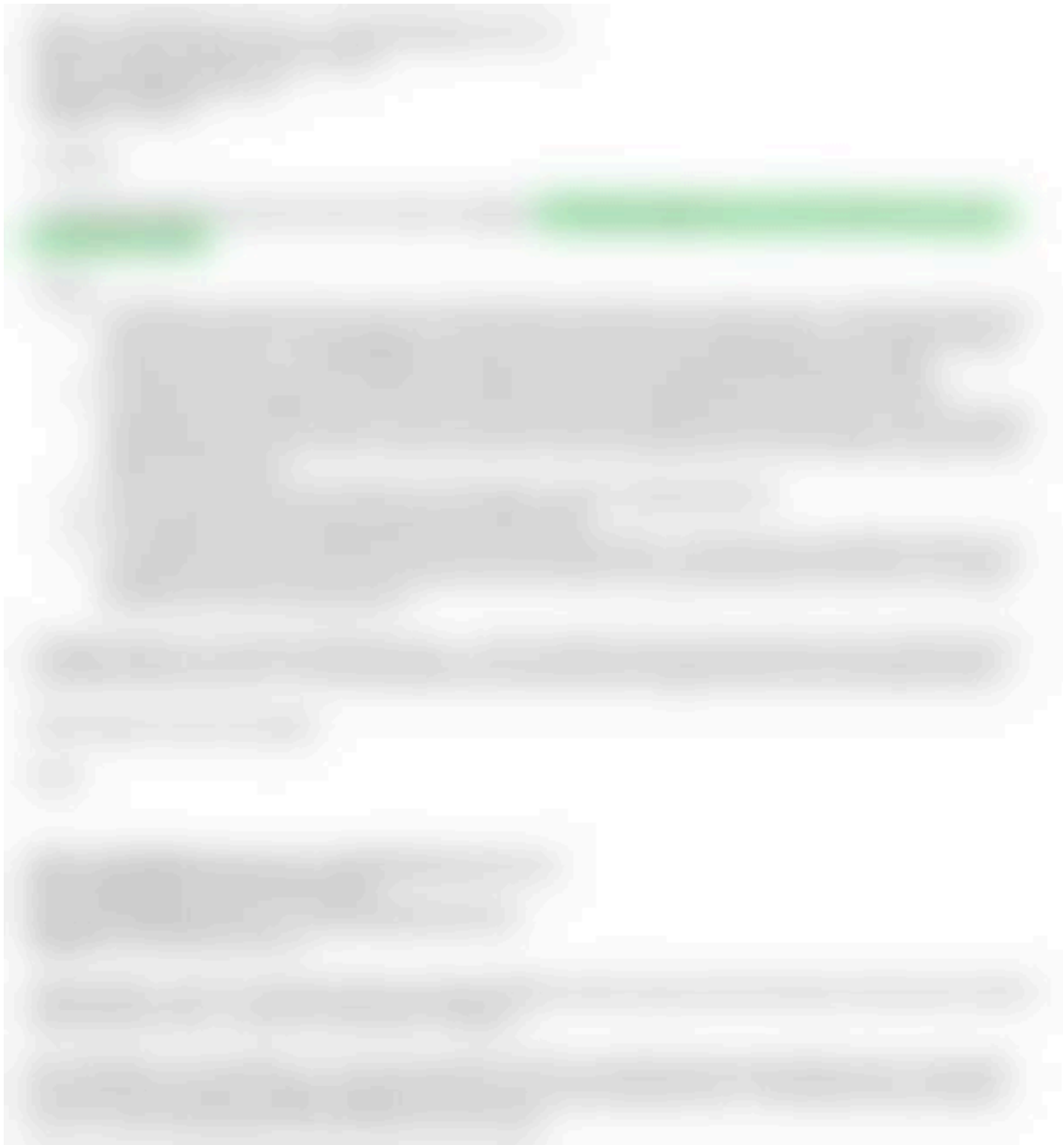
Under the Building Act 1975 (QLD), certifiers have a statutory responsibility to ensure that building works are carried out in accordance with the approved plans and the Building Code of Australia (NCC). They are required to conduct diligent inspections and must not issue a Form 16 final certificate unless they are fully satisfied that the work complies with all relevant requirements.

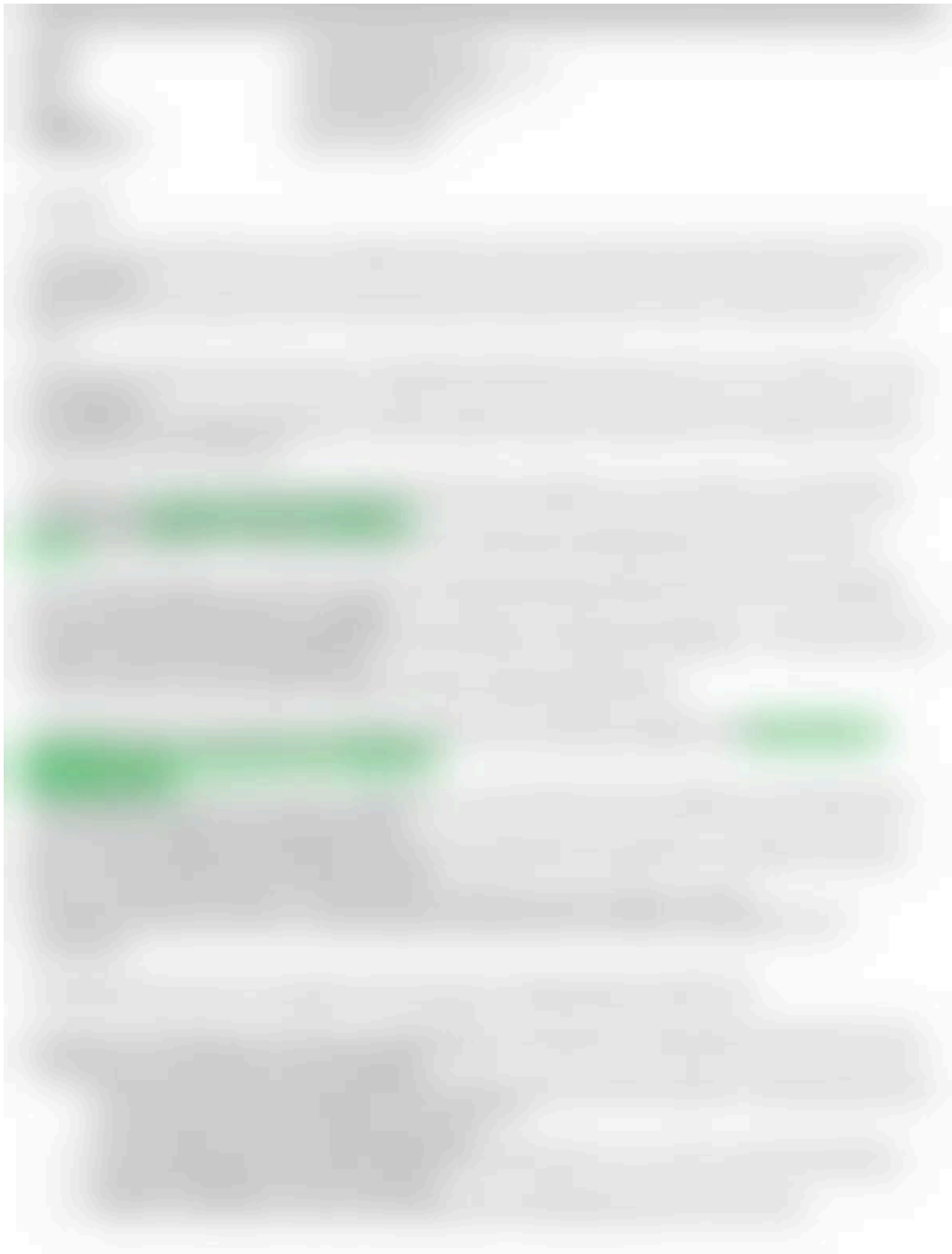
In this case, based on the homeowner's statement, the certifier conducted only a brief ground-level inspection lasting just a few minutes. Despite clear visual evidence that the roof slope had been reversed and that the designed gutter and downpipe system were omitted, the certifier nonetheless proceeded to issue both the Form 16 and Form 21 approvals. This raises serious concerns regarding the adequacy of the inspection process and the certifier's compliance with their obligations under the Building Act.

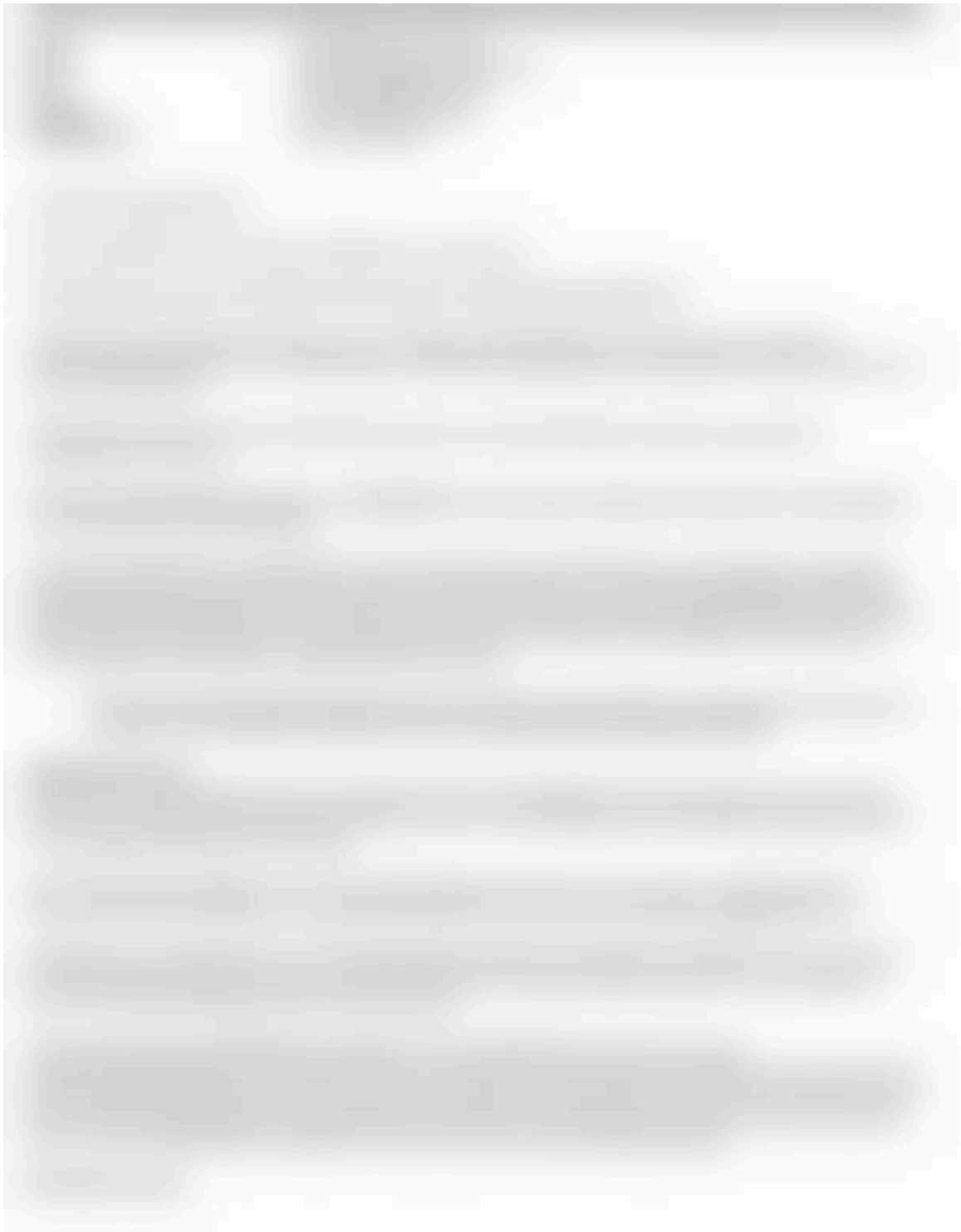
17. Communication Review

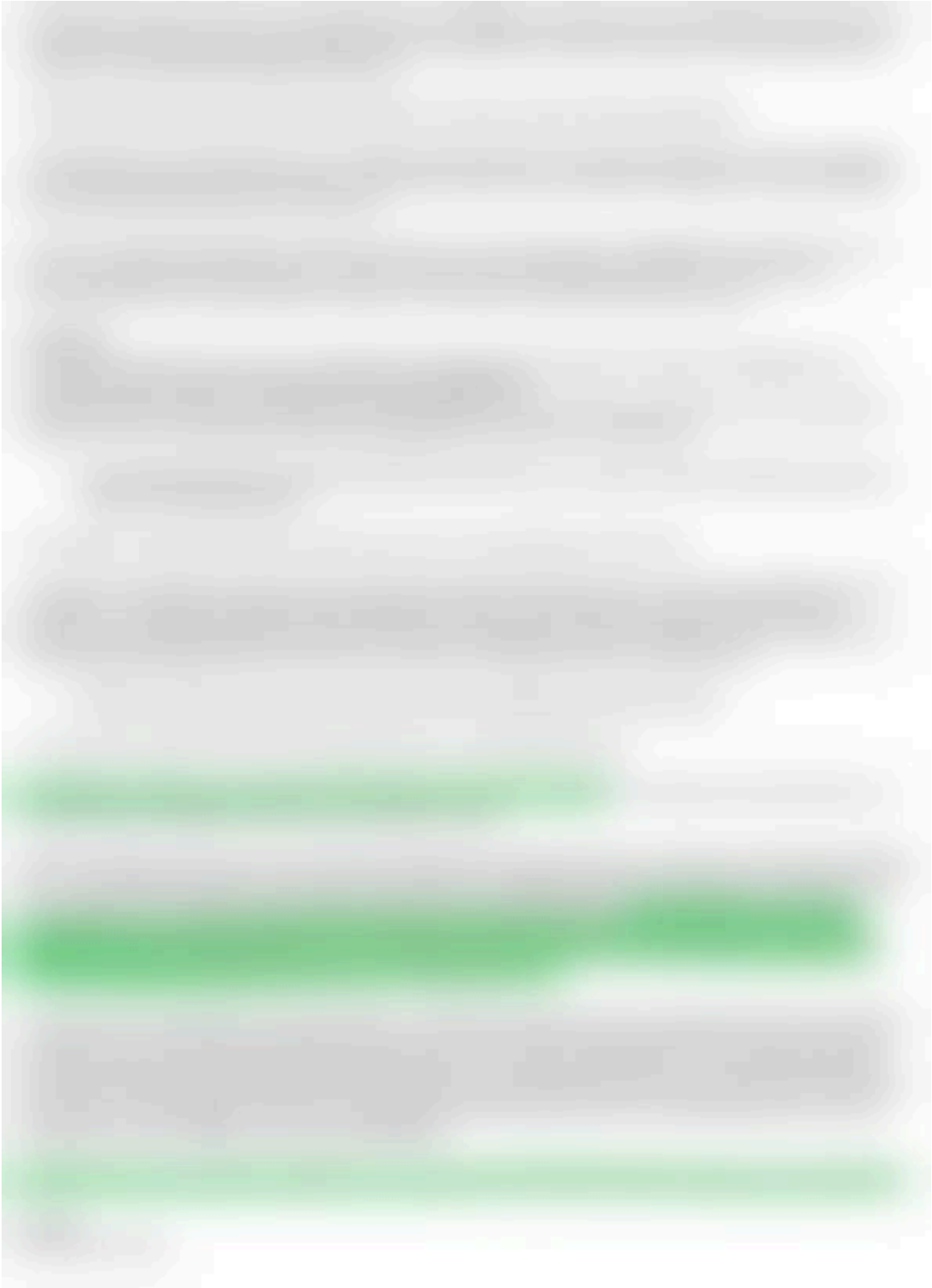
The project records include a series of emails that highlight critical communication failures. On 16 May 2019, the builder indicated that only minor changes were anticipated. However, on 1 August 2019 at 7:24am, the homeowner explicitly raised concerns about discrepancies between the design and the quotation, disputing that any change to the roof slope could be considered minor. Despite this, the builder, falsely assured the homeowner on the same day at 2:41pm, that no water ingress would occur. Subsequently, on 5 August 2019, the homeowner explicitly rejected any changes to the roof slope. This correspondence clearly documents that the homeowner did not approve the constructed deviations.







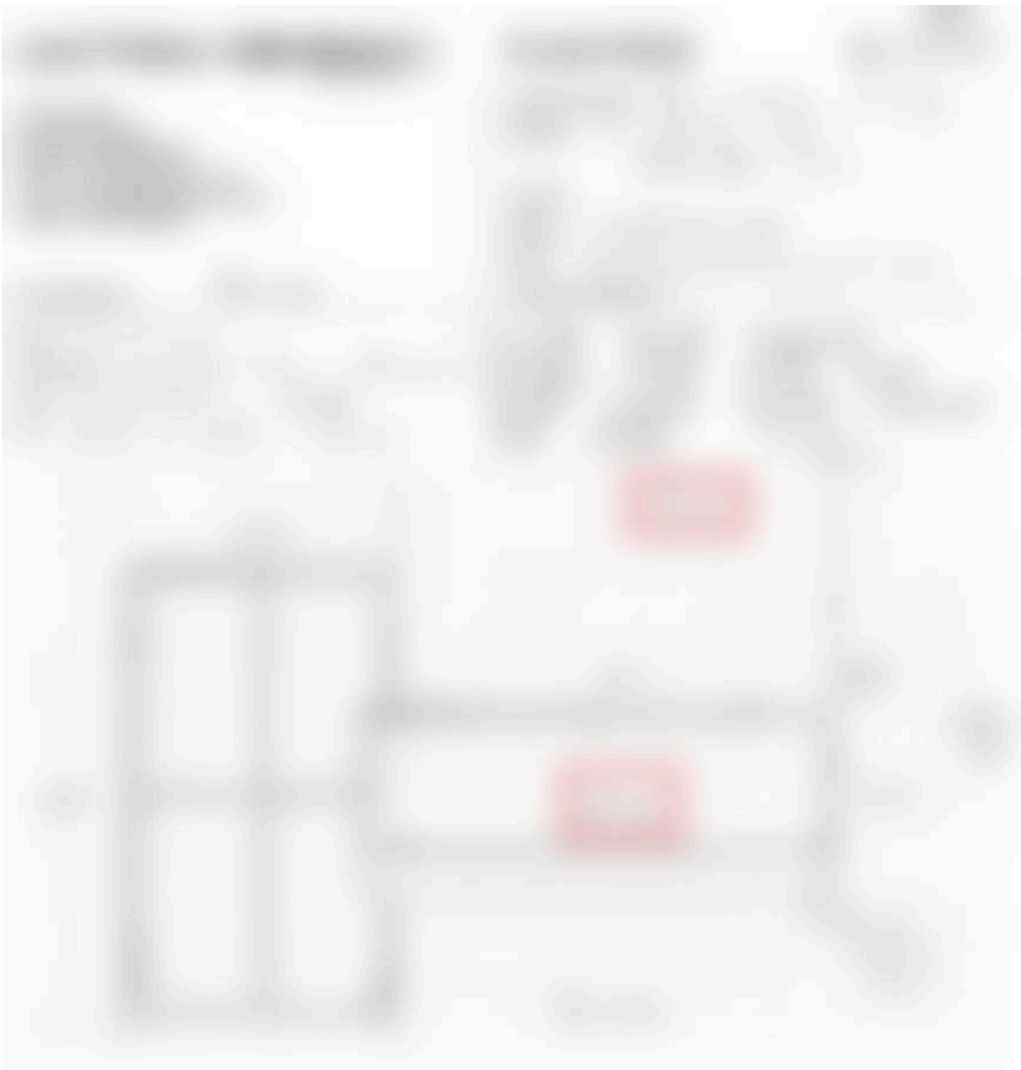




18. Alternative Design Reference

Alternative Design Reference

An alternative layout prepared by Just Patios indicated a **2% slope away from the building**, which further highlights that the construction carried out by the builder was incorrect and failed to meet expected industry standards.





19. Video Evidence

Video Evidence

Video footage provided by the homeowner showed **substantial stormwater overflow onto the existing roof**, clearly overwhelming the existing stormwater management system and corroborating the findings of improper slope and drainage.

Video Screenshot:



20. Conclusion

The defects identified have severely undermined the structural integrity and proper function of the alfresco structure, already leading to water damage and creating a high risk of further deterioration. The certifier's oversight during the final inspection directly allowed these issues to persist.

In my opinion, given the incorrect roof slope, poor stormwater management, structural inadequacies, and failure to meet wind classification requirements, demolition of the pergola is both necessary and appropriate. This aligns with the recommendation in the engineering report, which I agree is the most practical and effective course of action to prevent ongoing or future damage to the building.

21. Recommendations

I recommend the following actions to address the identified defects and mitigate the risk of future damage:

- Complete demolition and reconstruction of the patio structure in strict accordance with the approved engineering drawings NM085 and NM086. This must include establishing the correct roof fall, along with proper installation of gutters and downpipes to manage stormwater effectively.
- Repair of the existing roof tiles, battens, sarking and internal plasterboard, accompanied by certified mould remediation to restore structural and health standards within the dwelling.
- Verification of all structural tie-downs and bracing to ensure compliance with AS 4055 requirements for Wind Class N3, safeguarding the structure against the design wind loads applicable to the site.
- Independent certification upon completion, supported by photographic and documentary evidence, to confirm compliance with the approved plans and all relevant regulatory standards.
- Investigation by the appropriate regulatory authorities into the certification process that failed to identify these significant deviations, to help prevent similar oversights in future projects.

22. Received documents

The following documents were reviewed and considered in preparing this report:

Engineering & Inspection Reports

1. Structural Assessment – [company withheld] (01.07.2022)
2. Engineering Report – (02.08.2022)
3. Building Report – [company withheld] (24.08.2020)

Plans & Drawings

4. NM085 Rev 1 Plan Detail
5. NM086 Rev 1 Plan Detail
6. NM085 Rev 1 Construction Drawings
7. LYSAGHT [company withheld] Drawings

QCAT & Tribunal Documents

8. Application for Domestic Building Dispute – QCAT (22.01.2025)
9. QCAT Format of Documents Guide (28.11.2024)
10. Timeline of Events

QCAT Appendices

11. Appendix 1 – QCAT Application
12. Appendix 2 – QCAT Application
13. Appendix 3 – QCAT Application
14. Appendix 4 – QCAT Application
15. Appendix 5 – QCAT Application
16. Appendix 6 – QCAT Application
17. Appendix 7 – QCAT Application
18. Appendix 8 – QCAT Application
19. Appendix 9 – QCAT Application
20. Appendix 10 – QCAT Application
21. Appendix 11 – QCAT Application
22. Appendix 12 – QCAT Application
23. Appendix 13 – QCAT Application
24. Appendix 14 – QCAT Application
25. Appendix 15 – QCAT Application
26. Appendix 16 – QCAT Application
27. Appendix 17 – QCAT Application
28. Appendix 18 – QCAT Application
29. Appendix 19 – QCAT Application
30. Appendix List

Other Supporting Documents

31. Spotlight Invoice (extracted from Appendix 10)
32. Video Footage of Overflow Rain (provided by homeowner)
32. Photos (provided by homeowner)