



OWNER INSPECTIONS
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Building Damage Report

Property Address:

Sample Property , Suburb withheld , NSW

Inspection Date:

21/10/2024

1. Introduction

This report presents the findings of an independent building inspection conducted in response to the rectification items provided sent to Owner Inspections by the homeowner listed in the the insurer's engineer Report provided by the insurance company. The client has engaged Owner Inspections to provide an unbiased assessment of the items that the insurance company has requested to be rectified before proceeding with the claim related to sewer overflow damages.

2. Background

Several months ago, the bathroom sewer drainage at the property overflowed, causing damage to the building. The insurance company has issued a list of items, as outlined in the the insurer's engineer Report, that they require the client to address before they process the insurance claim. Upon inspection, it was noted that many of these items are either not required or irrelevant to the sewer overflow incident.

3. Purpose of the Report

The purpose of this report is to:

- Provide an independent assessment of the rectification items listed by the insurance company's engineer.
- Determine which items are necessary and relevant to the sewer overflow damage.
- Offer professional recommendations based on the findings, supported by relevant Australian Standards and the National Construction Code (NCC).

4. Methodology

The assessment involved:

- A thorough on-site inspection of the property, focusing on the areas affected by the sewer overflow.
- Testing of drainage systems to verify functionality.
- Examination of the building's structural elements, subfloor ventilation, and overall integrity.
- Reference to relevant Australian Standards and the NCC to support the findings (if required).

5. Findings and Assessments

Below are the items from the ^{the insurer's engineer} Report sent to us by the homeowner to access, followed by our independent assessments:

1. Engage a geotechnical engineer to confirm soil conditions

Not required. This item is irrelevant to the sewer overflow leak.

Justification: According to AS 2870-2011 (Residential slabs and footings), soil testing is essential when there are signs of structural movement or for new constructions. Since there are no indications of structural instability or soil-related issues, engaging a geotechnical engineer is unnecessary in this context.

2. Engage design and engineering team to provide design works for new foundations, new subfloor, and new mechanical subfloor ventilation system

- **New Foundation:** Not required. This is irrelevant to the sewer overflow leak.
- **New Subfloor:** Not required. This is irrelevant to the sewer overflow, **However**, It is recommended to replace the floorboards due to potential contamination from sewer ingress, which poses a health and microbiological safety hazard to the residents.
- **Mechanical Subfloor Ventilation System:** Recommended if the installation of natural ventilation vents is not possible.

Justification: The contamination of the subfloor by sewage necessitates its replacement to comply with health and safety standards, as outlined in AS 3666.2-2011 (Air-handling and water systems of buildings—Microbial control). Adequate ventilation, whether natural or mechanical, is crucial to prevent dampness and mould growth, in line with the NCC Volume Two.

3. Engage civil engineer to develop a new design to improve drainage around the property to prevent water from pooling and coming into contact with the external walls.

Not required. The existing drainage system is proper and operable. It was tested and effectively drains surface water to the stormwater system and away from the building.

During the inspection, four drains on the left side of the building were tested using an on-site hose. Over an hour-long test, all drains successfully drained water without any signs of blockage. Measurements confirmed that the site grading directs water away from the building, with gradients varying between 8mm/m and 25mm/m, complying with AS 3500.3-2018 (Plumbing and Drainage—Stormwater Drainage). The water test demonstrated that water runs away from the building and towards the drains, with no signs of ingress into the subfloor.





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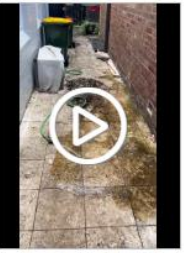
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4. All remedial work must be designed and engineered by qualified professionals and executed by a registered builder.

Only structural, waterproofing, or stormwater works require engineering design. None of these are required to address and remedy the sewer overflow leak and ingress issue.

Justification: The recommended remedial works are non-structural and do not necessitate engineering design. According to the NCC, minor maintenance and repairs that do not affect structural elements do not require an engineer's design.

5. An engineer should be present during the demolition and reconstruction phases to provide on-the-spot advice and ensure that all work adheres to the required standards.

No structural element demolition is required.

Justification: Since the remedial work does not involve structural demolition or reconstruction, the presence of an engineer on-site is not necessary. However, all works should be carried out by competent professionals.

6. Installing or upgrading gutters, downspouts, and drainage systems to effectively channel water away from the foundation.

The gutters are installed and have been approved by the certifier. The engineer hasn't identified any specific defects with the gutter, downspouts, or drainage system. During the inspection, no defects were found in these elements.

Justification: The existing guttering and drainage systems are functioning correctly, as per AS/NZS 3500.3-2018. Therefore, installing or upgrading these systems is unnecessary.

7. Inspecting and repairing any breaches in the building envelope that may allow moisture ingress.

No breaches in the building causing moisture ingress were found. The engineer's report hasn't addressed any specific breaches.

Justification: As per the NCC, the building envelope must prevent moisture ingress. Since no breaches were identified, additional inspection or repair is unwarranted.

8. Complete replacement of all subfloor piers and structural elements that have been compromised, using materials and methods that meet current building standards. Refer to new engineer's detail.

No structural materials were noted as compromised. All inspected elements are in good condition.

The section of the subfloor timber not sitting on top of the brick is not structural but serves to reduce floor vibration (they are not bearers). The bricks are not structural brick piers (which should be a minimum of 230mm x 230mm) but are instead supports for non-structural horizontal timber.

The structural system supporting the floor consists of 120mm (H) x 50mm (W) joists at 450mm centers, made of hardwood timber. These joists are supported on either side by the building's foundation and external brick walls.

The timber sitting on the middle brick pier is 50mm (H) x 75mm (W), indicating that this section is NOT a bearer due to the following reasons:

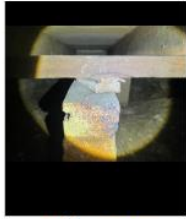
- Bearers must be installed vertically with the larger dimension standing vertical to maximize load-bearing capacity.
- Bearers must sit on proper brick piers or posts; these are not structural brick posts.
- Bearer sizes should be larger than the joists (which is not the case) as they support more load compared to joists.

All the above evidence indicates that the loose timber is not structural and has no effect on the structural integrity. Its absence may cause increased floor vibration but does not compromise structural safety.

During the inspection, no cracks were found on the walls, further indicating satisfactory structural integrity.

All timbers inspected are in good condition, except for one joist showing signs of termite damage affecting less than 5% of the section area, which is within the tolerance specified in AS 3660.1-2014 (Termite Management).

Recommendation: While the structural elements are satisfactory, it is advisable to monitor the termite-affected joist and consider treatment to prevent further damage.



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Section of the timber
that are not supported
Not structural Element



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120mm H Joists



50mm W Joists



50mm W Joists



450mm c/c interval
Joists



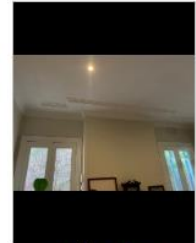
450mm c/c interval
Joists



50 mm H Vibration
Absorbent Timber



75 mm W Vibration
Absorbent Timber



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No cracks noted to the
adjacent walls



No cracks noted to the
adjacent walls



No cracks noted to the
adjacent walls

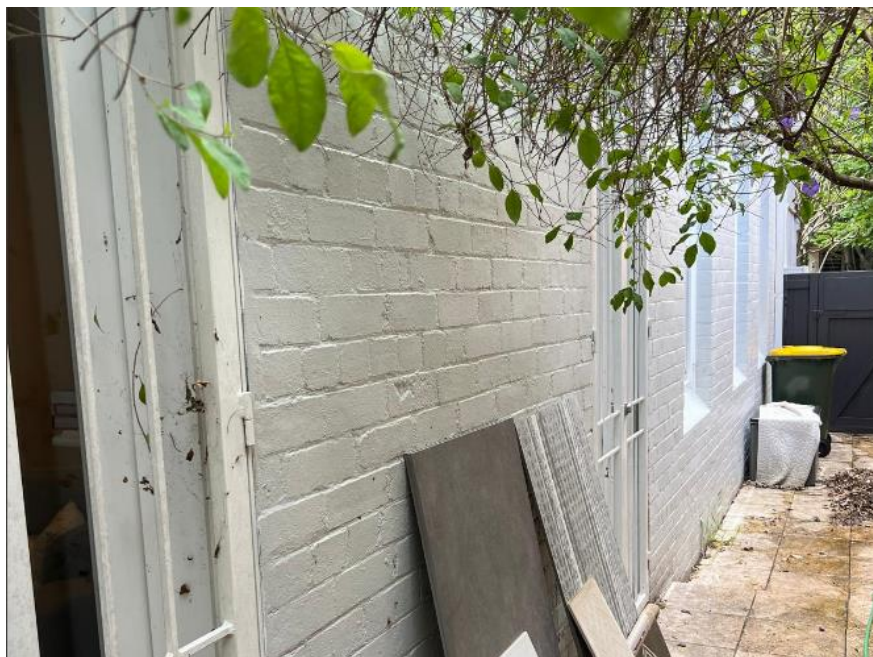


No cracks noted to the
adjacent walls

9. Tuckpoint external brick walls and repair eroded bricks as necessary.

Disagree. The tuckpointing and mortar are in good condition, and replacement is not required. The engineer's report does not specify any defects in this area.

Justification: Tuckpointing is necessary when mortar joints are deteriorated, which can compromise structural integrity or allow moisture ingress (as per AS 3700-2018, Masonry Structures). Since the mortar joints are in good condition, this work is unnecessary.



10. Review all existing brick vents to ensure compliance.

The subfloor vents might meet the compliance standards of the year the building was built (circa 1900). However, it is highly recommended to install additional ventilation vents to increase subfloor ventilation, reduce dampness, and improve airflow. If installation of additional ventilation vents is not possible, then a mechanical ventilation system is an alternative option.

Justification: Adequate subfloor ventilation is essential to prevent dampness and mould, as outlined in AS 3666.2-2011. While existing vents may have been compliant at the time of construction, upgrading to meet current standards is advisable for occupant health and building longevity.

Sample Property, Suburb withheld is a 4 bedroom, 2 bathroom house built in 1910. The property has a land size of 291m² and a floor size of 215m². It falls under the Inner West local government area and is listed under Lot/Plan 1/withheld. While the property is not currently for sale or for rent, it was last sold in October 2021.

11. Installation of a mechanical subfloor ventilation system to address ongoing moisture issues and improve airflow, thereby reducing the risk of further structural dilapidation.

Although no structural damage was found, the installation of subfloor ventilation is recommended.

Justification: Installing a mechanical subfloor ventilation system will enhance airflow and reduce moisture levels, mitigating risks of mould growth and structural deterioration due to dampness, in accordance with the NCC and AS 3666.2-2011.

12. Stabilisation of the structure to ensure compliance with load-bearing requirements, with a focus on preventing further collapse or disconnection of piers and bearers.

No collapse was noted. Only one batten that reduces floor shake is affected, and it is not a structural element.

Justification: Since there is no evidence of structural instability or compromised load-bearing elements, structural stabilization is not required. Regular monitoring is recommended to ensure ongoing structural integrity.

13. A make-safe procedure must be implemented prior to the commencement of any major works, including mould treatment and initial stabilisation of the structure.

No structural work is required for remedial purposes; therefore, structural stabilization is not necessary. However, mould treatment is highly recommended as it is likely due to water (sewer) damage to the property.

Justification: Mould poses health risks and should be remediated following AS/NZS 3666.2-2011 guidelines. Since no major structural works are required, a make-safe procedure specific to structural stabilization is unnecessary.

14. Obtain all existing and historical approval documentation from the Local Council.

Irrelevant to the moisture damage defect.

Justification: Although historical documentation can be beneficial, it is not directly relevant to addressing the sewer overflow damage. Therefore, obtaining these documents is not necessary for the current remedial work.

6. Conclusion

Based on the inspection and assessments conducted, many of the items listed in the Engineering Report are not required or are irrelevant to the sewer overflow damage. The primary concerns are the potential health hazards due to contamination and inadequate subfloor ventilation.

Recommendations:

- Replace the floorboards to address contamination from sewer ingress.
- Install additional ventilation vents or a mechanical subfloor ventilation system to improve airflow and reduce dampness.
- Conduct mould treatment in affected areas.
- Monitor the termite-affected joist. Note: according to the termite treatment certificate provided by the homeowner, the treatment was conducted on 22 August 2024, with an expected protection lifespan of 8-10 years and a recommended re-inspection period of 12 months.

All remedial works should comply with the relevant Australian Standards and the NCC to ensure safety and compliance.

Expert Witness: Maison Azdari: Details, Qualifications, and Experience

Expert's Details:

- **Full Name:** Maison Azdari
- **Address:** Sample Property North Sydney, NSW 2060
- **Email:** enquiries@ownerinspections.com.au
- **Mobile:** withheld

Inspector's Qualifications:

- **University Degree:** Bachelor of Civil Engineering, 2001 - 2006
- **Professional Recognition:** Recognised as a Professional Civil Engineer by ENGINEERS AUSTRALIA, 2009
- **Building Consultant Expert Witness Seminar:** Master Builders
- **CPCCWHS3001:** Identify Construction Work Hazard and Select Risk Control Strategies, 2019
- **CPCCBC4026A:** Arrange Building Applications and Approvals, 2019
- **Cert IV in Building and Construction (Estimating):** 2012
- **Cert IV in Building and Construction (Building):** 2013
- **Diploma of Building and Construction (Building):** 2013-2014
- **VIC:** Registered Builder (Unlimited) - Victorian Building Authority (VBA), Registration number: DBU-41642
- **NSW:** Registered Builder (Contractor) - NSW Fair Trading, Registration number: 366172C
- **QLD:** Registered Builder (Open) & Completed Residential Building Inspector - Queensland Building & Construction Commission (QBCC), Registration number: 15151453
- **Termite & Timber Pest Management Course:**
 - CPPUPM3008 - Inspect for and Report on Timber Pests, 2020-2021
 - CPPPUM3010 - Control Timber Pests, 2020-2021
- **Welding Process and Inspection for Steel Structures Certificate:** 2009
- **Industrial Parts Welding Inspection Visual Testing Certificate (VT):** 2010
- **Partial Bachelor of Law:** Victoria University
 - Australian Legal System in Context
 - Legal Research Method
 - Criminal Law

Inspector's Experience:

- Over 17 years of experience in design, managing, supervising, and inspecting various buildings and construction projects, including:
 - **Designing Various Buildings Overseas:** 2006-2011
 - **Supervision of Various Civil and Commercial Projects:** Schools, Roads, Bridges, Apartments, Houses, 2004-2011
 - **Supervision of Various Residential Projects:** 2011-2014
 - **Project Cost Estimating:** Over 500 residential projects, 2014-2015
 - **Building Various Residential Projects:** Luxury, mid-range, townhouses, 2015-2019
 - **Professional Building (Residential and Commercial) Inspections:** 2006 - Present
 - **Broad Knowledge of National Construction Codes (NCC), AS/NZ Standards, Building Acts, and Regulations**
 - Over 500 building inspections were undertaken across Australia.

Expert Witness's Statement:

I have completed hundreds of building inspection reports along with building many houses, townhouses, and apartments since 2006 when I graduated from university as a civil engineer and then obtained my builder licence in 2014. Combining my knowledge and experience in design, supervising, and actual building, I am well-equipped to provide accurate and honest reports on building processes and defects. I have thoroughly studied the relevant Acts, Regulations, and Standards, and have a broad knowledge of the latest updates in building standards, Acts, and regulations. This extensive background qualifies me to make expert assessments and reports.

Inspector's Declaration and Signature

I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance which I regard as relevant have, to my knowledge, been withheld from the Tribunal.

Signature:

Maison AZDARI