

1.0 Introduction

Conqa welcomes the opportunity to contribute to the NSW Government's Building Stronger Foundations consultation.

We are strongly supportive of the efforts and actions taken by the NSW Government to improve the NSW Building & Construction industry. It is a privilege for Conqa to contribute to its improvement.

2.0 Situation

In recent months, failures of NSW buildings have put the public's safety at potential risk, and undermined public trust in the Building and Construction Industry. These failures have resulted in buildings being evacuated, and full inquiries launched - including site inspections by engineers, and auditing of build records.

There are two principal reasons why buildings fail:

1. The design is insufficient & does not comply with the BCA - *this can be due to incorrect/understrength materials being specified, insufficient performance solutions, design not fit for purpose etc.*
2. The building was not built in accordance with the design, ie the BCA.

Many of the solutions proposed in the Building Stronger Foundations Discussion Paper address the first cause, however, without including a focus on solutions to the second cause, the reforms may not fully achieve the outcomes required.

3.0 The Role of Quality Assurance

In order to ensure the building is compliant with the design, and therefore the BCA, a robust Quality Assurance (QA) process *should* be followed. In many instances it is not.

QA is a cornerstone process that contractors (both Builders & Specialised Trades) follow to ensure all key components of a build are correct, and therefore that the build matches the design. Without a robust QA process the risk of non-compliant/defective work increases significantly.

Quality assurance is enacted with checklists, completed with each activity & milestone within the overall construction process, to prompt the worker to ensure that the work is correct. They are designed to capture build records (photographs), identify which drawing revision was used, capture relevant engineer observations, & material records (eg concrete docket). It is essential the relevant and qualified individual completes these key activities.

4.0 Solution Summary

The resolution is to ensure that on 'commercial buildings' (class 2-9) all contractors can:

- Demonstrate that reasonable care has been taken through an evidence based QA process.
- Make their QA records available to the relevant regulators, stakeholders, and government bodies for audit, both during the build process, and post-completion.

5.0 Question Responses

1-5: N/A

6. What other options could be workable if there are variations to plans?

As highlighted, it may not be practical, timely or cost-effective for every plan or variation to be statutorily declared in addition to the necessary sign-off requirements already prescribed by the EP&A legislation. However, it is crucial that site based evidence and documentation of variation work is always collected by the relevant contractor(s) in order to provide to detail of what work was done. These should align to final as-built plans.

7-9: N/A

10. In what circumstances would it be difficult to document performance solutions and their compliance with the BCA?

When performance solutions or variations need to be devised with immediacy on site, these solutions should be discussed, agreed upon, signed off, and all work documented by the relevant 'building designers' and 'building practitioners'. The records of work and final design solution should be documented to align with the BCA, and available for audit within the QA process. The use of technology can make this process simple and feasible.

11-12: N/A

13. What would the process for declaring that a building complies with its plans look like?

A well documented Quality Assurance (QA) process should be completed by all relevant contractors.

- The QA process should identify which plans and revision(s) the building was constructed in accordance with. It should reference any variations or 'site instructions' relevant.
- Photographs of the work completed should be associated to the relevant building activity within the QA documentation.
- Material certificates and records should be attached.
- Continuous evidence of building work from all contractors should be captured in their QA process to support any declarations, and this work should be auditable and approved by the relevant certifier.
- All contractual obligations should be demonstrable.

Simple site QA is a means of not only documenting and demonstrating what was constructed, but that due process was followed.

14. What kind of role should builders play in declaring final building work?

Builders are responsible for their contractual obligations, and therefore the final declaration that all building work has been built in accordance with the approved plans, and correct approved revisions. This building work should be documented and demonstrated through their own QA process. Builders should ensure that any subcontracted work meets the appropriate contractual requirements, and therefore that subcontractors are providing evidence through robust QA process to support their relevant declarations.

15: N/A

16. Are there any circumstances which would make it difficult for builders to declare that buildings are constructed in accordance with their plans? If so, what are those circumstances?

Any circumstances where the site QA process doesn't capture what was built. Without an evidence based process followed by those doing the construction work there is uncertainty and difficulty in providing declarations of the building being constructed in accordance with approved plans, ie the BCA.

15-30: N/A

6.0 Background on Conqa

Conqa is a Quality Assurance software service for the construction industry. We have offices in Australia & New Zealand. Our customers include Multiplex, Ganellen, Scentre Group, Ryman Healthcare, and Fulton Hogan, along with over 200 specialised trade contractors (subcontractors).

Since launching in 2015 Conqa has built thousands of QA plans for commercial projects. We help all contractors (Builders & Specialised Trade Contractors) to plan a straightforward and project specific QA plan. By facilitating digital collaboration with suppliers, building designers, other contractors, and regulators, we help to deliver QA plans that capture all critical project build information.

Our simple cloud technology enables this process to be enacted using any mobile device, in the field. The work and enriched records of it are then stored on the cloud and made available to any relevant party.

Conqa makes the QA process transparent, accountable, and simple. The result are quality assets, and quality records to match.

7.0 Conqa Case Study: Auckland Council

Auckland Council is the biggest council in Oceania. It supports 1.7m people, covers 5,000 km² of land, and has a budget of over \$30 billion. Unlike the NSW market, Auckland Council is responsible for consenting, compliance monitoring (inspections), and final certification (occupancy certificates).

Conqa has facilitated a streamlined audit process between Builders and Auckland Council by ensuring the QA plans include the relevant building code compliance information. This includes:

- References to the drawing revision used for the activity
- Records of materials used (eg concrete docket)
- Photographic evidence of the work
- Relevant Engineer Reports
- Records of rectification activities
- References to any variation or performance solution created

Council inspectors (certifiers) are still responsible for completing critical stage inspections, however, they are able to audit records for non-critical build stages in lieu of on site inspections. Auckland Council have remote and ongoing access to records that demonstrate continuous compliance. Figure 1 below highlights where Conqa sits between site and certifier (Auckland Council).

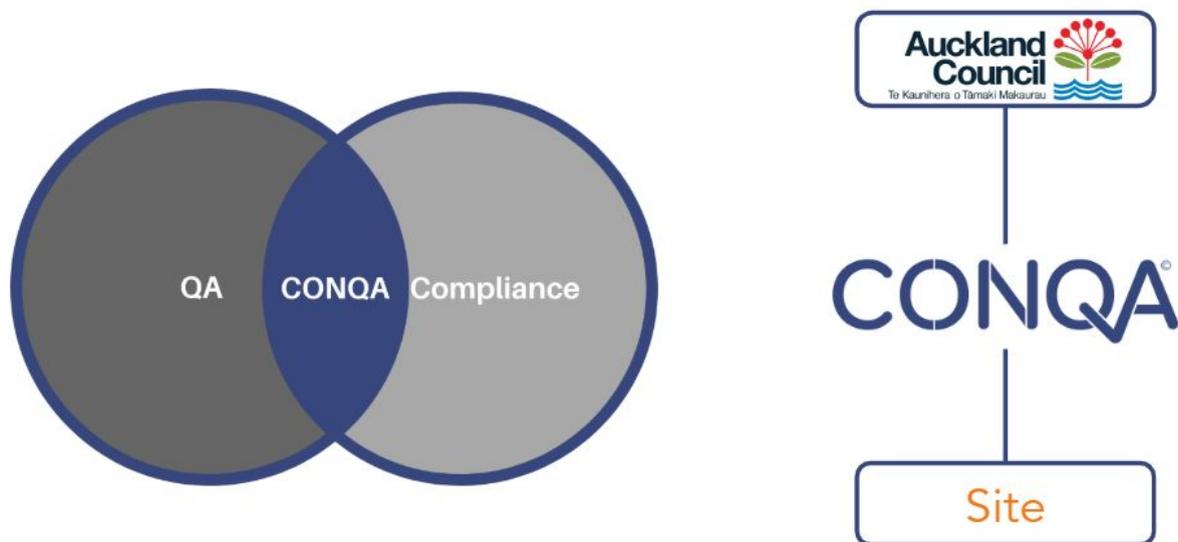


Figure 1: QA plans to capture QA & Compliance information (left), Conqa provides compliance audit capability to Auckland Council (right).

8.0 Contractor QA Example & Relevance to Opal Towers

Precast HQ are one of New Zealand's fastest growing precast panel suppliers. They take a great duty of care to ensure their products are of the highest quality, and fully compliant with the approved design. Evidence of this is highlighted in the QA process they follow.

The availability of this information is incredibly relevant in regards to the issues encountered in the NSW market. For example, with the Opal Towers in NSW, it has been highlighted that the structural failure was due to understrength design & materials. While Conqa may not have prevented the design failure from occurring, having the records available ensures that:

- a) Due process has been followed, and is auditable during the build by the relevant stakeholders, certifiers, engineers etc.
- b) In instances where failure occurs there are accurate records of what was built, which will assist in any investigation into the cause.
- c) It quickly indemnifies the precast supplier from fault & damages if the records highlight the panel was built correctly.

Making it easy all contractors to demonstrate the appropriate duty of care has been taken through the build process with robust and accountable QA, as per the appendix, is a fundamental component to improving the industry's performance and capability.

Yours sincerely,

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Director