Submission No 69

INQUIRY INTO FURTHER INQUIRY INTO THE REGULATION OF BUILDING STANDARDS

Name: Name suppressed

Date Received: 19 September 2021

Comment on the Second Inquiry by the Legislative Council into the regulation of building standards, building quality and building disputes 19 September 2021

My name is Thank you for this opportunity to comment in the second inquiry on building standards.

I am a degree qualified professional engineer. My details are on the attached submission I made for the first inquiry. I am attaching that submission again as even though I was granted 30 minutes to discuss my thoughts about the industry to the Inquiry Panel on its last day of hearings in the Sydney Parliament House, none of what I wrote or said was mentioned in the final report even though some of the committee members complimented me on my effort to provide some insight. I am assuming that this is because my testimony was outside of the terms-of-reference, however, they are not outside of the terms-of-reference of this second inquiry.

Firstly, I will approach the Inquiry questions (a), thence (a)(i) and (a)(ii) then (b), any other related matters.

(a) The efficacy of the government's regulation of building standards, specifically…..

The current and past governments have done their very best to destroy their own public service by shedding highly experienced staff over the years using redundancy as their reason claiming the work had disappeared or was no longer relevant. However, that work always remained in one form or another sometimes being propped up by ineffective consultants. It then replaced positions that required qualifications by positions called 'Award Free' which allowed unqualified and inexperienced persons to assume the roles. The regulation of building standards and the controlled & informed preparation of those standards might be one of the casualties of this misguided management approach.

(a)(i) The cost, effectiveness and safety concerns arising from the use of flammable cladding.

The advantage of such plastic polymer metal sandwiched cladding is that it is relatively cheap, light weight, has good insulation properties and can be easily formed and used. However, when such cladding burns and destroys a building possibly taking the lives of the occupants, such advantages don't really mean much, do they?

One can only wonder how such a dangerous product ever found its way into the building environment. Even children are used to playing with and burning such expanded plastic sandwich material to watch it deform and melt yet as adults we somehow became oblivious to that fact. I would imagine that an intelligent government employee would have not permitted such products to enter the market as the danger is obvious. The problem is that decision making has been removed from government employees.

The government should promote and mandate the design of alternative sandwich materials. The first that comes to mind is to use aerated concrete between the decorative outer metal sandwich layers. This product has been on the Australian market since 1990 and is manufactured at Somersby, north of Sydney. It is surprisingly light weight and should exhibit similar or the same properties as the petrochemical sandwich products used now. Best of all, it is not flammable at all.

Alternatively, metal honeycomb materials could be used.

In addition, carbon fibre products should be investigated. The University of Newcastle currently has underway a project to convert coal into carbon fibre. What could be a better use of our coal rather than burning it in other processes. Furthermore, our coal industry would stay in business and we would have a world export market if we can manufacture a carbon fibre honeycomb without a flammable binder as a replacement for the petrochemical flammable sandwich. Similarly, a glass fibre product made from sand or rock might also work.

(a)(ii) Private certification of and engineering reports for construction projects.

Please read my previous submission on this subject.

I believe the certification process is flawed especially for smaller residences such as three-storey and below flats and houses.

The way it is set up is that it is highly secretive and the government assumes the certifier has the highest integrity and can never make an error. In reality, other interested persons such as owners of adjoining residences can be locked out of the process and are not allowed to question items or discuss errors or non-conformances. It is assumed that once a certifier has signed off the project it is 'god-like' perfect in all respects. The Government clearly has great faith in human nature accepting that every possible item which requires consideration will actually be thought of and assessed correctly as the certifier is assumed to know every rule and every variance, and every installation requirement by the manufacturer of every product used.

An example that I experienced this year is as follows. A large two storey house is going to be built next door to my property and I received a letter from the certifying company giving seven days' notice. I called the certifying company for some information and they said to contact the construction company. I did that but was then told to contact the certifier. I then asked if they could work out amongst themselves who I should be talking to. I ended up with the construction company and asked for a copy of the plans which they did send although it wasn't a full set but a few elevations which lacked the necessary detail for me to accurately locate it on the block and make other assessments. I contacted the construction company again asking about boundary offset as I thought there was an error and other items such as a retaining wall as they were going to lower the ground level of the property. Once I showed my inquisitiveness, they said as it was certified they didn't have to

give me any information and that they didn't care about what I said as it had all been signed off by a certifier.

However, in the meantime, I sent an email to the certifier who had left the certification company. I asked about the boundary offset and he said it needs only to be 900mm but I knew this was wrong as the building was to be 8.5 metres high and other rules come into effect. As the construction company had said it doesn't have to communicate with me I decided to seek advice from the NSW Department of Planning and how to go about lodging a complaint. I received a cut & paste reply firstly apologising for the delay and providing links to read various pieces of legislation. It also said that if I believed that the private certifier has not acted in accordance with their obligations I may wish to raise the matter with the NSW Building Professionals Board (BPB), which I later did. I received the following reply;

> "Thank you for your patience during this time of higher than usual demand.
>
> After examination of the issues you have raised, it has been determined that this matter does not fall within the jurisdiction of Fair Trading and would more appropriately be dealt with by your local council."

Such roundabout advice leads one to ask exactly how can a person get some satisfaction that the certification process has been done correctly when it becomes very difficult to find out what is actually happening and that the bastions of enforcement pass it off to someone else.

One of the responses I received is as follows;

> "In your email you state "One of my concerns is that why does the compliance assessment rely on a single person only". In NSW Registered Certifiers are accredited by NSW Fair Trading. A Certifier does not work for a builder or developer and they are required to uphold public interest.
>
> Once appointed, the Principal Accredited Certifier becomes the consent authority for a specific proposal, they have a responsibility to assess and only approve works which comply against the relevant legislation. Whilst this process requires one signature or approval it does not negate the relevant due diligence required if approvals , common law, adjoining owners' property rights or licences or permits are required,…….
>
> The pathway to communication is not halted by the Complying Development process. Open communication is encouraged and supported ……
>
> As an affected neighbour you can question the proposed neighbouring build and it is reasonable to expect a response to those concerns……

Whilst what has been said is the intention of the certification scheme might be so, the statement about open communication appears not to be true. It appears to me that the only way to effectively get that communication would be to seek legal advice and have a Court Injunction issued to stop the works. I am sure you would agree

that this is a most unsatisfactory situation when the innocent parties have to go to this end just to ensure their rights under the legislation have been preserved.

After reading some of the legislation and brochures available I came to the conclusion that some of the 'Definitions' in the legislation were defective and required review. In another message to the NSW Department of Planning I asked how is the position of 'Ground Level' is determined. This is particularly important as many other items are dependant of the position of the ground level such as overshadowing other properties and boundary setbacks. To that end I received the following reply;

> "Thank you for your email and apologies for the delayed response.
>
> The Codes SEPP refers to "ground level (existing) and is defined as ground level (existing) means the existing level of a site at any point.
>
> The ground level existing would be determined when the initial site inspection is carried out by the certifier, that would be the existing state of the ground level, provided that any earthworks that had occurred on the lot was legal works, as in, had approval or the earthworks was exempt development."

As I read that statement, the ground level can be determined by the certifier but if the site is sloping, a ground level position could be chosen to best benefit a design whereas if another level was chosen it might not be possible to build the desired design. Furthermore, the site can be lowered or raised to create a level base (especially for a waffle-pod cement slab floor construction) so does exiting mean before or after the level is changed? It appears the location of the ground level is sort of optional in some situations but how can an ordinary owner of a neighbouring property know everything has been done correctly. Just relying on trust that the system of government; the approval of certifiers, and; their complete honesty plus belief that a certifier actually knows all of the building requirements, is flawed.

Finally, another item of significance here is that you will note that the replies received all open up with an apology about the delay for the time taken to respond. What could happen is that the building construction of concern could be completed before a person can get the government departments to actually take any action or even receive a satisfactorily answer to the questions posed. This harps back to my opening statements that the Government has reduced its public service staff levels to the point they can no longer adequately service the public. As a result the Government has introduced systems where there is no double checking and the public has to fend for itself with sometimes catastrophic outcomes.

The certifier should be required to issue a clear statement that every aspect has been considered and that it is correct. Along with that statement should be say, a 200 point check list that a person can read so they can be assured the process has been done correctly. The statement and check list should be made available to anyone on request.

(b) Any other related matter

1) In my previous submission I spoke about a new construction where the dampcourse / tile flashing was left out by the bricklayers where the roof of a lower level abuts the brick wall of the start of an upper level. Long lengths of sheet steel were installed to cover the gap between the tiles and the brick wall. It was my opinion that a lack of supervision by the builder caused this and that the bricklaying team spoke no English (which appears nowadays to be very common).

Since that time the inevitable happened and the new owner found that water leaked below into their house. However, all that was done was to replace the long metal sheets with another similar sheet but with a short turned over edge at the top. A small angle grinder was then used to cut a thin groove into a mortar bed and short turned over edge fitted into it and the remaining gap filled with glue. This might stop any driving rain but it won't stop water penetration through the bricks down below the roof line. Only a full width damp course can do this and should have been done at the time the bricks were laid. Furthermore, that brick wall sits on a steel beam which could rust over time by the water penetration through the bricks if it too isn't protected.

Attached at the end of this submission is a photo (again) of the original steel strip covering the tile gap because no flashing had been installed. Attached also is a photo of a piece of that steel showing the glue that was supposed to stop any driving rain water penetration. Note that the glue lines have been made quite poorly. For comparison, attached is a photo of another building not far away just being constructed to show how the flashing should have been done properly.

What is concerning here is that one wonders how a so-called responsible group of persons working for a company that displays large banners with their name on them using the word 'Bespoke Homes', could allow such a major error of leaving out the flashing and damp course to happen and not care to remediate the problem properly when it is their fault.

2) In regard to larger multi-story construction, I viewed a webinar made by an engineering company that specialises in remediation. They showed photos of where columns holding up the floor levels were not even in line above each other. They showed photos looking upwards to the floor above and you could clearly see the shape of the column above punching through the floor as the floor was not designed to carry such concentrated loads. One can only wonder of the intelligence level of the builder to allow that to happen and how the construction was certified.

3) In the area where I live there has always been building projects underway. Often I will try to speak to some of the persons on site and to ask for their contact details in case I might use their services at some time. However, invariably none of them speak English. This Inquiry should make a recommendation that where any workers on site do not speak English there must be a building qualified person on site who can speak to them in their language. I have already pointed out one example of how the problem was most likely caused by a lack of English speaking skills but for Occupational Health & Safety alone, it should be a requirement.

4) A further reason why a qualified person should always be on site regards concrete pouring (this was mentioned in my previous submission). Concrete is a mixture of sand, aggregate and cement mixed with water. The amounts of each material affect the ultimate strength when dry and the workability when liquid during the pour. The amount of water is critical. The same mix proportions of mix of sand, aggregate and cement will result in different strengths of concrete if the water content is varied. Correct mixes often have a low water content which can make the mix stiff and special care is needed to pour it to reduce air voids. However, we all know that a liquid is easy to pour and often cement truck drivers, owners of concrete pumps and builders can add water to make the pour easier. As I said this reduces the strength of the concrete and long term durability. The issue is that it is often done. I was present at a concrete pour for the house described in this submission regarding the lack of roof flashing. I was wearing a yellow tee-shirt and steel capped boots. The concrete pump operator thought I was one of the workers and while I watched him add water to the agitator of the concrete truck I asked if he often added water and he said yes, 'all of the time'. In an instance regarding my own house about twenty-five years ago, I employed a team of concreters. To clean the pump pipes out they put old cement paper bags and raw concrete mix to push through the pipes. Instead of putting this rubbish somewhere away from the pour, they shot it into the footings around the steel reinforcement. This would have caused it to rust over time. I laid down on the ground and lifted it out with my hands but in doing so, afterwards, I received a large area if skin scaring around my wrist caused by the alkaline concrete which dissolved my skin. It took months to heal and I still have that scar today. However, to continue the story, later I went outside to check the concrete pump and found the truck driver holding my garden hose spraying water into the concrete agitator. On another occasion, I had a concrete pour scheduled for 9am and the concrete was so liquid that it did not 'go off' and my concreters had to leave at 3pm without finishing the work. Fortunately, from my previous experience, the concrete strength I needed for this pour was 20mpa so I ordered 40mpa, double the strength, so hopefully I ended up somewhere between 20 to 40.

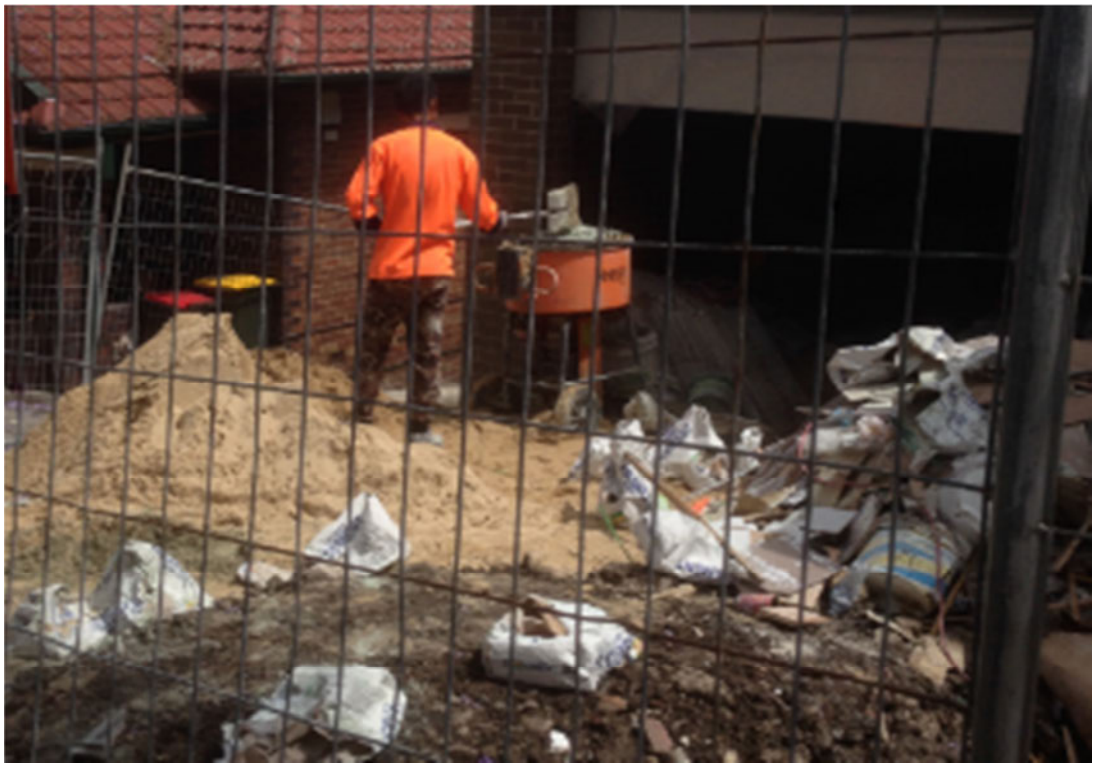
5) All trades persons and labourers on site need to be supervised, preferably by an engineer. As an example, a bricklayer is trained at college to mix mortar in controlled batches say, with full buckets of the component parts, so to attain the correct performance mix. However, when on site they just use a shovel to load the mixer. Accurate and consistent mortar mixes can't be produced with shovel loading yet you see it used on every building site. The end result is the mortar is too hard or too soft. It should be softer than the bricks so if a crack forms because of any ground movement or expansion, the crack only follows the mortar joints and does not crack directly through the bricks. If it is too soft it is not weather resistant.

6) In my 30 minute submission to the Inquiry I spoke about the possible dangers of using rubber O-ring compression plumbing fittings (including for gas) compared to silver brazed joints. I spoke about their melting temperatures in a fire and unknown life of the rubber. Even though in my opinion they are a disaster waiting to happen, if nothing can be done because of their popularity nowadays, their use should me made limited. The plumbing rules prohibit the use of compression joints which use nylon or copper compression sealing rings in places where they cannot be seen or inspected. However, currently, compression joints using rubber O-rings can be used anywhere plus their ultimate life span is unknown. In addition, what guarantees are

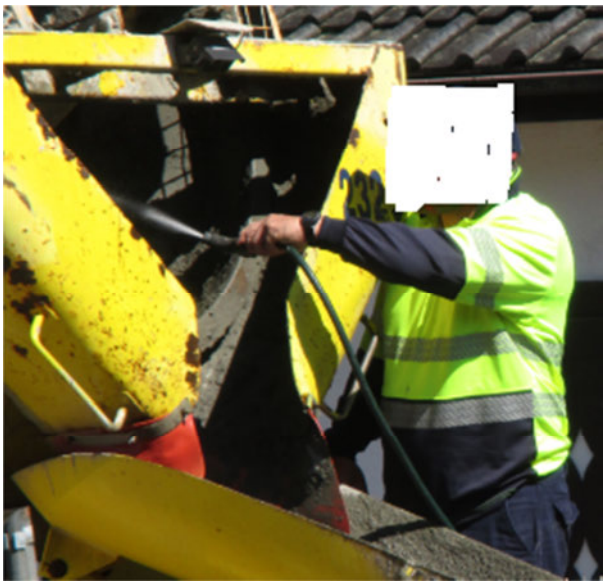
there for imported products where experience has shown manufacturing quality is questionable.

BE, DipPM, GAICD, APEC Engineer, IntPE(Aus), FIEAust, RPEng. CPEng

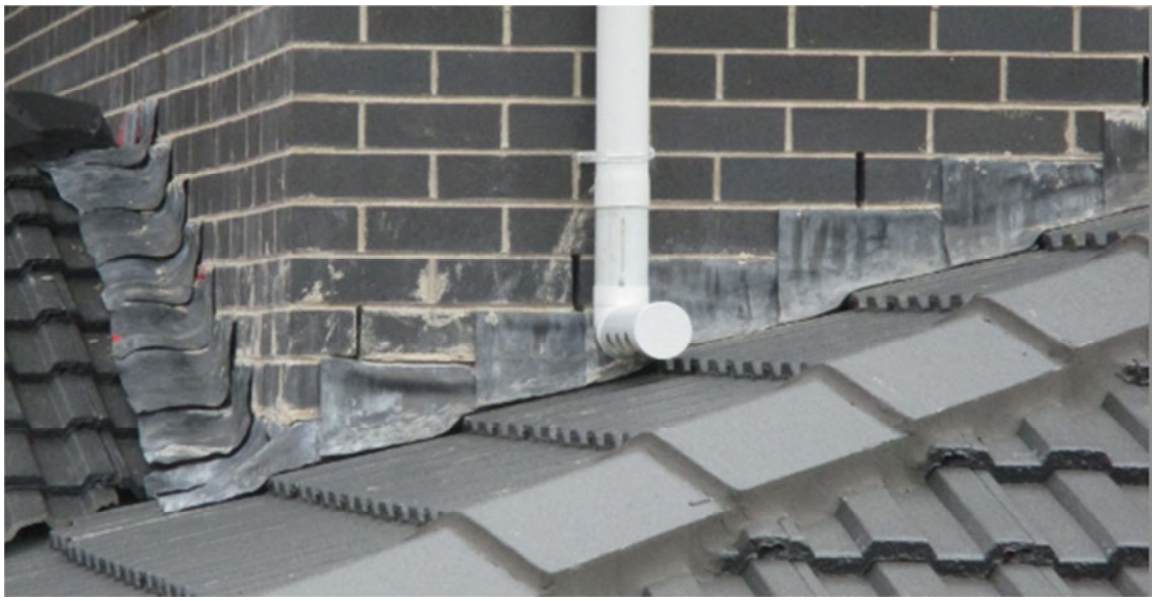
PHOTOS;



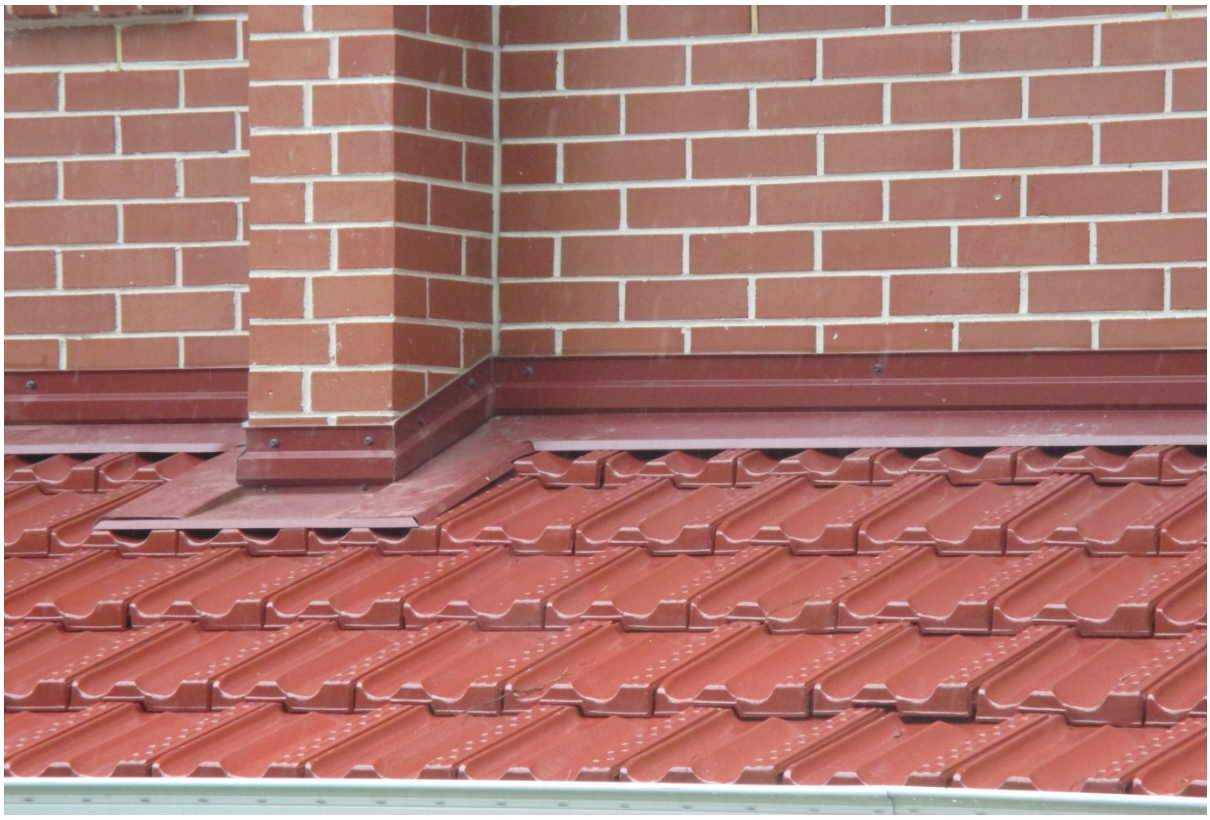
A proper proportioned mix cannot be achieved by using a shovel alone but this is the standard from the building industry. It must be mixed in measured quantities such as by buckets, other containers or by weighing for very large quantities.



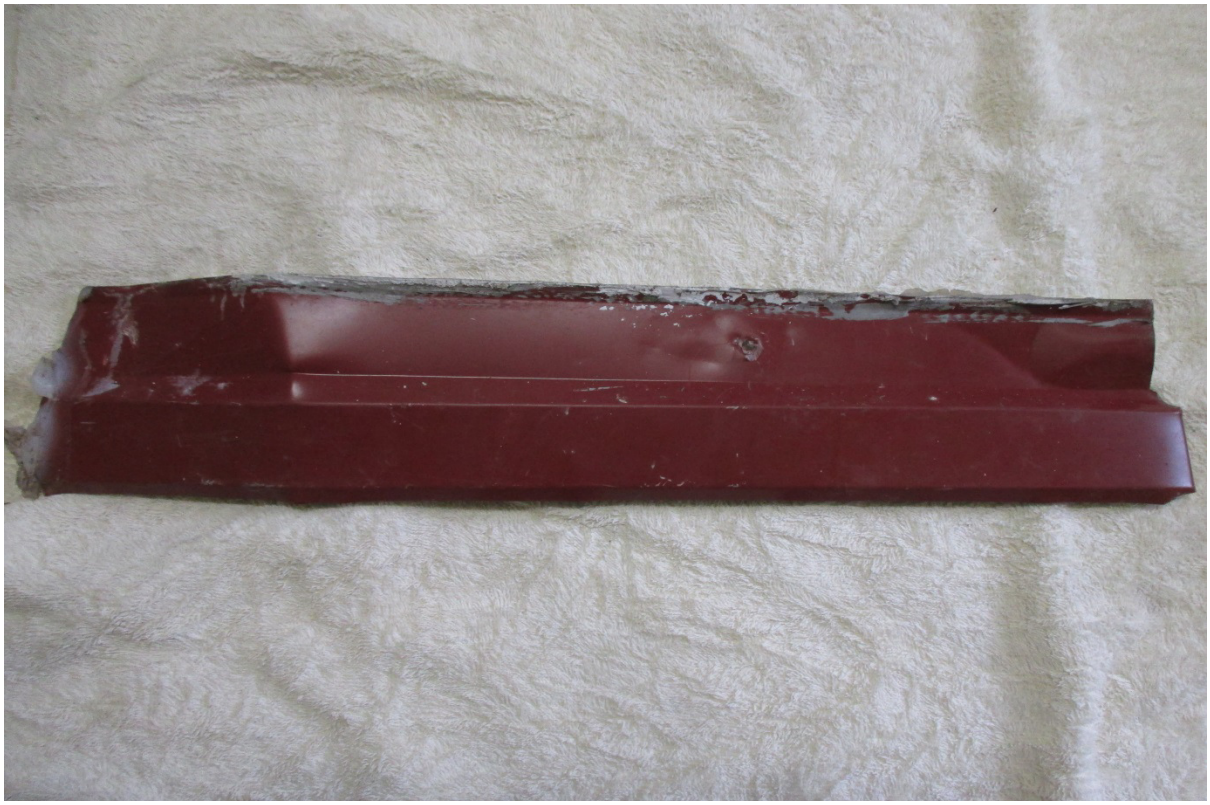
Adding extra water to cement mixer weakens the strength of the concrete and can cause cracking after it has hardened.



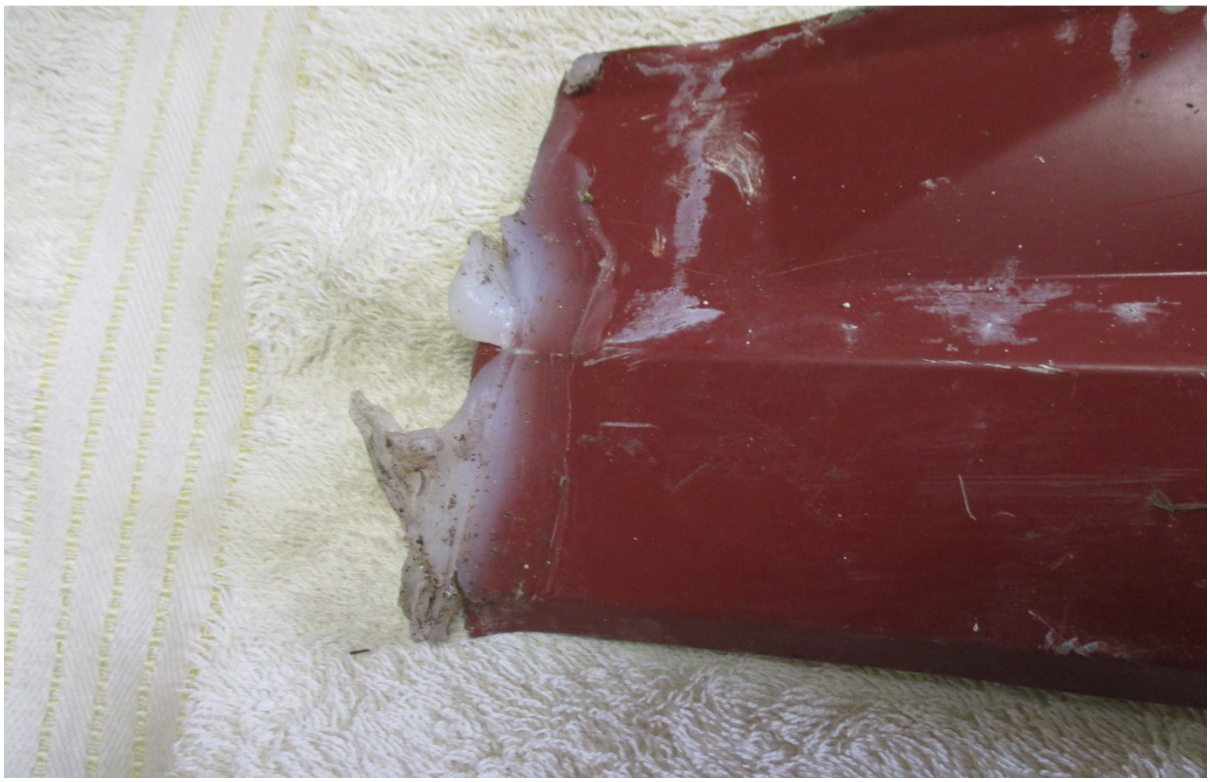
Example of a properly weatherproofed roof edge intersection with a brick wall and damp coursed with lead flashing



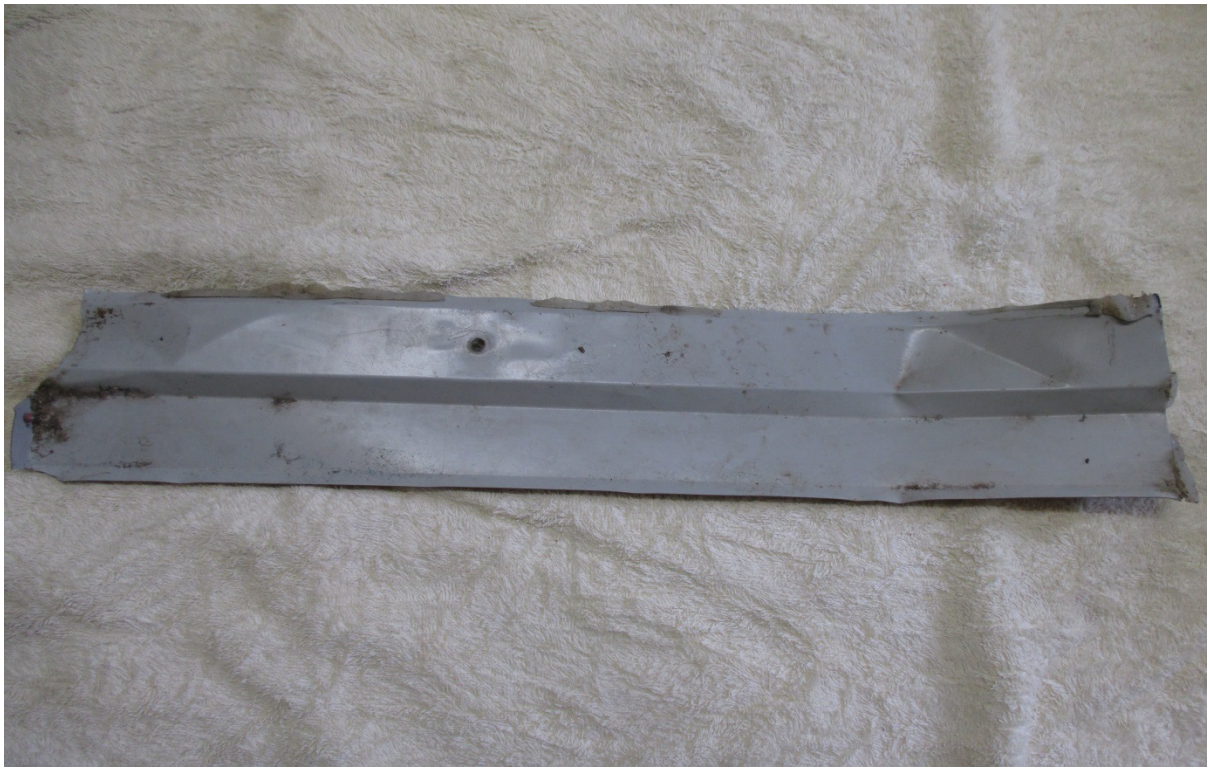
The same example photo of bad roof design as detailed in the previous submission. No flashing or damp course was used and lengths of pressed steel sheet were glued to the wall to cover the gap.



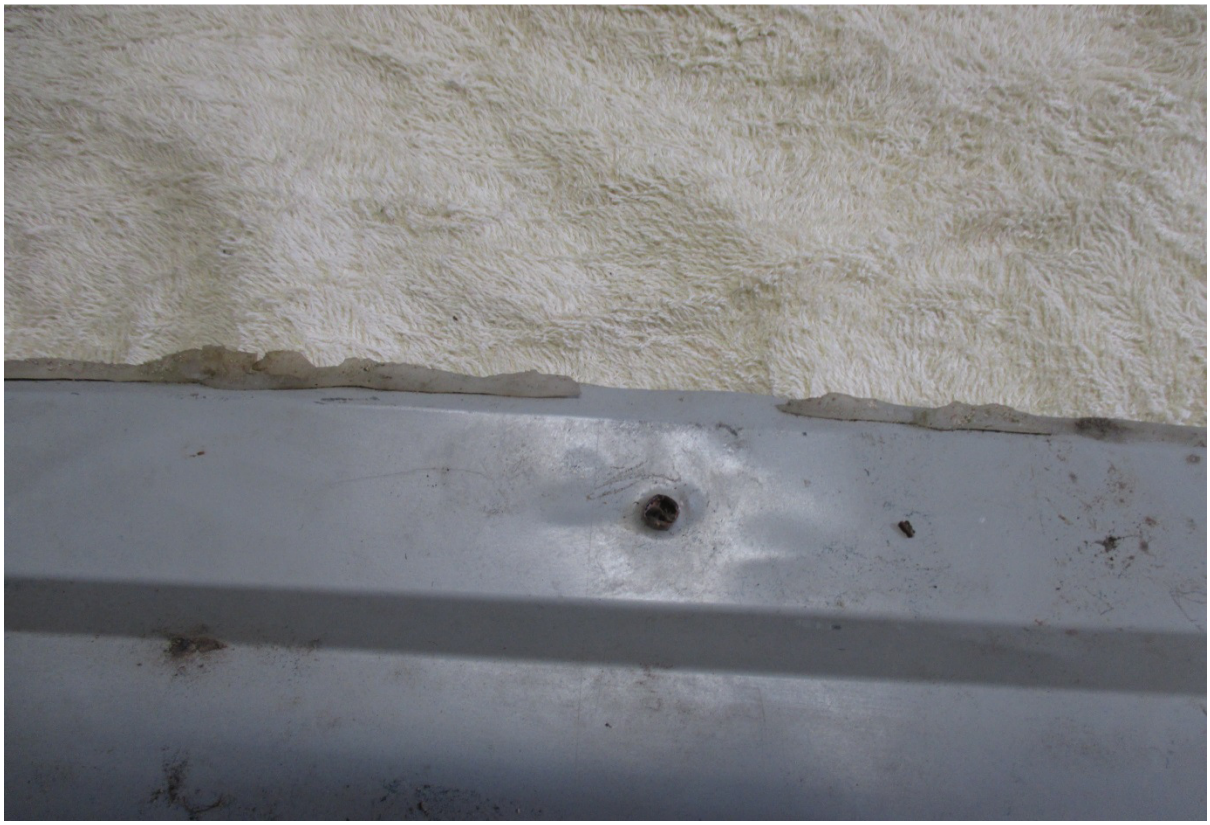
Sample of the red coloured side of the sheet steel



Edge of the red coloured side showing one of the glued joins

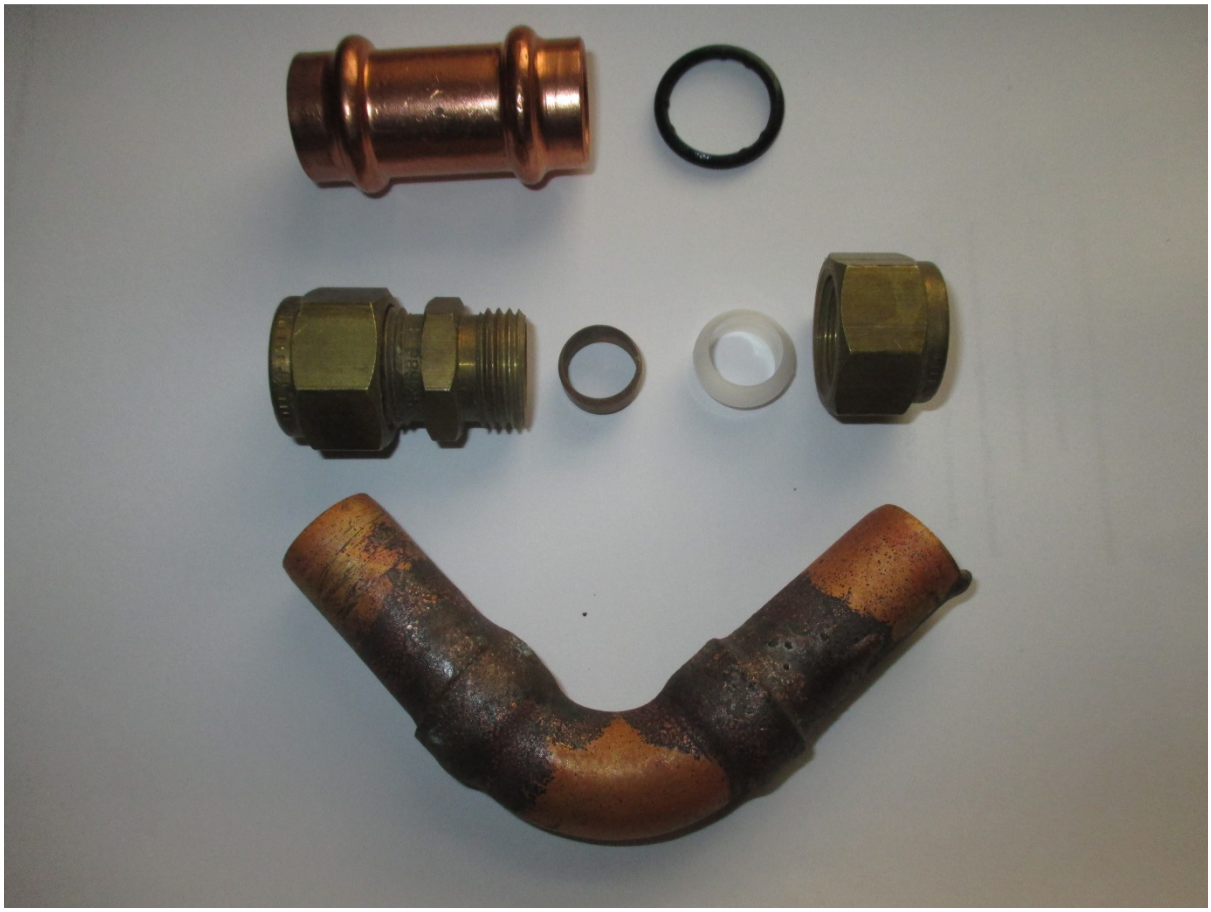


Reverse side of the steel sheet with broken glue line along the top edge



Close up of the glue edge to attempt to provide waterproofing with the brick surfacer

This is an example of project involving three separate trades and not properly managed. It involved the excavation; then setting of the reinforcement rods, and; then installation of some plastic pipes. Not enough earth was removed and the pipe installer fitted the pipes in the space available hence compromising the concrete thickness.



The top fitting in the photo is a modern compression joint which uses a rubber O-ring only to achieve a water or gas seal. The seal is achieved by crimping the metal to extrude the rubber in the joint. The item in the centre is an older compression type fitting using either a nylon or copper seal (commonly called an Olive). The seal is achieved by screwing the outer threaded nut onto the central thread threaded part to fully squeeze the olive onto the pipe. The lower fitting is an elbow fully joined by Silver Solder with a melting point of 450 degree centigrade. The plumbing rules prohibit the use of nylon or copper compression joint sealing rings.in places where they cannot be seen or inspected. However, currently compression joints using rubber O-rings can be used anywhere plus their ultimate life span appears to be unknown and in addition, what guarantees are there for the quality of cheap imported products. Rubber O-ring type joints are a disaster waiting to happen.

Comment on the NSW Department of Finance, Building Stronger Foundations discussion paper 24-07-2019 and; The Legislative Council, Inquiry into the regulation of building standards, building quality and building disputes 28-07-2019

My name is I am a degree qualified professional Engineer. I hold qualifications in Project Management; safe asbestos removal; safe management of lead and other substances; Workplace Safety and Training. I am a Fellow of the Institution of Engineers; a member of the NSW Committee of Management of Professionals Australia (representing Engineers); and, a Graduate of the Australian Institute of Company Directors. I am a recipient of an Engineering Excellence Award from the Institution of Engineers. I worked in a NSW government agency for 30 years in standards setting; compliance & enforcement; training; and, bridge & tunnel maintenance. I am knowledgeable with the trades involved with building & construction. I sat on 10 Australian Standards committees and Chaired some of them. I have represented NSW on national committees.

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Before I answer some of the 30 questions posed in the discussion paper and the Terms of Reference, I want to say that they do not comprehensively approach the problem and the discussion is too polarised at placing the blame on existing Certifiers.

Certifiers assess written documentation and inspect after the 'fact' meaning their certification is a visual assessment of a completed process. They can't certify what can't be seen yet it appears the Government wants to hold them responsible for the poor work of others.

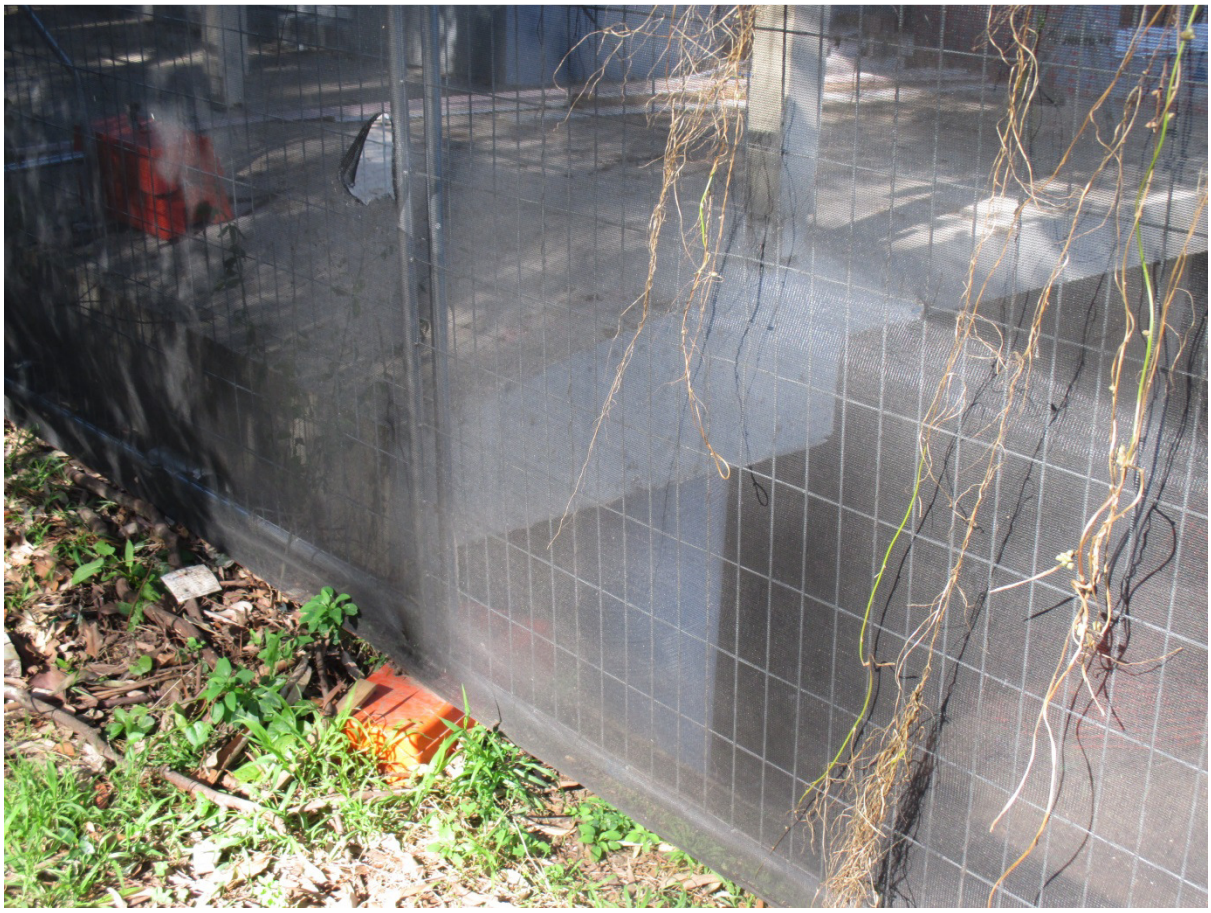
It is my opinion that a Certifier should be a degree qualified professional engineer and be on site at all times when any tradesperson, labourer is present or any other person who might be involved with any construction or any installation of any component in a building project.

If necessary, an engineer is able to revert their thought processes to first principles and assess the quality of a component or assess the forces applied to a component.

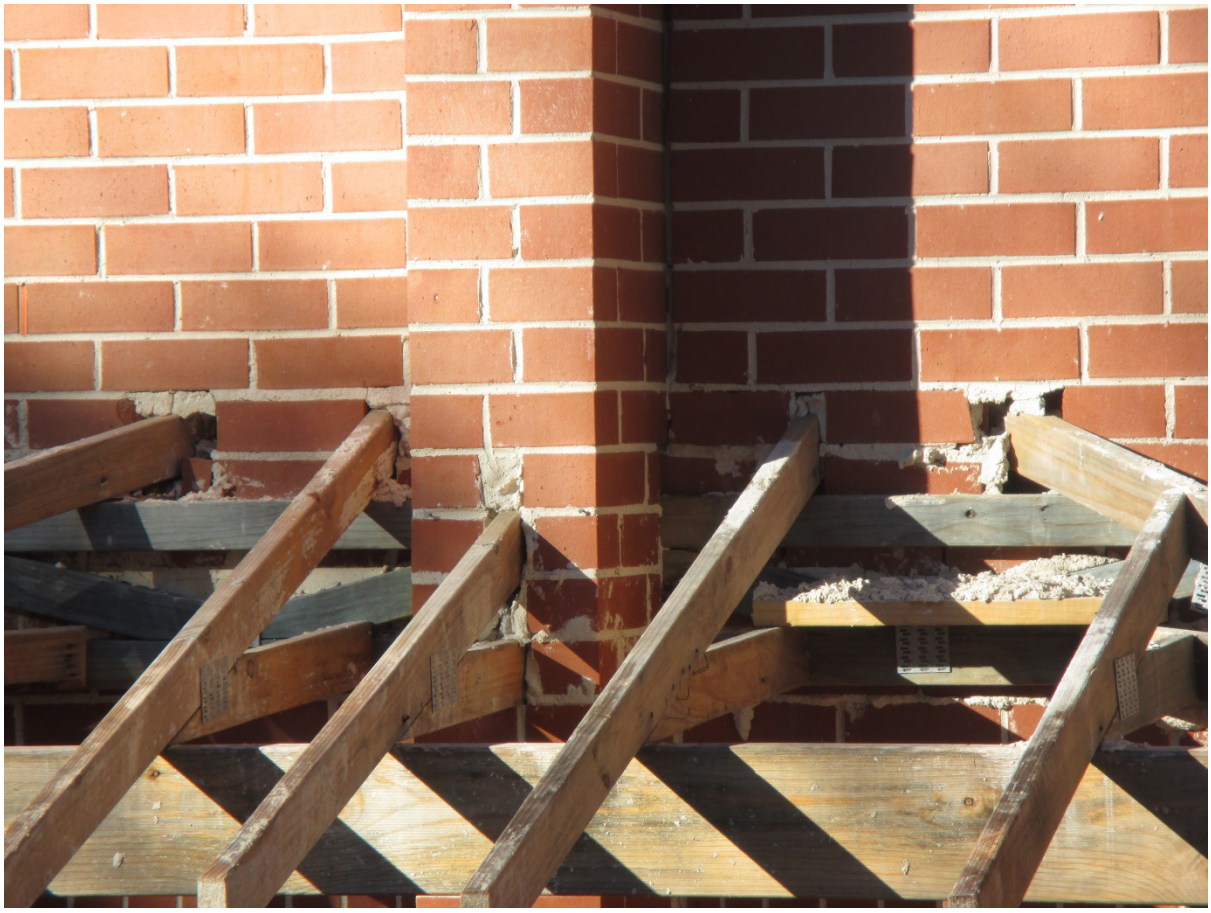
As an example, a Certifier can't assess the steel type, or steel separation clearances or their location in a concrete panel or strip footing after the concrete has been poured. If such items are a problem, they have been introduced by the labourer, trades person or builder at the time they were installed, not after the concrete has hardened. Similarly, where there has been a deliberate attempt to cover or hide non-compliances, there is no guarantee that a certifier will see them in a simple inspection.

As examples, not far from where I live numerous houses are being built and I will highlight three below:

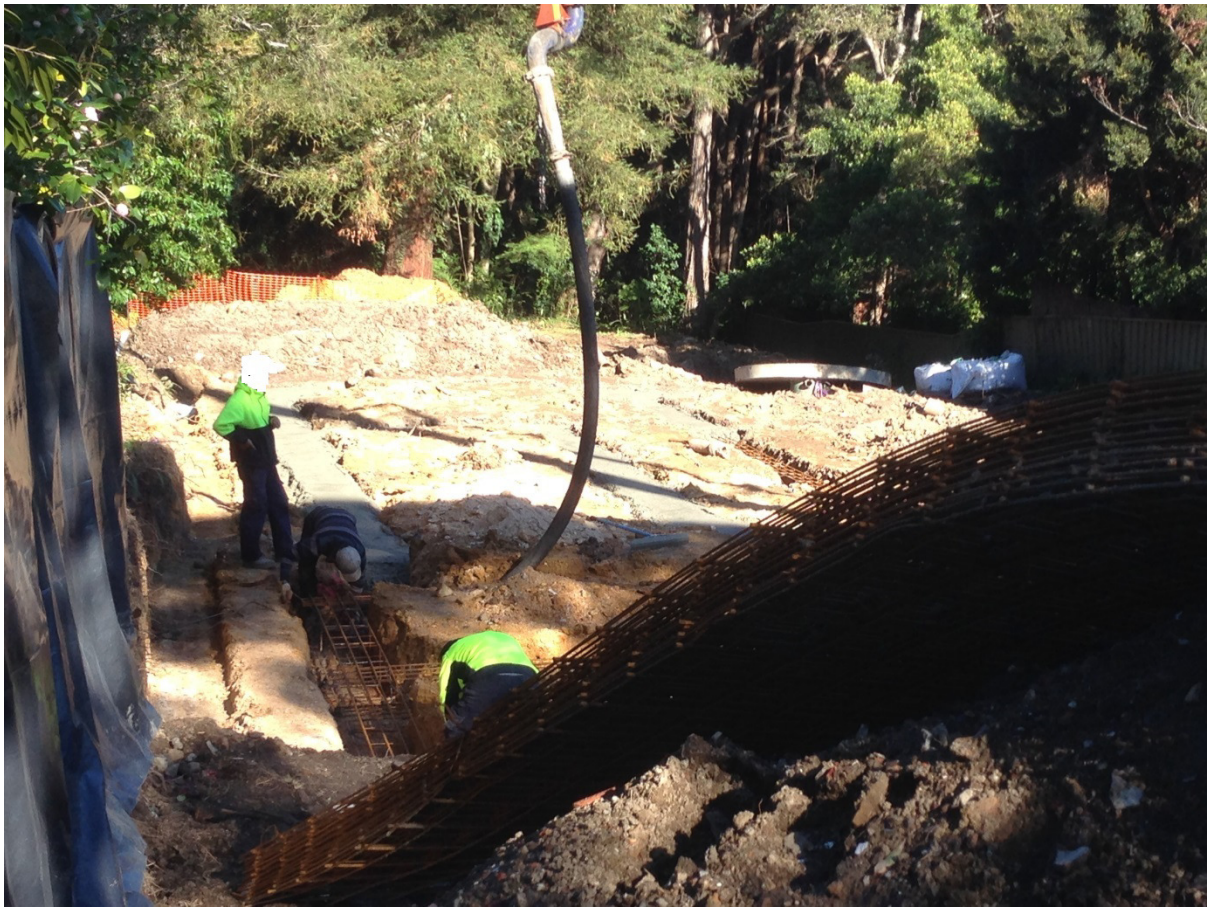
House 1 has a part of its slab and roof built on the boundary. It should be 900mm minimum from the boundary. It's not an easy fix as it is a suspended slab and one large pier is supporting the slab but it too is to close the boundary. A certifier would possibly only see this weeks or months after it had hardened and other construction had taken place on top of the slab.

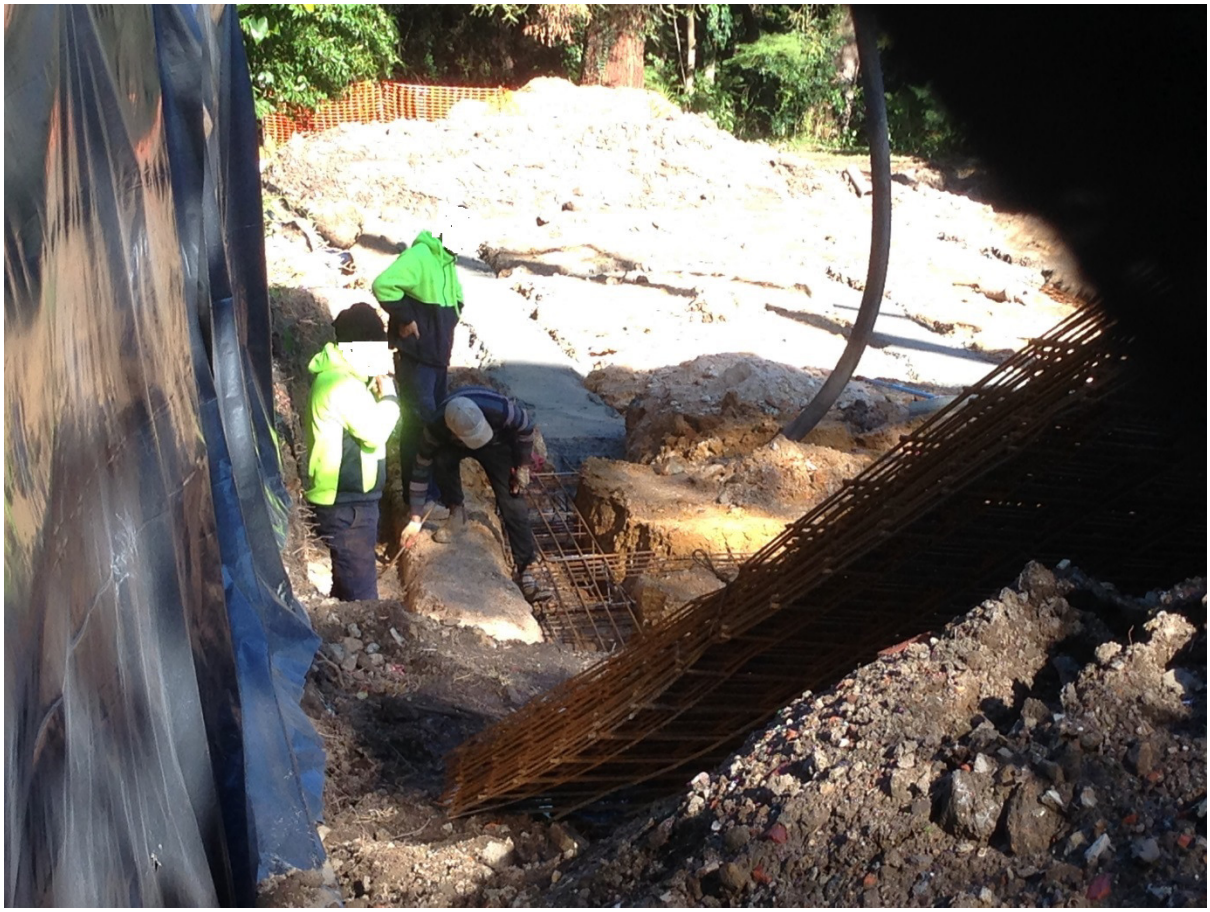


House 2 has numerous non-compliances. For example, the roof rafters on the lower level have been bricked into and through the outer brick veneer wall and then fastened to the inner timber wall frame. In addition, no flashing has been installed above the rafters which will allow rain water to penetrate below. The rafters are made from plantation pine which is softwood and will absorb any moisture in the bricks when it rains or on days of high humidity. Once the tiles are on the incorrect rafter installation most likely would not be visible to a Certifier. In addition, it is possible that the rafters would not fail until after any statutory warranty expires requiring the full cost of repair to be borne by the house owner.



The concrete footings in House 3 were poured unlike normal practice. The concrete was being poured at the same time a person was assembling the steel to go into the footings. It was not evident that any bar chairs were used to lift the steel above the soil at the bottom of the trench; it was not clear that the trenches were the correct depth; the concrete was not vibrated to compact it properly and remove any air voids (compaction requires a greater amount of concrete hence adding to the cost); and, to get a proper cement coverage of the steel from the top of the concrete to prevent long term corrosion (often called concrete cancer), the concreter began jumping on the steel to set it below the surface (which could also collapse the box section steel shape and also allow it to touch the soil in the bottom or side of the trench.

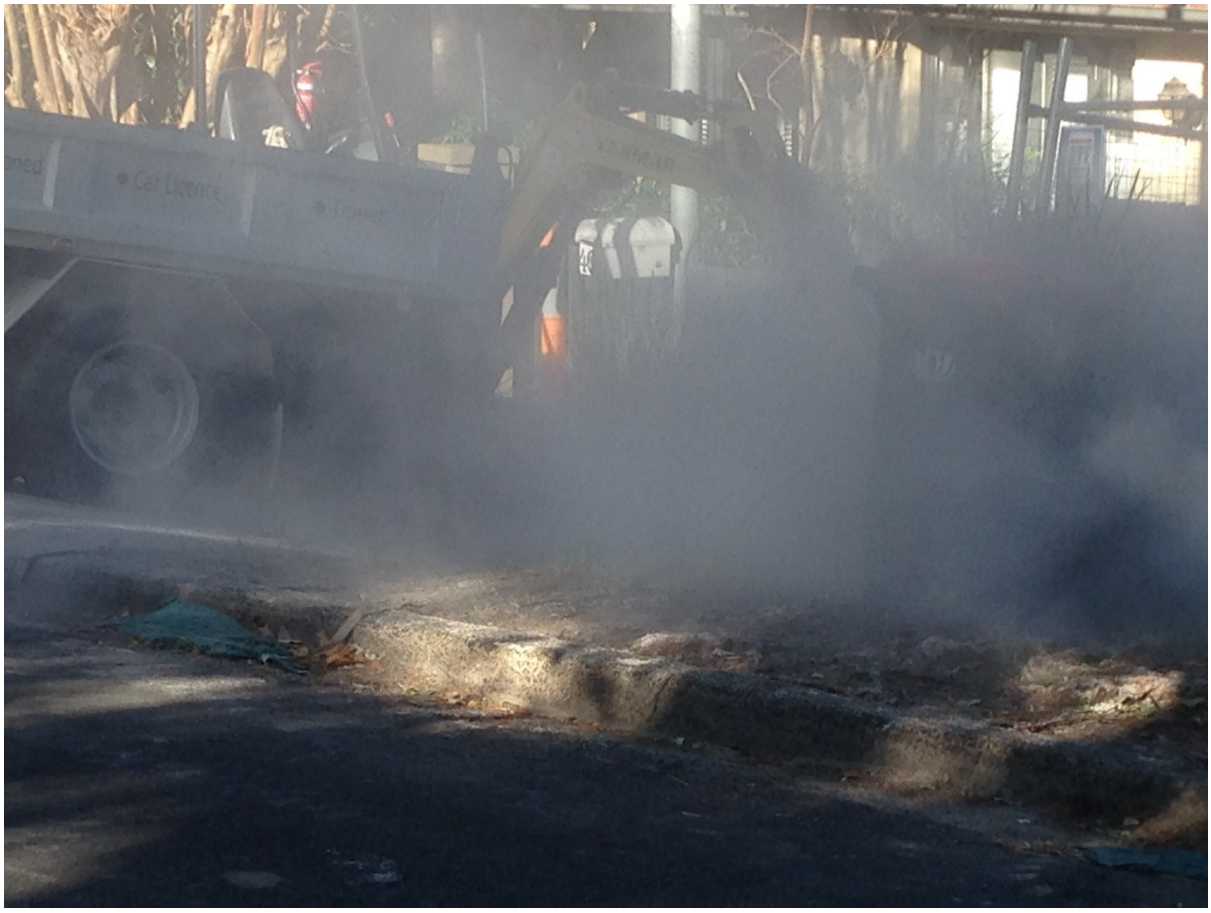




(No independent Certifier present, only labourers and a concrete boom pump operator)

Again, a Certifier would not know any of this because their inspection is at some time afterwards. This is why I recommend that an Engineer be on site at every time other persons are working on the construction.

Similarly, below is another example of trades persons not caring, even about themselves. Behind the dust cloud with stones flying in the photo below, is a person cutting concrete with a hand held petrol powered circular saw. He was not wearing any eye protection, hearing protection or breathing protection. How can anyone trust the quality of work received and this is why a qualified engineer must be on site at all times.



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Such poor work practices are not learned during a person's technical college training studies. They are learned when they begin working on the job with poorly skilled persons and with those persons that don't understand or, don't care about the importance of what they are doing or, intentionally overlook faults. They all need to be supervised by an engineer. As an example, a bricklayer is trained at college to mix mortar in controlled batches say, with full buckets of the component parts, so to attain the correct performance mix but when on site they just use a shovel to load the mixer. Accurate and consistent mortar mixes can't be produced with shovel loading yet you see it used on every building site. The end result is the mortar is too hard or too soft.

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Another item that has not been considered in the discussion paper but is of high importance regards the quality of the materials purchased and/or supplied. In my experience, everything is either damaged; outside of specification; doesn't fit; doesn't comply or, is poorly made.

When such items are delivered to site, a tradesperson or labourer might not recognise these problems and/or just can't afford the time to sort them out with a supplier which might take weeks or months plus cause a level of argument. They won't be paid for such delays and

might install the items because they have another job to attend to on another site. They want to get paid and can ignore such problems.

In regard to non-complying or poorly made items, I once managed a product type approval scheme and most of these suppliers are just well-meaning entrepreneurs who see an opportunity to import an item and make some money without understanding what compliance with standards means. Often their overseas supplier might provide test results but the importer entrepreneur lacks the educational or technical skills to detect that the test results are not relevant or don't even apply to goods they just imported.

Every item that is imported from Asia and China; and where compliance with standards is claimed, should be independently certified and any results from the home country ignored. Flammable cladding is an example.

In addition, the NSW Government should lobby the federal Government to review the Free-Trade agreements as they sometimes do not mandate compliance of imported goods but say the home country should <u>try</u> to comply with Australian required standards (the Australia-China free trade agreement is an example). Another example is often welding rods are marked with statements saying all the recognised approval certification standards have been applied for to the appropriate organisations but there is nothing to indicate approval has actually been granted. It is easy for a person to misunderstand what these misleading statements mean which could lead to subsequent welded steel beam failure.

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The question of insurance has been raised to protect building purchasers and home owners. The average life of a house or building should be expected to be 100 years or more. In this time, large multi-story buildings might undergo substantial refurbishment being stripped down to the skeleton-like concrete superstructure. In reality, 100 years should be the run out time for insurance where negligent defects had been introduced at the beginning, but it is impractical to expect a person or company to do this hence my suggestion of a government controlled sinking fund or levy that would be managed in perpetuity. A levy of say, 1% of the body corporate fees could be paid into the sinking fund. It could possibly be greater for large or tall buildings where repairs could be more expensive. Note that poor quality major material faults and poor building technique might not become apparent for 10 or 20 or more years such as, ground movements or items subject to environmental degradation where it is claimed they are designed against such degradation.

In addition, there is no point lumbering certifiers and engineers with high cost insurance when current requirements only provide guarantees for six or seven years. Independent persons can't afford the insurance plus the six or seven year run-off period after a person ceases business is prohibitive as the money to pay those extra years has to be accumulated beforehand. This can have the effect of reducing the number of experienced qualified certifiers/engineers entering the business. As an example, if a highly experienced engineer of 55 years age decides to set up a certifying business but retire at 65 years of age, they have to make 17 years of insurance premiums in 10 years plus make the additional money

that covers the insurance premium increases over that time. This will have the effect of keeping the best people out of the certifying business.

Furthermore, federal legislation needs to be put in place to stop persons deregistering a company to avoid liability. Directors should be held liable throughout their entire life.

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The next point of contention is around certifying to the Building Code of Australia (BCA). Discussion has been made that a Certifier/Engineer should provide a clear statement that what they inspected meets the BCA.

It is my opinion that no one can practically make such a statement and if they have, they don't understand what they are certifying to. The BCA describes basic building requirements but it also calls up Australian Standards which in turn might call up other Australian or international standards. If a Certifier/Engineer signs off on the BCA they are also signing off on these other Standards.

For instance, the BCA calls up AS3000, the electrical wiring rules which also refer to other standards say, the requirements for the resistivity or purity of the copper used in the wiring and, so on. Anyone who says what they inspected meets the BCA are signing off for this cascade of standards without realising it.

It therefore has to be made very clear exactly what a certification applies to. It also has to be very clear what liability they have where they rely on other person's or manufacturer's certifications. For instance, it is well documented where about seven years ago some imported electrical wiring was absent of titanium dioxide in the insulation which could lead to a long term break down of the insulation and cause a fire. A visual inspection would not identify this; only chemical analysis would. I think that it is unfair to hold a certifier/ engineer liable for deliberate attempts by others to mislead the purchaser.

Furthermore, as another example, I have come across a similar problem with a product where the manufacturer has made running changes to their design several years ago but has not documented it. I found the change by accident when inspecting a technical drawing sent in an email that was intended to show something else.

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Another item worthy of discussion is what exactly is a certifier signing off for? Is it quality of work or compliance? In my experience of inspection I have come across many examples of poor quality and workmanship but they still would have complied with the standard. Is the certifier responsible for quality of work?

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In regard to the questions posed on the discussion paper, the following is relevant:

1. What kinds of plans should be signed off and declared by a statutory declaration?

Any plan that requires calculations or design outside of an existing prescriptive standard or policy.

2. Could plans be statutorily declared at the CC/CDC stages? If not, why not?

No. The compliance/quality of all of the products/materials to be used are unknown at this stage.

3. To what extent should changes to plans be submitted to the regulator?

Any change to a structural or dimensional change to a building

4. Should a statutory declaration accompany all variations to plans or only major variations?

All variations

5. Are there any obstacles that would prevent a person from submitting a statutory declaration for variations? If so, what are those obstacles?

No. All variations should be documented as they might affect other areas of the construction.

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

All variations should be lodged so as to overcome any internal pressure from a company to require staff to alter plans that might have known non-compliances in them.

7. How could the modifications process be made simpler and more robust?

A simple system could be on-line direct to the relevant authority and it checked by two government engineers using a guaranteed turn-around processing time.

8. How should plans be provided to, or accessed by, the Building Commissioner?

At least one set of hard copy as it is too easy to miss detail with on-line copies.

9. What types of documents should 'building designers' provide to the Building Commissioner?

Overall description and assessment procedure written in English. Copies of any test results.

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

Where there is propriety in-confidence information involved. In this case a second certification should be supplied by a person internal to the company.

11. Would a performance solution report be valuable as part of this process? If not, why not?

A performance solution is no guarantee that what is installed is identical to that assessed.

12. Are there any other methods of documenting performance solutions and their compliance that should be considered?

Testing of components representative of that installed with a certification that what is installed is identical to that tested.

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

(i) Itemised check that every component; its location; and installation, is identical to the design.

(ii) A registered Engineer should sign a compliance document that the construction will be exactly as submitted and it should be countersigned by the Board Directors if a company or the owner in other circumstances

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

That they will ensure all processes meet the plans. That all items that comprise the construction are as specified. That all persons on site are supervised by a registered Engineer.

15. Which builders involved in building work should be responsible for signing off on buildings?

All builders along with a registered Engineer.

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?

(i) They have not been on site on every day throughout the building process.

(ii) They rely on unsupervised and/or unqualified sub-contractors.

(iii) If they are not in fact the builder nominated in the papers. They might illegally be using another person's licence. They might not have the English speaking skills or educational intelligence to understand what it is they are actually doing.

17. Are existing licensing regimes appropriate to be accepted as registration for some builders and building designers, such as architects, for the new scheme?

No

18. What occupations or specific activities are involved in 'building design' and should be in scope for the registration scheme?

Engineers and Architects. Builders should be under the control of a registered Engineer.

19. What should be the minimum requirements for a registration scheme?

A degree qualification from a recognised university including being a CPD member of Engineers Australia or RPEng of Professionals Australia or equivalent organisation with similar approval schemes. They should have a peer group review panel to assess complaints.

20. What form of insurance should be mandatory for 'building designers'? Why?

Nil. There should be a government controlled sinking fund as some design or construction faults might not became apparent for 10 or 20 or more years. A levy of say, 1% of the body corporate fees could be paid into the sinking fund. It could possibly be greater for large or tall buildings where repairs could be more expensive.

21. What kinds of minimum requirements should be prescribed for the insurance policy (for example, value, length of cover, etc.)?

The average life of a house or building should be expected to be 100 years or more. In reality this should be the run out time for insurance but it is impractical to expect a person or company to do this hence my suggestion of a sinking fund or levy.

Legislation needs to be put in place to stop persons deregistering a company to avoid liability. Directors should be held liable throughout their entire life.

22. What skills should be mandatory for 'building designers'?

Architecture or Engineering degree (but not necessarily explicit to a specific engineering discipline).

23. Should specific qualification(s) be required?

Yes

24. Should there be other pre-requisites for registration?

See answer to question 19.

25. What powers should be provided to the regulator to support and enforce compliance by registered 'building designers'?

Access to all building sites and authority to remove files, papers, test results etc. Introduce an offence to knowingly withhold information or destroy salient information, data etc.

26. Which categories of building practitioners should owe a duty of care?

Every person involved with the building so that they all become responsible or the part of the item they supplied. This includes labourers and trades persons.

27. What should be the scope of the duty of care? Should it apply to all or certain types of work? If so, which work?

See answer above

28. How will the duty of care operate across the contract chain?

Clear records to show which person worked on which part of the construction so that all aspects are traceable.

29. What types of consumers should be owed a duty of care?

All building owners and subsequent owners.

30. On what basis should a particular consumer be afforded the protection?

Where an item does not meet specification or agreed plans including non-compliance of any item provided as part of the construction, throughout the life of the building.

BE, DipPM, GAICD, APEC Engineer, IntPE(Aus), FIEAust, RPEng. CPEng