

BUILDING SURVEYORS REPORT

Weathertightness Risk and Building Condition Assessment

516 Frankton Ladies Mile Highway

Queenstown

26 March 2019



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EXECUTIVE SUMMARY

1.1 WEATHERTIGHTNESS

- 1. It is our view, formed on the basis of our observations, that the house features a number of deficiencies that have either permitted water ingress, or have the potential to do so in the future.
- 2. We have observed evidence of water ingress.
- 3. Given the visual evidence of deficiencies, evidence of water damage and elevated moisture reading, it is recommended that further invasive investigation be carried out. This further invasive investigation should determine the cause of the identified water ingress, the extent of any deterioration as a result and to determine appropriate remediation to repair the issues.

1.2 GENERAL CONDITION

- 1. The exterior cladding is generally in fair to poor condition.
- 2. The interior of the dwelling is generally in fair condition.
- 3. There are some items which requiring prompt attention. Refer section 13 for these recommendations.

2 PROPERTY & INSPECTION DETAILS

| Property Address | 516 Frankton Ladies Mile, Queenstown |
|-------------------------------|--------------------------------------|
| Clients Name | Queenstown Lakes District Council |
| Territorial Authority | Queenstown Lakes District Council |
| Date Report Requested | 10 March 2019 |
| Date Report Completed | 26 March 2019 |
| Building Surveyor | Chris Tate |
| Date of Site Visit | 19 March 2019 |
| Weather Conditions on the Day | Fine |
| Persons Present | Chris Tate: Building Surveyor |

3 SCOPE

- 3.1 We have been instructed to report on a visual assessment of the weathertightness risk features and general building condition of 516 Frankton Ladies Mile Highway only. This inspection is entirely non-invasive, entirely visual in nature, and relates exclusively to the building identified within the report. It is a record of observations on the day of inspection.
- 3.2 This inspection and report excludes resource consent issues, building consent issues, code compliance certificate issues, commentary on long-term maintenance considerations, body corporate issues, cross lease and unit title issues, issues concerning the property title.

4 PURPOSE OF THE REPORT

- 4.1 The purpose of this inspection and report is to:
 - a) Inform the Client about the building envelope and associated weathertightness features and risks of the dwelling,
 - b) Inform the Client about the overall general building condition.

5 TERMS AND CONDITIONS

- 5.1 This report is issued to the client on the following terms and conditions.
 - 1. This report may not be read or reproduced except in its entirety.
 - 2. Issuance and use of this report is strictly in accordance with the terms and conditions agreed between FORBS Ltd and 'the Client'. These terms and conditions formed part of the accepted quote dated 12 March 2019.
 - 3. This document has been prepared solely for the party to whom it is addressed with respect to the particular brief given to us. The advice and/or information contained in it may not be used or relied on in any other context or for any other purpose without our prior written agreement.
 - 4. Third parties may not rely upon this report nor use it without the express written permission of FORBS Ltd. FORBS Ltd shall not be held liable to third parties in connection with any use of this report nor to 'the Client' where this report is used for any purpose other than that stated within this report.
 - 5. FORBS Ltd makes every effort to access and inspect the roof cladding wherever possible. From 1 July 2012 the labour group within the Ministry of Business, Innovation and Employment implemented a heightened level of inspection and enforcement of the provisions of the Health and Safety in Employment Act 1992. This was part of the Groups 'Preventing Falls from Height' project.
 - 6. FORBS Ltd takes health and safety seriously and where there is insufficient fall protection when working at height we will not precede in that area. We will make every endeavour to inspect the roof cladding by means of observation from ladders, and where that is not possible we will attempt to gain a vantage point to make our observations, and where that is not possible we will state that within the report. If we have any reason to believe from our observations that further investigation may be warranted we will state that within the report. If you wish us to investigate the roof cladding condition more closely we are able to do so for an additional fee. That fee is available upon request on a case by case basis and varies depending upon the access challenges.

6 PROPERTY INFORMATION

- 6.1 Valuation Number: 2907402100
- The dwelling was constructed under Building Permit number 41448 Issued 17/11/1992. This permit also listed a Building Consent number 1459.
- The listing of the building consent number as well as permit number was likely due to a transition period for the introduction of the new building act introduced on 01.07.1992. This transition period was given to owners to choose between operating under new system or previous bylaws.

7 GENERAL DESCRIPTION OF BUILDING AND SITE

7.1 SITE

The site is a north facing flat site. There are surrounding rural properties on the north east to north west elevations. Residential subdivisions are located on the east to west elevations. Frankton-Ladies Mile Highway is located on the North boundary. The grounds surrounding the dwelling include a mix of hard and soft formed landscape. There are numerous mature trees and shrubs located around the property.

The main access to the property is a gravel driveway off Frankton-Ladies Mile Highway. Paving is located along the north elevation of the dwelling. A concrete path links the garage to the dwelling.



7.2 **BUILDING**

The building is a single level residential dwelling. The main entry to the dwelling is off the driveway and faces south.

The dwelling construction comprises of a concrete floor slab on concrete foundations; timber framed walls with a cladding of polystyrene with plaster over direct fixed; a combination of timber and aluminium framed double-glazed exterior joinery; tray profile metal roofing cladding on trussed and skillion roofs.

A separate garage is located to the south of the main dwelling. Its construction comprises of a concrete floor slab on concrete foundations; concert filled polystyrene block walls with direct fixed plaster over; a combination of timber and aluminium framed exterior joinery; sliding metal doors along the entire south elevation, tray profile metal roofing cladding on steel portals and purlins.

8 METHODOLOGY OF ASSESSMENT

8.1 VISUAL

Visual observations were undertaken of the interior and exterior environment generally, and the building envelope specifically. Selected building features were photographed.

Definitions of the terms used in this report to describe average or overall conditions include the following:

- Good System is new.
- Fair System is not new, or wear and tear evident, or minor remedial work is recommended.
- Poor Replacement or major remedial work is recommended.

8.2 <u>NON-INVASIVE</u>

Capacitance meter readings were taken for general indication of presence of moisture. Capacitance meter readings are indicative only and used for comparative purposes as an investigative guide. Note: Capacitance meter readings are not used on stucco plaster or metal claddings as the embedded reinforcement within the plaster, and metal generally, interferes with the readings.

8.3 LIMITATIONS

Due to limited access and health and safety requirements the two roof spaces checked were viewed from the access hatches only.

Due to health and safety requirements the roof cladding was assessed from ladder access only.

No inspection was made of the pool as it falls outside the scope of this report.

9 OBSERVATIONS OF WEATHERTIGHTNESS RISK FEATURES

9.1 **SITE**

1. THERE WERE NO OBSERVATIONS OF WEATHERTIGHTNESS RISK FEATURES WITH RESPECT TO THE SITE.

9.2 **WALL SYSTEM**

1. DIRECT FIXED PLASTER CLADDING:-

In direct-fixed systems, the face seal, combined with the high contact area of the polystyrene substrate, means that there is little air circulation for drying behind the cladding and limited potential for gravity drainage. If water leaks through the cladding into the wall assembly, it is often held for long periods of time and can be absorbed by other less durable components, which may cause deterioration, damage or both. Contributing to the risk of these systems is the potential lack of flashings around penetrations (windows, beams, etc.) and at complicated wall junctions. All of which exist on this property. Direct fixed plaster cladding are also high maintenance and the face seal must be well maintained. Any faults in the cladding such as cracks or deteriorated paint and plaster must be repaired immediately. Deteriorated paint and plaster claddings were observed on the day of inspection.

2. <u>LESS THAN RECOMMENDED CLEARANCE BETWEEN THE BASE OF THE CLADDING AND</u> FINISHED GROUND LEVEL:-

There is less than recommended clearance between the base of the cladding and finished ground level on all elevations. The plaster cladding currently extends below finished ground level. No method to waterproof the plaster was observed. Uncoated plaster including bottom edges are very absorbent, and they will wick water from adjacent surfaces such as gardens and paths. Any accumulation of moisture in the cladding system could be absorbed into the wall framing behind where it could cause deterioration, damage or both. Refer to photos 6-9.

3. SOME HEAD FLASHING DO NOT EXTEND 30MM PAST THE END OF THE EXTERIOR JOINERY AS RECOMMENDED:-

Some head flashings on the south elevation windows do not extend past the sides of the frames the recommended 30mm. This extension is to transfer water away from the junction of the joinery and the cladding. The risk here is water could ingress at this vulnerable junction. Any water ingress behind the cladding could accumulate where it could cause deterioration, damage or both. Investigation of the interior adjacent to these windows revealed no elevated moisture readings or visual evidence of deterioration or damage. Notwithstanding established building science suggest it is likely water has ingressed at these locations. Refer to photos 10-12.

4. UNSEALED JUNCTIONS AND CRACKS IN THE PLASTER CLADDING:-

There are a number of cracks and unsealed junctions in the plaster cladding. Given that the plaster is a direct fixed system, any cracks or gaps should be sealed to maintain the wall claddings weathertightness. Direct fixed claddings are not considered to be robust once water has penetrated past the face seal. Any water that does ingress could accumulate and cause deterioration, damage or both. Refer to photos 13-18.

5. THE CONDITION OF THE PAINT SYSTEM INDICATES IT WILL NO LONGER BE PROVIDING PROTECTION TO THE PLASTER COATING FROM MOISTURE:-

The condition of the paint and plaster system indicates it is due for urgent repair. Fading of the paint, hairline cracks and deterioration of the seals around penetrations were all identified. All of these defects could allow water past the face seal of the plaster cladding into the wall frame where it could accumulate and cause deterioration, damage or both. Refer to photos 19-28.

6. SHORT AND SHRUNK BACK RUBBER GLAZING BEADS:-

Short or shrunk back window rubber glazing beads were identified on some exterior joinery units. Age and exposure to sunlight will shrink the window rubber glazing beads, causing them to pull out at the corners or shrink back leaving gaps. Without correctly fitted window glazing beads it is possible for water to ingress the exterior joinery by gravity and capillary forces. It is also likely the sealant used during manufacture of the aluminum joinery is deteriorated and may be allowing some water through the joints of the frames. Refer to photo 29-30.

9.3 **ROOF, EAVE AND RAIN WATER SYSTEM**

1. SOME DOWNPIPES ARE SHORT AND WILL NOT TRANSPORT ALL WATER DIRECTLY INTO THE ASSOCIATED SUMPS: -

Some of the down pipes transporting roof drainage sit above the sumps collecting rain water. As a result, there is a risk of water splashing over the wall cladding where it could be absorbed into the plaster and cause deterioration, damage or both. A simple solution to this risk feature would be to either extend the pipes into the sumps or use a small bend to direct water away from the exterior walls. Refer to photos 31-32.

2. THE ROOF CLADDING DOES NOT OVERHANG THE GUTTERING THE RECOMMENDED DISTANCE TO AVOID BLOW BACK IN PLACES:-

The roof cladding does not overhang the guttering the recommended distance in places. This overhang is to prevent blow back of the water discharging off the roof cladding. Any blown back water could come in contact with the un-finished top edge of the cladding or be transported over the top of the wall cladding. This water could then accumulate and cause deterioration damage or both. There is evidence of water staining on the exterior walls below the guttering suggesting blow back is occurring. Refer to photos 33-36.

9.4 **OTHER**

1. WATER DAMAGE CARPET IN THE NORTH EAST CORNER OF BEDROOM 4:-

Some water damaged carpet was identified in the north east corner of bedroom 4. The exact cause of this deterioration was not established but is adjacent to a number of weathertightness risk features. Refer to photos 37-38.

2. WATER DAMAGE TO THE FRAMING BELOW THE HOT WATER CYLINDER (HWC) IN THE LAUNDRY:-

Some deterioration to the timber framing was observed below the HWC in the laundry. The exact cause of this deterioration was not established but is adjacent to a number of weathertightness risk features. Refer to photos 39-40

3. ELEVATED MOISTURE READING ADJACENT THE EXTERIOR DOOR IN THE LAUNDRY:-

An elevated moisture reading was recorded in the wall linings adjacent to the exterior door in the laundry. The exact cause of this elevated reading was not established but is adjacent to a number of weathertightness risk features. Refer to photos 41-42.

10 WEATHERTIGHTNESS CONCLUSION

- 10.1 There is evidence of deficiencies that have the potential to permit moisture ingress. Refer to observations 9.3 1-6 and 9.3 1-2.
- 10.2 Water damage was observed at 2 locations. Refer to observations 9.4 1-2.
- 10.3 An elevated moisture reading was recorded adjacent to the exterior door in the laundry. Refer to observation 9.4.3
- 10.4 Invasive investigation would be required to determine the cause of the water ingress, the extent of any deterioration as a result and to determine appropriate remediation to repair the issues.

11 WEATHERTIGHTNESS RECOMMENDATIONS

11.1 Given the visual evidence of deficiencies, evidence of water damage and elevated moisture reading, it is recommended that further invasive investigation should be carried out. This is to determine if the identified risk features are allowing water ingress, the extent of any deterioration, damage or both as a result and to determine appropriate remediation to repair the issues.

12 GENERAL BUILDING CONDITION OBSERVATIONS

EXTERIOR

- Overall the site is generally in fair condition. Some of the gardens should be cut back from the dwellings wall cladding. Refer to photos 43-44.
- 12.2 Overall, the exterior wall system of the dwelling requires some attention. Refer to observations 9.2 1-6. The protective coating on the timber exterior windows is in poor condition and is no longer providing protection to the wood from the elements. Refer to photo 45.
- Overall the roof, eave and rain water system of the dwelling requires some attention as reported in observations 9.4 1-2. The condition of the metal itself appears generally in fair condition. There is evidence some of the gutters are leaking. Refer to photos 46-47. The gutters and rain heads require a clean in places. Refer to photos 48-49.
- 12.4 The pool was not inspected as it falls outside the scope of this report. Notwithstanding, viewing of the QLDC eDocs file for the property indicates it is listed as being compliant. Refer to photo 50.
- 12.5 A separate garage is located adjacent to the dwelling. A visual inspection of the building suggests it generally exhibits the same weathertightness risk features as the main dwelling. Evidence of water ingress to the interior was also observed. Refer to photos 51-55. Cracks were observed in the wall and floor. These should be commented on by a suitably qualified engineer.

INTERIOR

- 12.4 Entry to the property is via a south elevation door off the driveway. Upon entering there is an entry foyer / hall way. It has tiled floors, painted wall and ceiling linings and all appear generally in fair condition. A few small shrinkage cracks were observed in the ceiling linings. Refer to photo 56. Some drummy and cracked floor tiles were observed adjacent to the HWC cupboard. Refer to photo 57. Three store cupboards are located in the entry hall area. The west elevation has one of the property fuse board located in it. An irrigation controller is in the east elevation cupboard. A James Hardie 160 ltr hot water cylinder manufactured in June 1992 is in the north elevation cupboard. It has no apparent leaks on the day of inspection. One of the bolts on the exterior door is stiff to operate. Refer to photo 58.
- 12.5 An office is located off the hallway. It has fitted floor coverings, fitted blinds, painted wall and ceiling linings and all appear generally in fair condition.
- 12.6 Bedroom 4 and ensuite are located on the east end of the dwelling. Bedroom 4 has fitted floor coverings, fitted blinds, painted wall and ceiling linings and all appear generally in fair condition. Some shrinkage cracks are visible in the ceiling and above a window. Refer to photo 59. Some water damage carpet was observed in the north east corner of the room. Refer to photo 60. This was also covered in observation 9.4 1.
- 12.7 The bedroom 4 ensuite has tiled floor and wall coverings, painted wall and ceiling linings and all appear generally in fair condition. There are no obvious leaks behind the

- toilet or under the sink. The condition of the grout at the base of the shower indicated it is due for some maintenance. Refer to photo 61.
- 12.8 An open plan kitchen/dining area is located central of the dwelling on the north elevation. The kitchen has tiled floor coverings, painted wall and ceiling linings and all appear generally in fair condition. Some drummy floor tiles were identified by the exterior north elevation doors. Some of the bolts and door runners were stiff to operate. The kitchen joinery appeared complete. It shows some signs of general wear and tear. Refer to photo 62. There were no apparent leaks under the sink. The hob has an extractor installed which was turned on.
- 12.9 The dining area is located on the west side of the kitchen. The dining area has fitted floor coverings, painted wall and ceiling linings and all appear generally in fair condition.
- 12.10 A music room / office is located adjacent to the dining room on the south elevation. It has fitted wooden floor, painted wall and ceiling linings and all appear generally in fair condition. Small cracks in the plaster board are visible in places. Refer to photo 63. Some gaps and squeaking were identified in the floor boards. Refer to photo 64. Some unidentified water stains were identified on an internal wall. Refer to photos 65-66.
- 12.11 A large open plan living area is located adjacent to the music and dining rooms. It has tiled and fitted floor coverings, painted wall and ceiling linings and all appear generally in fair condition. Small cracks in the plaster board are visible in places. Refer to photo 67. Some unidentified water stains were identified on the ceilings and flat bulkhead around the round columns. Refer to photos 68-70.
- 12.12 The west end of the dwelling contains 3 bedrooms with ensuite, guest's toilet and laundry. All of which are accessed off a hall way. The hallway has tiled floor coverings, painted wall and ceiling linings and all appear generally in fair condition. The exterior door on the north elevation could not be opened as there was no key available.
- 12.13 The guest toilet has tiled floor coverings, painted wall and ceiling linings and all appear generally in good condition. There are no apparent leaks behind the toilet or under the sink. The fan in the toilet is noisy when operated.
- 12.14 The laundry is located on the south elevation. It has tiled floor coverings, painted wall and ceiling linings and all appear generally in fair condition. The washing machine dryer and super tub are located at the east end of the laundry. There are no apparent leaks under the tub or behind the washing machine. The dryer appears to be vented to the exterior. A second electrical distribution board for the property is in the laundry. A store cupboard on the north wall houses a manifold for some type of unidentified heating system. A HWC cupboard is located on the south elevation. It has a 250ltr James Hardie cylinder installed. It has a manufacture date of June 92. Evidence of water damage to the exterior framing was observed under the cylinder. Refer to photo 72 and observation 9.4 2. An elevated moisture reading was recorded adjacent to the exterior door. Refer to photo 71 and observation 9.4 3.
- 12.15 Three bedrooms are located adjacent to each other at the west end of the dwelling.

 All have fitted floor coverings, painted wall and ceiling linings and all appear generally in fair condition. Some hair line cracks were identified around the ceiling skylights of

- bedrooms 2 and 3. Refer to photo 73. The exterior door in the master bedroom was locked and no key was available to unlock the door. Refer to photo 74.
- 12.16 The bedroom 2 & 3 ensuite has partial tiled floor and wall coverings, fitted carpets, painted wall and ceiling linings and all appear generally in fair condition. There are no apparent leaks under the sink or around the toilet. The fan was noisy when operated. The condition of the grout and sealant at the base of the shower indicates it is due for some maintenance.
- 12.17 The master bedroom ensuite has partial tiled floor and wall coverings, painted wall and ceiling linings and all appear generally in fair condition. There are no apparent leaks under the sink or around the toilet. The fan was noisy when operated.
- 12.18 The ceiling spaces above the entrance and bedroom 1 & 2 were viewed from the manholes only. Insulation was identified in the ceiling spaces viewed. It appeared to be a 50 mm thick white sheet. Refer to photo 75. Some mould was identified on the plywood sarking above the laundry. The cause of this was not determined. Refer to photos 76-77.

13 GENERAL RECOMMENDATIONS

- 13.1 It is recommended that:
 - 1. Any plants touching the exterior cladding should be cut back.
 - 2. The protective coating on the timber doors should be replaced.
 - 3. All gutters should be cleaned.
 - 4. All gutters should be checked for leaks and repairs made.
 - 5. A suitably qualified engineer should be engaged to comment on the cracks in the floor and exterior walls of the garage.
 - 6. Any stiff or hard to operate doors should be repaired.
 - 7. All noisy extractor fans in the ensuite bathrooms and toilets should be replaced.
 - 8. The grouting and seals in all showers should be checked and repaired where required.
 - 9. The cause of the unidentified water stains in the office and living area should be investigated.
 - 10. The cause of the mould in the roof space above the laundry should be investigated.

Signed by the Surveyor



Chris Tate MNZIBS

Registered Building Surveyor

For and on behalf of FORBS Ltd

APPENDIX AQUALIFICATIONS

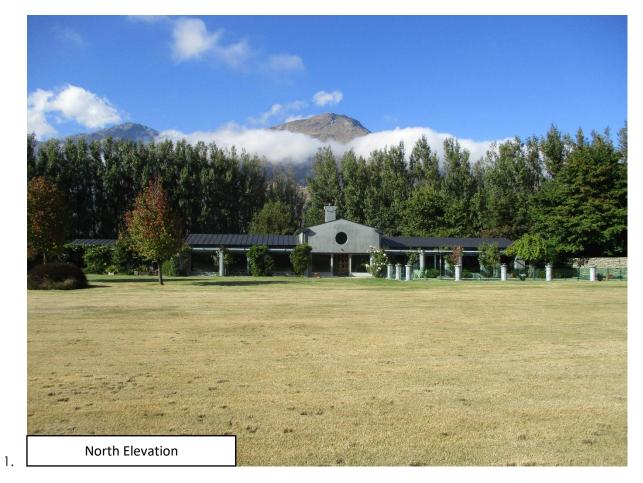
Surveyors Qualifications

Chris Tate MNZIBS

Registered Building Surveyor

Qualifications and Memberships

- Registered Member New Zealand Institute of Building Surveyors #BSI0263
- NZIBS Diploma in Building Surveying
- New Zealand Institute of Building Surveyors Weathertightness Course 2013
- New Zealand Institute of Building Surveyors Modules 3,6,7,8,9 & 10 2015
- New Zealand Institute of Building Surveyors Modules 1,2,4, & 5 2017
- Licensed Building Practitioner #106900
- Completed B.C.I.T.O apprenticeship in Carpentry 1997















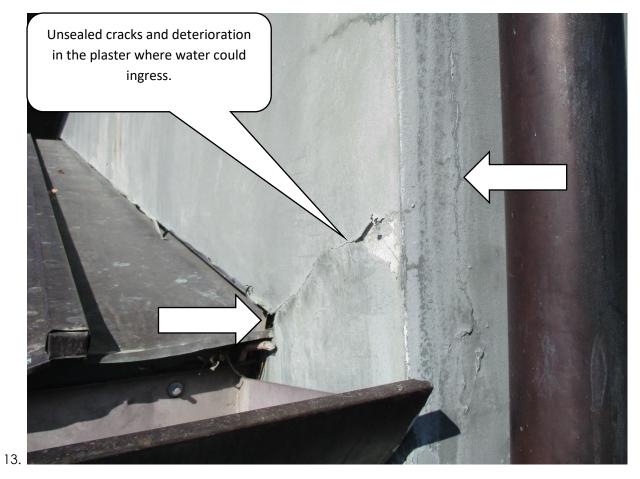


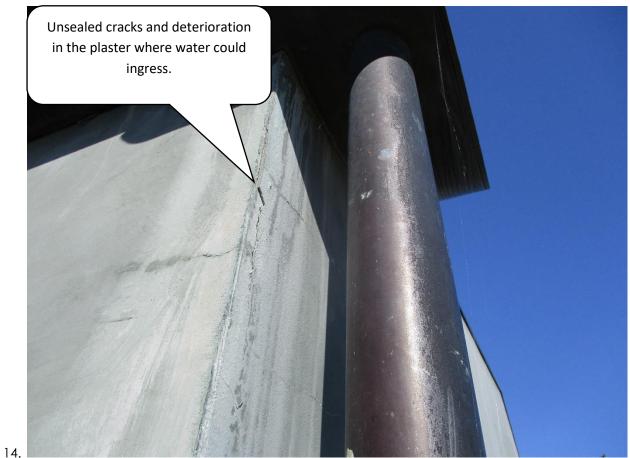




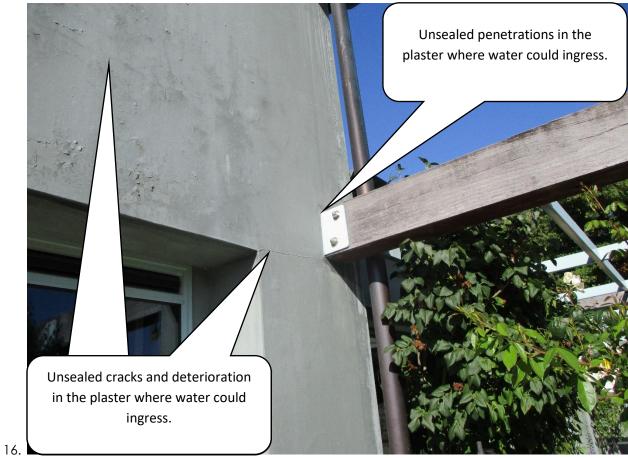




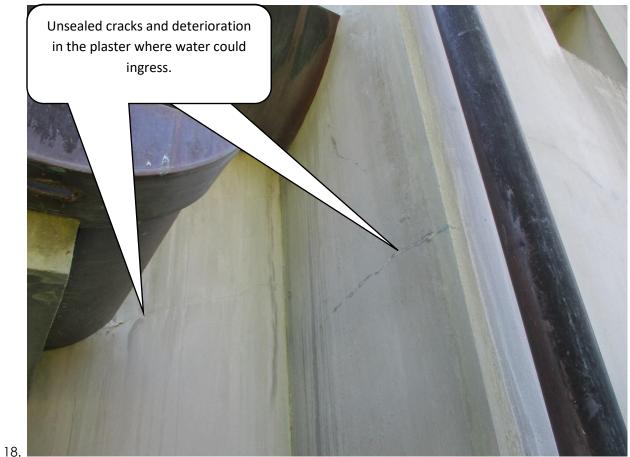




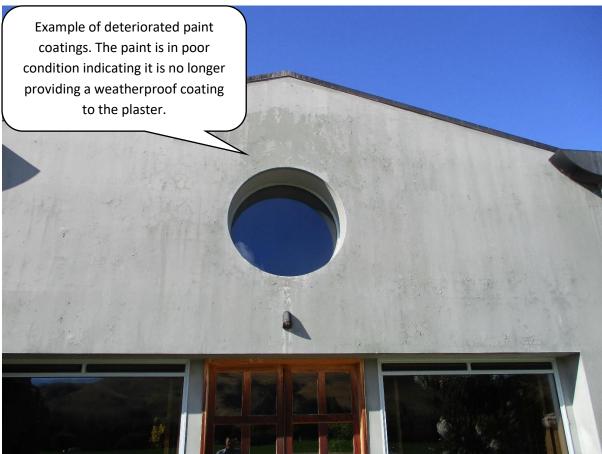








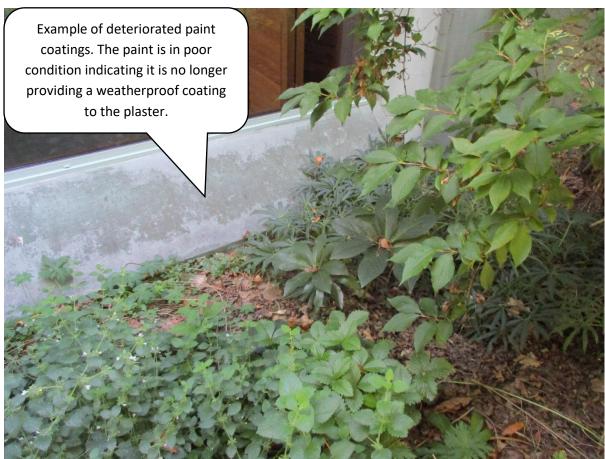


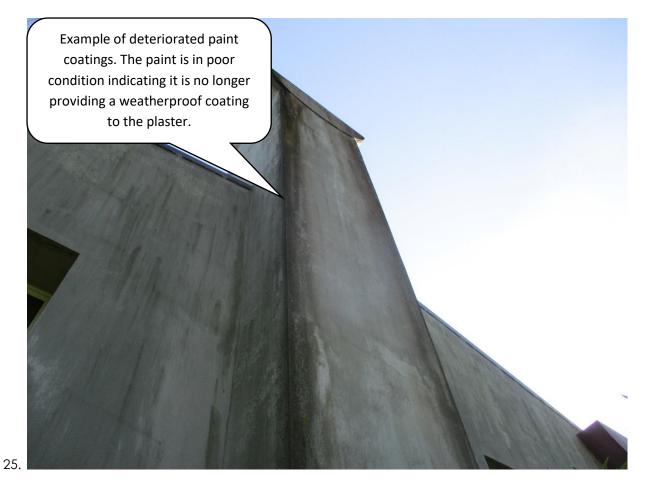




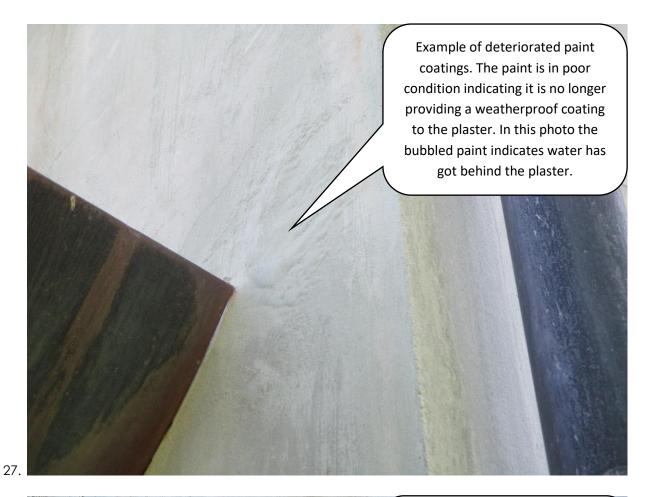












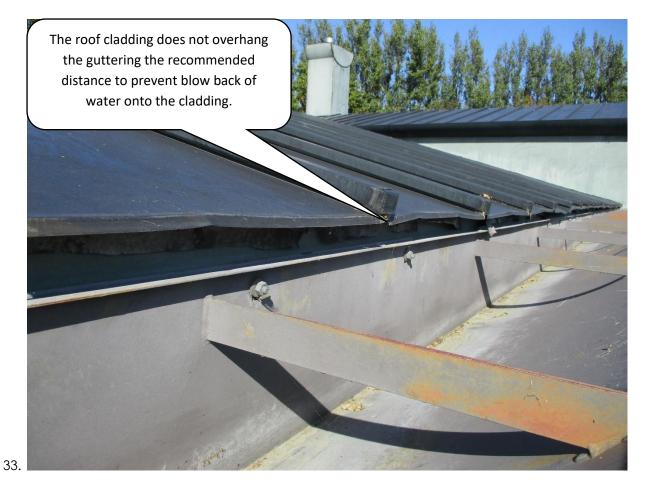














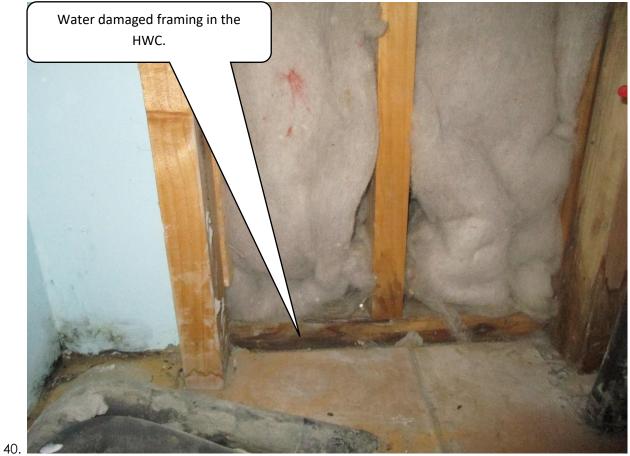




















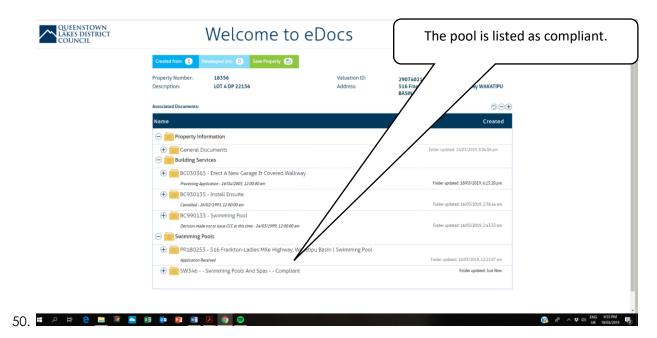






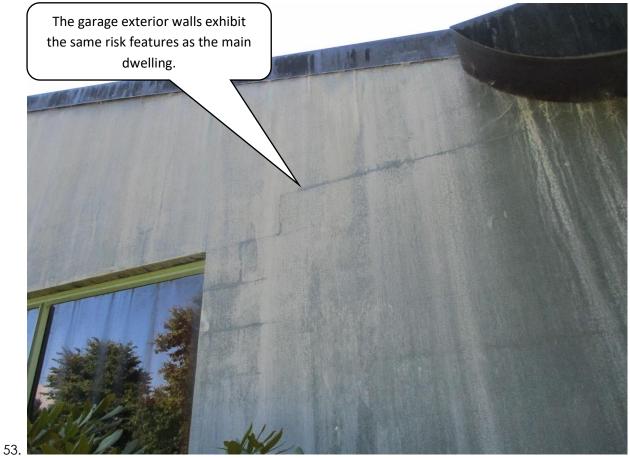






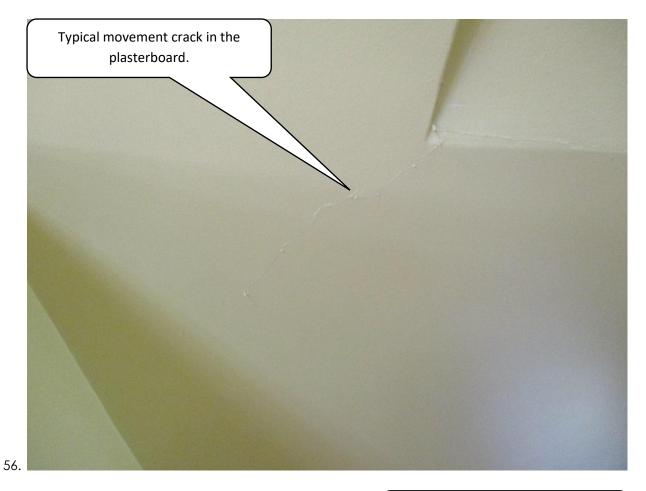


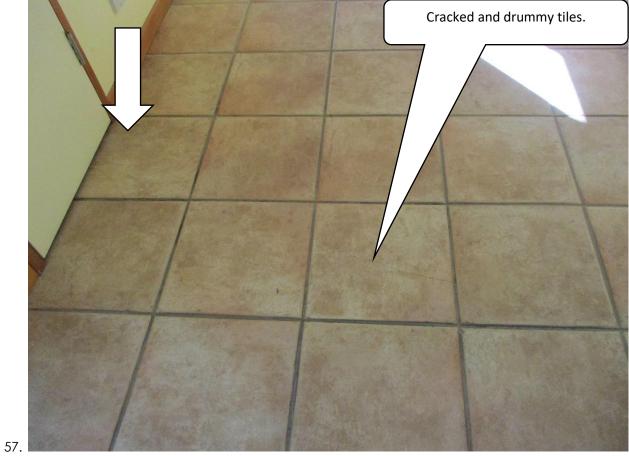




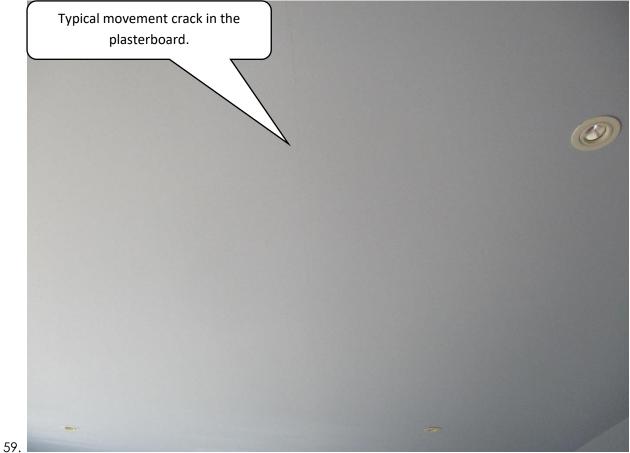














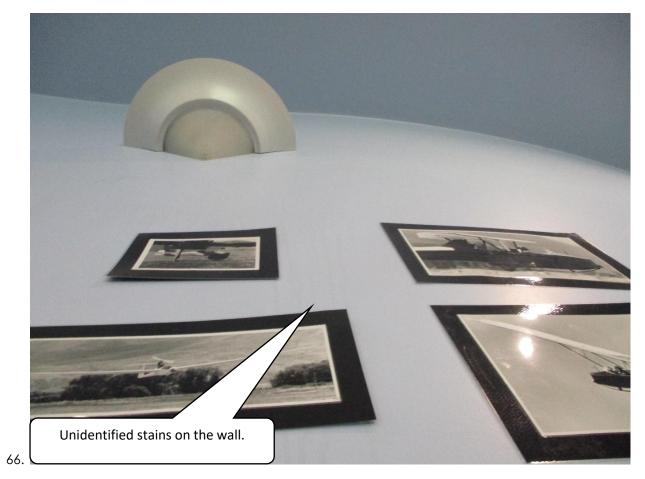








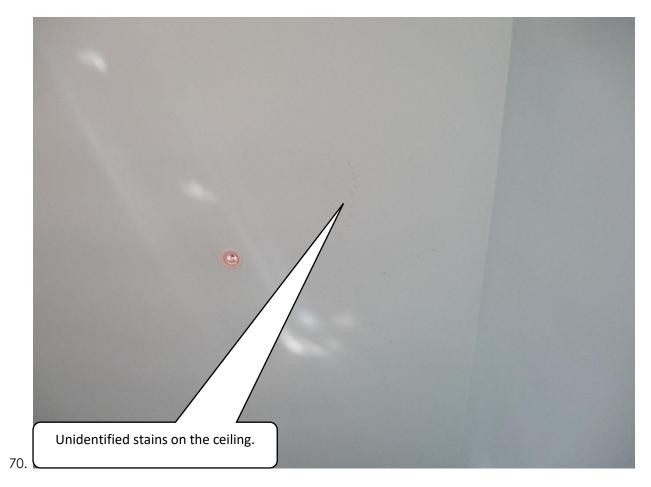








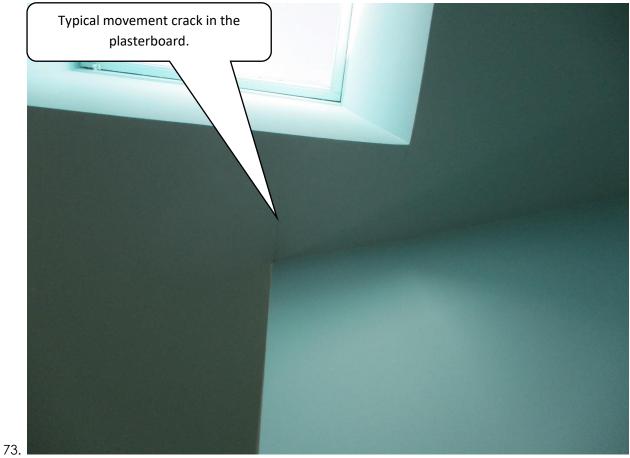






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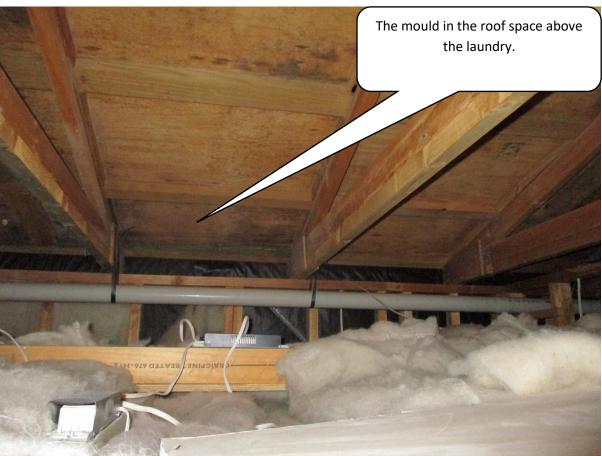












77.