1.0 WEATHERTIGHT RISKS

1.1 Monolithic cladding

A monolithic cladding system with a plaster or texture coat finish relies heavily on the final paint finish to provide the weathertightness protection. If there is insufficient provision for joints in the cladding to take up movement (through wind loading, thermal expansion or seismic activity), monolithic cladding will make its own joints in the form of cracks and breaks which, having also broken the paint finish, will give points for water to enter. Once water is in behind the cladding it can track and soak into the timber framing components and create a damp environment ideal for mold and rot growth which ultimately ends up damaging the timber framing.

The Building Code now requires that monolithic cladding incorporates movement joints both vertically and horizontally and that the cladding is constructed on a cavity to provide separation from the building frame.

1.2 Flat roofs and decks

Flat roofs and membrane finished decks have been major sources of leak issues. There are a number of reasons for this including minimal falls which can result in ponding, poor detailing of junctions and upstands against walls and parapets.

Membrane decks are often finished with direct fix tiles which are porous and permit water to sit against the membrane and ultimately degrade it, particularly if mold is allowed to grow around the edges where the membrane turns up against walls.

The Building Code has now increased the pitch for minimum falls to decks and flat roofs and direct fix tile finished decks and balconies are discouraged in favour of tiles set on raised feet to allow easy inspection and maintenance of the membrane finish.

1.3 Windows, Doors and other openings

Equally critical are any penetrations through the cladding such as windows and doors. Poor resolution around window head flashings, lack of sill flashings and minimal to no door threshold upstands are frequent causes of leaks.

PH +64 4 903 4976
INFO@RESOLVEITARCHITECTS.CO.NZ

LEVEL 1, 171 VIVIAN STREET
TE ARO | PO BOX 9792
WELLINGTON 6141, NZ

RESOLVEITARCHITECTS.CO.NZ

2.0 WEATHERTIGHTNESS REMEDIATION WORK

Major building work is an expensive exercise and none more so than extensive weathertight remediation work which is almost always an unexpected cost not budgeted for under building general maintenance.

To ensure that the building owners money is spent wisely and on the right solution, we at Resolve It Architects have developed the following two stage process for our clients.

2.1 STAGE ONE

The first stage starts with gathering information on the existing building including archive plans, cladding condition reports etc and the preparation of recladding options for review by the building owner.

This stage of the process cumulates in a preliminary assessment of construction cost to give the building owner a good indication of the cost of the proposed cladding remedial works before any serious time or money is committed.

The phases are as follows;

2.1.1 PreDesign

To determine the nature and extent of the weathertightness issues the building owner should first engage an NZIBS registered Building Surveyor to investigate and prepare a report on the building envelope.

Findings from weathertightness investigation report will confirm the scope of the work required.

The predesign phase allows for a review of the archive drawings (generally sourced from the local Council building consent records) combined with visits to site to check how the archive drawings compare to what was actually built.

This will provide the information to prepare “as built” computer drawings which will form the basis of the preliminary, developed and detailed design work for the cladding remediation.

2.1.2 Preliminary Design

The preliminary design phase is the point where recladding options are explored to determine the most efficient way to meet current building code standards and ensure that all identified leaks are resolved.

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If required, improvements to the overall design of the building can also be considered at this stage. This could include reviewing areas where weathertight risk could be reduced by modifying or eliminating riskier details and could also option changes to cladding types to give the building a fresh new look or to eliminate stigma associated with a particular cladding type.

The result of this phase is a set of base plans and elevations allied with some preliminary details and an outline specification of materials and processes.

2.1.3 Preliminary Assesment of Construction Cost

The preliminary design documentation would form the brief for a Quantity Surveyor to provide a preliminary assessment of construction cost for the remediation work.

The preliminary estimate prepared by the QS will provide a good indication of the likely cost of the weathertightness remedial work before any large sums are expended by the building owner.

This information enables the building owner to make an informed decision about how to proceed and can be used to plan funding for the remedial works.

Often, especially with a multi-unit townhouse complex or a multi storey apartment building, there is the option to stage the remediation work to help spread the costs over a longer period.

2.2 STAGE TWO

Once the decision has been made to proceed further, the following outlines the remaining phases through to completion of the weathertightness remediation work.

2.2.1 Developed and Detailed Design

Once the scope of the remediation work and preliminary cost estimate has been agreed, the developed and detailed design phase allows for the preparation of drawings, specifications and associated documentation sufficient for building consent and tendering purposes.

Other consultants such as a structural engineer may be needed (for instance if there are concerns or issues around a buildings primary structure) and they would be involved at this stage to incorporate their information and drawings as required.

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2.2.2 Building Consent

The detailed and developed design package would be incorporated into a building consent application and lodged with the local Council.

As the work is a reclad of an existing building with water ingress issues, a Quality Assurance Plan (QAP) will be required by council as part of any building consent application. The QAP outlines the procedures required for monitoring compliance with design and building code for the cladding removal, timber replacement and recladding during the construciton phase.

2.2.3 Tendering

The detailed and developed design package is sent out to selected contractors with proven experience in weathertight remediation work along with an invitation to tender.

The submitted tenders will be analysed and clarifications sought where required. The tenders would also be compared against the provisional construction cost estimate prepared earlier by the Quantity Surveyor.

Based on the tender information a report is prepared for the building owner comparing each tenders trade breakdown costs with a recommendation to accept one of the tenders.

2.2.4 Construction Contract, Contract Administration, Site observation and Quality Assurance

A construction contract would be established between the successful tenderer and the building owner and a detailed construction programme would be agreed.

Administering the contract would include running regular site meetings, coordinating other consultant's services, tracking building work in relation to programme, assessing main contractor's payment claims, monitoring cost variations and issuing payment schedules.

As part of the Quality Assurance Plan regular audits of work completed would be made at specified stages of the construction to comply with building consent requirements.

Variations to the construction contract are inevitable with building remediation work as the full extent of any potential damage to the building struture and framing cannot be fully verified until the cladding is removed (an allowance would have generally been made for this as a provisional sum).

A certified (NZIBS registered) Weathertightness Surveyor would be engaged to review the exposed timber framing to determine framing damaged enough to warrant replacement and specify treatment for any framing remaining in place. Following a second visit to view the completed remedial work to the framing, a timber remediation certificate will be issued for inclusion in the package for building Code of Compliance.

The main contractor will coordinate Council inspections required as part of the building consent conditions to monitor work progress.

2.2.5 Contract works completion

Upon completion of the cladding remedial work the main contractor will assemble the warranty information, producer statements, certificates and QAP to submit to the Council for the Code of Compliance.

With the issue of the Code of Compliance following completion on site, the building owner will have a building that is better than it was before with a current code compliant cladding to the areas remediated. The valuation of the property will be retained or even enhanced.

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