



70 Cowle Street, West Perth Structural Inspection Report

Mr Michael Read, M Construction
4 November 2015
Revision No. 1

Prepared by Eric Le Meur Project Number: 28285-PER-S-21
Ground Floor, 226 Adelaide Terrace, Perth WA 6000

Phone (08) 6222 7000 **Fax** (08) 6222 7100 **Email** perth@wge.com.au **Web** www.wge.com.au

Revision

REVISION	DATE	COMMENT	APPROVED BY
0	18/09/2015		EL
1	4/11/2015		EL

Contents

1.	INTRODUCTION	2
1.1	BACKGROUND.....	2
1.2	SITE OBSERVATIONS	2
1.3	CONCLUSION	4

1. Introduction

Wood & Grieve Engineers have been commissioned by M Construction to undertake a site inspection and structural assessment of the fire-damaged building at 70 Cowle Street, West Perth to assess the current integrity of the remaining structure and comment on the structural state of the building generally.

An inspection of the facility was undertaken by Mr Eric Le Meur (CPEng, MIEAust) on 17 September 2015 in the presence of Mr Michael Read of M Construction.

The interior of the building could not be accessed for safety reasons. Our inspection was undertaken externally only.

We provide our structural assessment below.

1.1 Background

The existing dwelling comprises two single-storey terrace homes constructed circa late 19th Century. A subsequent extension was constructed to the rear of each dwelling, most likely circa 1950's/1960's.

Building construction comprises:

- External walls: Veneer Masonry.
- Roof: Timber-framed roof, profiled metal roof sheeting.
- Floor: Suspended timber floors on stumps
- Internal walls: Combination of timber-framed construction and masonry.

It is understood that on 13th September 2015, the properties were subject to an arson attack, resulting in extensive fire damage throughout.

The fire appears to have spread across the entirety of both buildings, resulting in extensive structural damage to the majority of structural elements.

1.2 Site Observations

Extensive fire damage was evident throughout as illustrated in the photographs below:





Key observations were as follows:

- Extensive damage is evident throughout generally.
- The timber roof has been completely destroyed as a result of the fire and remaining timber members are largely charred and/or missing.
- The loss of timber roof members has removed all lateral restraint to the free-standing masonry walls. As a result, we consider the stability of most walls to have been compromised and we are of the opinion that there is a risk of collapse of existing masonry walls in some areas in the current condition.
- Cracking to existing walls was apparent in a number of locations. This is likely to have been caused by lateral wall movement and subsidence.
- The sub-floor structure appears to have been extensively damaged in a number of areas.
- The majority the timber lintels have been irreparably damaged. Tell-tales signs of masonry distress such as cracking and sagging are evident in some area as a result. These areas are at risk of further damage and/or collapse.
- Extensive render damage is evident throughout generally and little remains of existing timber window and door frames generally.
- Extensive temporary stabilisation work would be required to safe-guard the existing walls against potential collapse prior to occupying adjoining properties and allowing access to site.
- We understand that asbestos material may be present on site.

1.3 Conclusion

The level of fire-related structural damage is considered to be extensive. Lateral restraint to the majority of the masonry walls has been compromised which presents a risk of wall and chimney structure collapse. Tell-tale signs such as cracking and wall movement would suggest that the structure has experienced some form of structural distress.

It is expected that significant propping and localised demolition of existing structural elements would be required to ensure that adjoining properties, public footpath and demolition workers are not put at risk prior to any works or additional inspection being undertaken (Asbestos removal or localised demolition where walls are beyond remediation).

From a structural viewpoint, we consider that the residual structural integrity of the fire-damaged components has been sufficiently compromised to consider complete demolition. There appears to be limited opportunity for salvaging a number of key structural (and possibly heritage) components (including chimney, the rear wall of the dwellings and front verandas all of which would require full or partial demolition) and the complexity of the temporary works required to adequately stabilise the structure for the safety of adjoining buildings and public footpaths presents additional risk, which can only be completely eliminated if full demolition is considered as an option.