

To whom it may concern

16th Dec 2021

STRUCTURAL REPORT

87 Ingrid Road Kareela

Defects

GENERAL

The Owner of the above property recently requested that I report on some defects, shown below, and as described in Absolute Property Inspections (Referred to as API) report, following their building inspection carried out on the 30th Nov 2021. My structural inspection was carried out on the 13th Dec 2021.

Defects :-

- I. Cracks in brickwork joints at the front of the dwelling (refer to API's description and photo on page 28 of their report).
- II. Cracks in brickwork at rear corner of garage (refer to API's photo on page 29 of their report.)
- III. Rusty steel beams inside of garage (page 29 of the report) and twist in beam bearing at rear of garage (observed during Paul Morris' inspection, but not highlighted in API's report).

STRUCTURAL REPORT ON THE ABOVE DEFECTS

1. Cracks at front of dwelling

Cracks, some in excess of 5mm wide, were observed in brickwork joints at ground level and at first floor level. I agree with API's written comments on page 28 that the cracks are caused by settlement or subsidence. Below where the problem is occurring it is evident that the footings are not founded on rock. It appears that rock is approximately 500mm – 1000mm below ground level. It is recommended that a competent builder be appointed to underpin the wall/footing down to rock, followed by filling the cracked joints. Paul Morris Engineers would be able to provide advice and details.

2. Cracks at rear of garage

The cracks observed are less serious than those described in (1) above i.e. they are less than 5mm wide and are classified as 'damage category 2' in the table shown on page 2, The cracks again are caused by settlement of the foundation material. There are two options :-

Option 1

Monitor the cracks and record their widths every 3 months. If there is no further increase in the width of the cracks, the indication is that no further settlement is taking place. The cracks can then be filled or left as they are.

Option 2

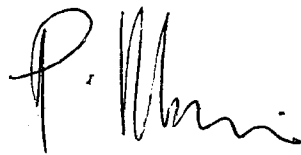
Carry out underpinning as described above for 'cracks at front of dwelling.'

3. Garage beams

Despite the observed rusting, the beams are still structurally adequate. As API have stated the rust be removed and treated with 'killrust' and painted. The twist in the beam at the rear of the garage does not appear to be a structural problem. No cracks in the brickwork around the beam or in the concrete slab above were observed. However loose brickwork was observed at one side of the beam. This defective brickwork be replaced.

CLASSIFICATION OF DAMAGE WITH REFERENCE TO WALLS *AS2870*

Description of typical damage and required repair	Approximate crack width limit (see Note 3)	Damage category
Hairline cracks	< 0.1 mm	0
Fine cracks which do not need repair	< 1 mm	1
Cracks noticeable but easily filled. Doors and windows stick slightly	< 5 mm	2
Cracks can be repaired and possibly a small amount of wall will need to be replaced. Doors and windows stick. Service pipes can fracture. Weather tightness often impaired	5 mm to 15 mm (or a number of cracks 3 mm or more in one group)	3
Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Window and door frames distort. Walls lean or bulge noticeably, some loss of bearing in beams. Service pipes disrupted	15 mm to 25 mm but also depends on number of cracks	4



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