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# Inspection Report 7111

The Caretaker's House Fish Farm Moor Lane Calverton



a **design** & **engineering** consultancy



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## 1. Brief

- 1.1. To inspect The Caretaker's House Fish Farm, Moor Lane, Calverton and prepare a report determining the cause of the cracking noted to some of the external walls and provide comments on the structural stability of the roof.
- 1.2. The site inspection was carried out on 8th July 2022, and the weather at the time was mostly sunny with an estimated temperature of 20 °C. The inspection was carried out from ground level externally and then internally from available vantage points.
- 1.3. No sampling of materials or, opening up of the structural fabric of the building has been undertaken as part of this report, unless expressly stated in the body of the report.

## 2. General Observations

- 2.1. The property is a two-storey semi-detached house of traditional construction with cavity walls and tiled roof.
- 2.2. The property appears to have been constructed in the second half of 1900s.

## 3. External Observations

- 3.1. A minor stepped crack was noted the ground floor window to the left-hand side of the front elevation. A stepped cracking was also noted above the same window.
- 3.2. Number of holes in the mortar were noted to the section of brickwork to the left-hand side of the front elevation.
- 3.3. A separation to the brickwork and a displaced brick were noted to the top left corner of the front elevation.
- 3.4. Some separation and mortar loss were noted to the section of brickwork next to the righthand side of the chimney to the side elevation.
- 3.5. Some minor cracks were also noted to the lower section of brickwork to the left-hand side of the chimney.
- 3.6. Mortar loss was noted the left side wall of the chimney.
- 3.7. Some minor cracks and mortar loss were noted to the section of wall to the left-hand side of the side elevation.
- 3.8. Some mortar loss was noted to the section of brickwork below the ground floor window to the right-hand side of the rear elevation.



- 3.9. Minor cracking and mortar loss were also noted to the section of wall to the right-hand side of the rear elevation (next to the first floor window).
- 3.10. Cracking/separation was noted to the section of brickwork forming the rear door arch. It appeared that the crack was monitored for an unknow period of time, as it seems that a tell-tale crack monitoring was previously applied across the crack and then removed. Result was not available.
- 3.11. Some stepped cracks were noted to the section of brickwork over and below the ground floor window to the left-hand side of the rear elevation. A tell-tale crack monitoring was noted to be applied across one of the cracks below the window, but no information was available during the inspection to determine whether the movement is still ongoing or not.
- 3.12. A number of holes in the mortar were notes to an extended section of the rear elevation.

## 4. Internal Observations

- 4.1. The roof loft was also inspected, and access was obtained through a ceiling hatch.
- 4.2. A 25 gallons water tank was noted to be located in the roof space and supported by a timber structure formed from 3No. 47x47 timber beams supported by the existing purlins and by 2No. 47x47 intermediate timber columns (beneath each beam). The timber columns are in turn sat on a timber platform supported by 3No. 75x95 joists (approx. 950mm long) sat on a solid wall at each end.
- 4.3. One of the purlins was noted to have been split in 3 sections and joined together by notching the ends of each section. The same purlin was also noted to be suffering from excessive deflection across the joined section.

# 5. Conclusions/ Recommendations

- 5.1. The cracks noted to the front elevation are minor in nature and only require repointing.
- 5.2. Repointing is also required to fill the section of brickwork noted to be suffering from mortar loss. This is required to prevent water penetration and stop insects (i.e. bees) from getting into the cavity and starting an infestation.
- 5.3. The cracks to the side elevations were not significant and require some repoint. As for the front elevation, make sure all section suffering from mortal loss are adequately repointed.
- 5.4. The cracks to the left-hand side of the rear wall are probably due to drainage failure. We recommend the drainage be scanned against potential leakage and repaired as required. All cracked brickwork sections to be adequately repointed.



- 5.5. As already mentioned before, several holes in the mortar were noted to the rear wall. Fill all holes to prevent water penetration and stop insects from entering the cavity.
- 5.6. With regard to the cracked arch, as referred by the tenant, this failure seems to have occurred a number of years ago and based on its current status, it seems to have stabilised. As aforementioned, a tell-tale crack monitor was applied in the past (probably after the failure occurred) and removed afterward suggesting that the movement is no longer ongoing. It is therefore recommended the cracked section being adequately repointed to improve the strength of the arch.
- 5.7. With regard to the roof purlin, it is recommended that a steel plate be bolted to the side of the purlin and across the joined section to improve its strength. See detail below.



5.8. The timber structure supporting the water tank is not structurally adequate. We recommend all 47x47 timber elements (vertical and horizontal) be replaced with 100x100 C24 section. If preferred, for simplicity, the new elements can be placed next to the existing where possible.

**Prepared by:** Giovanni Barbieri (BSc., MSc.) Reviewed by: Eur. Ing., S. J. Parker, BSc., C. Eng., M.I.C.E.



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# Photographs



Figure 1-Front elevation



Figure 2 – Stepped crack below window (front elevation)





Figure 3 - Cracking above window (front elevation)



Figure 4 – Crack and displaced brick to top corner of building





Figure 5 – Crack to brickwork next to chimney (side elevation)



Figure 6 - Minor crack to lower section of wall next to chimney (side elevation).





Figure 7 – Rear elevation



Figure 8 –Mortar loss below window (rear elevation)





Figure 9 – Mortar loss and minor cracking



Figure 10 – Cracked arch





Figure 11 – Stepped cracking over window (rear elevation)



Figure 12 – Further cracks probably due to drainage leakage.





Figure 13 – Water tank and timber structure



Figure 14 – Purlin to be repaired



## **Terms & Conditions**

During our inspection of the premises as presently existing, which is normally carried out in a single visit, we shall check all visible exposed and accessible elements of construction in order to identify defects and shortcomings which are likely to adversely affect the use of the property or give rise to expenditure in the foreseeable future. We shall consider the condition and durability of the building fabric in relation to the type and age of the property, the need for repairs or special maintenance and, where appropriate, comment on the suitability of the structure for its proposed use.

We shall, where possible, lift loose laid floor coverings and inspect cellars where appropriate, but we shall not empty the contents of any fitted cupboards, move heavy furniture, or lift carpets or floorboards and our report specifically excludes all covered, and unexposed or inaccessible areas and buried elements of construction such as foundations and built-in steels and timbers. Apart from any balconies and roofs to which external access may be available, our external inspection will be carried out from ground level. Unless requested otherwise the main building shall be the form of this report.

In accordance with our professional indemnity insurance cover, we have to state that "we have not inspected woodwork or other parts of the structure which are covered unexposed or inaccessible and we are therefore, unable to report any such part of the property is free from defect."

Roof inspection will be limited to external viewing as the density of internal insulation invariably masks critical areas internally – however in certain circumstances roof inspection will be carried out if agreed with the client previously.

We will not arrange for exposure works to be carried out to the superstructure or below ground, or carry out tests for high alumina cement concrete, calcium chloride, asbestos or the use of woodwool slabs as permanent shuttering, but where appropriate, will seek further instructions for these to be carried out for an additional charge.

With regard to service installations, incoming mains waste and drains, we shall report on any matters that come to light during the course of our inspection as requiring further investigation by specialists, but we shall not arrange for tests to be carried out unless specifically instructed.

Although where appropriate, we will be happy to examine any lease or title documents, planning or any other consents or fire certificates which are made available to us prior to our inspection, we shall assume in such cases that solicitors will be advising in detail upon these matters and that they will also check on the responsibility for the maintenance of all boundaries and rights of way and the existence of any easements or necessary rights of light, drainage etc.

We require to be informed, prior to the undertaking of any excavation or boring work, of the positions of any underground services or plant beneath the site. Whilst reasonable care will be taken during the execution of field work we cannot accept liability, either direct or consequential, for the damage to any service not clearly identified to us.



Our written report will be addressed and forwarded to the aforementioned Client. Any liability which may arise from its contents will be specifically restricted to the Client, unless stated otherwise.



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