

REPORT

**CROPWELL BISHOP MEMORIAL HALL
NOTTINGHAM ROAD
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FOR

CROPWELL BISHOP MEMORIAL HALL COMMITTEE

1.0 Instructions

- 1.1 In accordance with your recent instructions, we confirm our inspection of the above property on 26 October 2005 in order to investigate its general structural condition.
- 1.2 We must stress that we have not inspected the woodwork or other areas of the property which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the structure is free from defect.

2.0 General/Background

- 2.1 In describing the property all references to front, rear, left and right assume that it is viewed from Nottingham Road.
- 2.2 The property is a single storey building, understood to be in the region of 70-80 years old. It is illustrated generally in photographs Nos. 1 & 2.
- 2.3 Broadly, the building consists of a main hall with a stage area, kitchens, toilets and changing rooms together with various sundry store rooms etc. Much of the building has been modified/extended since its original construction, although the exact history and timing of this is not known.

3.0 Topography/Geology

- 3.1 The site is virtually level and there are no topographical features nearby which might cause instability in the foundations.
- 3.2 The Geological Survey sheet No. 126 indicates that the surface strata are from the Cropwell Bishop Formation, a part of the Mercia Mudstone group and consisting of mudstone with bands of sandstone and siltstone.
- 3.3 Mudstone, sandstone and siltstone material generally has a good bearing capacity. Its more weathered superficial parts can however be affected by desiccation-related shrinkage, the degree of movement being mainly dependent on the relative proportions of the materials and their particle sizes. The presence of vegetation could therefore be a potential threat to the stability of the foundations, although there are no items of significance within the immediate vicinity of the building.

4.0 Inspection

- 4.1 The original hall appears to have walls of solid brick construction, the main front and rear gables being approximately 225mm thick and the side walls being only about 100mm thick, with intermediate piers at approximately 2.5m spacing. To the rear, is the changing room/toilet area that is an extension to the original building and which we understand was originally flat-roofed. It now has a secondary mono-pitched corrugated roof that we understand was installed as a remedial measure to try to overcome leakage problems with the flat roof. Other small flat roofed extensions have been added to the left flank (for the provision of a disabled toilet/showers) and the right flank (to enlarge the kitchen). A brick store with a corrugated roof has been added to the right end of the rear changing room block.
- 4.2 The general overall condition of the building appears to be poor. Brickwork to both front and rear gables is perished and in urgent need of wholesale re-pointing, particularly at the rear. Tie bars have been installed both transversely and longitudinally through the main part of the building, presumably in an attempt to increase its strength. Their effectiveness is uncertain, particularly that running transversely at eaves level across the front gable as its end plate appears to have minimal bearing/anchorage.
- 4.3 Various other cracking was noted to the brickwork, notably in the side walls of the original hall in the vicinity of the intermediate piers and also in the centre of panels, often partially concealed behind the radiators. Cracking was also noted internally above the main front door consistent with sagging/failure of the lintel above the door and the brickwork in the rear gable above what is presumed originally to have been a window (now bricked up) shows signs of significant sagging also.
- 4.4 In and around the two smaller gables projecting from the right flank there is cracking at both low and high level internally and externally. This has previously been re-pointed, as has raking cracking to the main front elevation near the left corner.
- 4.5 Although it was not practical for us to take any measurements directly, it appeared subjectively that the two smaller original gables to the right of the property lean inwards. This may however merely be an optical illusion, although it requires further investigation.
- 4.6 Fine cracking was noted internally above the door from the kitchen into the hall, with further minor damage apparent around various window openings in the toilets/changing areas.
- 4.7 The external drainage system appears in need of attention. The gully at the rear left corner was overflowing and the adjacent soil/vent pipe is broken.

- 4.8 Photograph No. 3 shows a typical internal view and photographs Nos. 4-12 illustrate typical areas of damage/problems as described above.

5.0 Discussion/Recommendations

- 5.1 It is understood that the original hall building was built using local volunteer labour, presumably as a means of minimising cost. The methods and detailing used in the construction appear also to have been chosen on the basis of economics rather than structural robustness and longevity. Essentially, whilst the building has clearly provided valuable and satisfactory service in the past, it is approaching the end of its useful life.
- 5.2 Although strictly outside of our remit to investigate structural matters, we note that the asbestos roof covering appears in a poor condition and may require substantial maintenance in short to medium term. This is likely to be particularly costly given the difficulties of safely working with and disposing of asbestos containing materials.
- 5.3 We understand also that the building is in need of a full electrical re-wire, a further significant maintenance cost.
- 5.4 As suggested above, the general standards of construction leave much to be desired by comparison with currently accepted good practice. The use of 4"/102mm brickwork for the majority of the side walls of the building is an example of this. Brickwork of this thickness is likely to be barely adequate from a structural point of view, a point reinforced by the cracking that is apparent around the edges of the panels, particularly on the left flank that is more severely exposed to the effects of driving winds. The brickwork panels are also particularly poor in terms of their thermal performance. Although it would be unrealistic to expect a building of this age to comply with current Building Regulations in this respect, these areas fall so far short that the rate of heat loss, and hence the cost and environmental impact of providing heating to the building, is likely to be many times greater than a comparable modern building.
- 5.5 The floor of the main hall is of suspended timber construction. Although air bricks are present around the building and are presumed to provide a degree of ventilation to the under floor void, given the standard of detailing in the original construction we would be doubtful as to whether these arrangements are adequate. A further investigation would be necessary to confirm the point but we would not be at all surprised if there were signs of rot in the floor joists. This is likely to be particularly apparent at the joist ends, especially given the substandard thickness of the side walls onto which they are assumed to bear, and hence their reduced resistance to the penetration of moisture. It also seems probable that the various alterations/extensions to the building will have blocked some of the original air bricks, hence further reducing the ventilation below the floor and increasing the potential for rot.

- 5.6 We have not inspected the roof structure in detail. The only exposed sections are the internal columns and braces (see photograph No. 3). These are clad but are assumed to be timber posts, and as with the ground floor, their condition below floor level is not known. It would certainly seem a possibility that their bases may have rotted to some extent, although we would stress that this is purely a speculative opinion in the absence of further investigations. In any event, the positioning of the posts is somewhat restrictive in terms of the usage of the hall.
- 5.7 The details of the foundations are not known. It appears likely however that they are of minimal depth and capacity, both in view of the generally basic standards of construction and also the localised cracking referred to above. The multitude of alterations and extensions has not been beneficial in this respect, as generally there is tendency for differential foundation movement between sections of differing age, depth and type of foundations. The poorly matched/bonded brickwork (eg. as shown in photograph No. 6) provides further points of weakness that can be exploited by any foundation movement.
- 5.8 We understand that a significant concern at present is the inadequate size and capacity of the hall, in view of the current population of the village. Although a feasibility study on options for enlarging the existing building is beyond the scope of this report, our initial impression is that there would be significant practical difficulties with this approach. For example, the support to the existing roof provided by the internal columns would realistically need to remain, the columns then potentially being even further from the edges of an enlarged hall and hence an even greater intrusion into its useable space. The difficulties of achieving a satisfactory interface between the existing building and a modern extension built to current standards would be significant, for example, in terms of heating/heat loss issues where the benefits of any more modern construction and systems in the new construction would be cancelled out by the problems of the existing building. Although none of these problems is insurmountable, we suspect that the fundamental factor indicating against extending the existing building is the remaining problems and ongoing maintenance liabilities that are inherent in the existing construction. The level of investment that would be required to both extend the existing building and to overcome the problems that might remain to bring the whole building up to a suitable standard for the future are likely to be comparable with, if not greater than those associated with demolition and re-building.
- 5.9 Whilst we note that there are clearly significant financial implications of a decision to demolish and re-build, we strongly suspect this to be the best option for the long-term. Given the inherent inadequacies of the original building in terms of its structural integrity, thermal performance and insufficient usable space, combined with the likely high ongoing and future maintenance liabilities in relation to, for example, the general condition of the brickwork, the asbestos roof, electrical wiring, drainage

problems and the suspected poor condition of timber structural elements below floor level, the expenditure of further sums on the existing building would seem unlikely to be cost effective in the long-term. Further more detailed costs estimates and budgets would be required to confirm the position absolutely but we would certainly suggest that the matter should be explored in greater detail.

6.0 Summary

- 6.1 The original building is approximately 75 years old and appears to be reaching the end of its useful economic life. Considerable investment would be required to deal with a range of problems as detailed above.
- 6.2 Even with these investments, the building will remain substandard in current terms in numerous respects. Not least of these is the size of the hall which is understood to be inadequate for the size of the community that it serves.
- 6.3 Extension of the existing building is a possibility, although this would be relatively structurally complex and would not necessarily eliminate many of the problems that are inherent in the existing building.
- 6.4 Demolition of the existing building and the construction of a new hall would appear to be the best alternative for the long-term, although there is clearly need for a more detailed economic appraisal of this approach before any final decisions are reached.

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