



NEIL PIKE
ARCHITECTS

REFURBISHMENT AND CONVERSION OF PREMISES
PARK HALL, HUYTON HEY ROAD
LIVERPOOL, L36 5SE

FLOOR CONSTRUCTION

STATEMENT

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1. INTRODUCTION

We have been appointed Architects and Principal Designer in respect of the works involved in the conversion of Park Hall a Grade II listed building list entry No.1075533 into residential use.

We are a very experienced practice having worked on similar conversion projects of several distinguished properties in the North-West of England. Within our portfolio of successfully completed projects are:

1. Bodlondeb Castle, Llandudno Grade II listed – Ref No. 3398
2. Oakmere Hall, Cheshire Grade II list – Ref No. 1313106
3. Biddulph Grange, Staffordshire Grade II listed – Ref No. 1000115.

In many ways Park Hall poses very similar technical problems as those experienced at the above sites.

2. PROPOSAL

The conversion proposals are to create five separate dwellings within the existing building, each with an individual entrance. The building is comprised of extensive accommodation and upon completion will deliver five quality two storey residence.

Existing Floor Construction

Investigatory work has revealed that in large areas of the ground floor the suspended timber joists are badly affected by both wet and dry rot. This is evidently and undoubtedly caused by original poor construction methodology and lack of natural ventilation. Such is the configuration of the existing floor plan it will not be possible to successfully provide total natural ventilation across the sub-floors at ground floor level, thus, intensifying the risk of dry rot to any replacement timber structure.

This condition is compromised by the fact that with the exception of the floor to Unit No 5 the existing timber floor construction across the ground floor has no natural ventilation. As previously mentioned, the risk is a mitigating factor particularly due to the fact that it will not be possible to provide cross-floor ventilation to the ground floor joists because there are areas of flooring that are 'air-locked' by the existing internal walls.

However, in addition to this, in order to create any form of natural ventilation it would be necessary to excavate extensive areas of the existing external ground immediately adjacent to the external walls of the building in order to facilitate the installation of periscopic vents, which for the reasons stated above would be a futile exercise.

Also this installation will be extremely labour intensive, expensive and in several locations totally ineffective or impractical. In fact as previously referenced only the existing timber floor to the proposed Unit 5 is capable of retention due to the fact that each room within the Unit has an external wall and each of the walls has an existing airbrick. (The position of the air bricks are indicated on the attached floor plan, (which currently ventilate the existing sub floor areas).

Remedial Work

The complexities of the repair and replacement work necessary to bring the floor construction up to standards acceptable under the present legislation of the Building Regulation are of such a manner that the costs associated with the extensive labour element of the repair work together with joist replacement are not considered viable. Notwithstanding this however, the new, replacement timber floor construction would eventually fail due to lack of adequate cross-floor ventilation.

It has therefore been decided that with the exception of the area Unit 5, all the affected timber ground floor construction will be removed (together with accumulated materials waste in the sub-floor areas) and replaced with a new solid floor construction. This decision is based primarily on long term building performance efficiency (insulation and moisture resistance).

The proposal will be undertaken in the following stages of construction procedure.

1. Removal of all existing timber floor joists and debris collected in the void below the suspended floor.
2. Lay compacted clean stone hardcore approx. 100-150mm with approx. 50mm sand blinding

3. Lay 1200g Vis queen membrane take up the inside face of the external wall and tucked/pointed into mortar joint min 150mm above external ground level.
4. Lay 100mm Kingspan (or similar) insulation
5. Lay 100mm thick concrete slab
6. Lay 75mm sand cement screed (service ducting to be formed alongside external wall).

This is undoubtedly a major improvement on the existing floor condition with substantially improved u-values and comfort levels. The existing timber floor construction to unit 5 will be provided within Kingspan (or similar) insulated panels lined with vapour barriers between joists and where necessary replacement 20mm floor boarding.

3. CONCLUSION

It is considered that the removal of all damaged/wet, dry rot affected floor joists, to be replaced with solid floor construction is an undoubted improvement on the existing floor construction. The integrity of the existing structure, particularly the walls will remain unaffected by the introduction of new replacement wall construction.

There is no particular, architectural or historic merit in the existing floor construction (there is even no herringbone strutting to be found on site !). Therefore the proposal for replacement floor construction is both laudable and efficient, resulting in an improved internal environment. There are no damaging or harmful aspects of the solid floor installation on the listed building, just a vastly improved construction solution.