



37 NORTH ROAD

DRY ROT AND TIMBER CONDITION INVESTIGATION

JOB NO. 162-58



PKS ARCHITECTS

1 NOVEMBER 2024

REVISION A (FOR METHODOLOGY)

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1 INTRODUCTION

1.1 AUTHORITY AND REFERENCE

Hutton+Rostron Environmental Investigations Limited carried out a preliminary timber decay and damp survey at 37 North Road, N6 4BE on 01 November 2024 in accordance with instructions received from Mr Douglas Paskin by email dated 23 October 2024 (10:51). Reference was made to drawings supplied by the client for the identification of structures. For the purpose of orientation in this report, the building was taken as facing east onto North Road

1.2 AIM

The aim of this investigation was to identify areas of active dry rot/timber decay or make other relevant observations and recommendations to allow the planning of cost-effective remedial measures and prevent damp or decay problems in the future using environmental means as discussed in Appendices A, B, C & D

Under revision A of this document, issued in February 2025, methodology has been laid out for the works recommended by H+R

1.3 H+R STAFF ON SITE

Andrew Ellis

1.4 PERSONNEL CONTACTED

Douglas Paskin - PKS Architects
Site Team

For limitations that apply to this report please refer back to the first issue of this document

Appendix A

REFERENCE	ITEM	RECOMMENDATIONS	METHODOLOGY
RPT.1	Chemical remedial treatment	No chemical remedial timber treatments or wall irrigations are required	As per recommendations
RPT.2	Repair and isolation of timbers	All decayed, partially decayed and at-risk timbers should be repaired, partnered or replaced as necessary as directed by the Structural Engineer and to a detail approved by H+R ensuring timber elements are re-supported and isolated from damp or potentially damp masonry via hangers and/or a through ventilated air-gaps. In the view of H+R, the existing timber structures (including roofs, lintels and floor elements) designated to be in contact to damp zones/areas vulnerable to dry rot infected masonry are not suitable for retention in their existing condition/detailing All embedded timbers to recently damp affected walls remain highly vulnerable to further/ongoing decay, even during the latent drying down period. In particular, it is highly probable that existing zones of decay will continue to expand, coning outwards down the building with further loss to historic fabric during the winter months of 2024-5. Further to this, any historic and unverified areas of inactive dry rot are therefore also liable to becoming reactivated from any future water penetration issues both from failed external envelope to the property Additionally, the extent of concealed decay to embedded timbers remains unverified to localised areas (see Plans to report 162-57) and therefore it remains highly probable that some further structurally significant decay exists In the opinion of H+R therefore, consideration should be given to comprehensive repair/re-detailing/separation to all roof, floor and lintel timbers in contact to the east, west and south facades as well as the west flat roof, first and ground WC floor structures	All works to be carried out by a trained carpenter competent in conservation practices All identified decayed timbers to be cut to the prescribed length of decay and inspected for concealed decay issues to the heart and underside. Further decay issues should be cut back in additional 100-150mm lengths until sound timber is reached. The following methodologies should then be applied to specific structural components; - Rafter plates- After cutting back decayed sections, new lengths of rafter plate of like species and section size to be scarfed into location with a basic ~200mm half-lap joint to the remaining plates sound length and fixed with non-corrosive fixings. New and existing rafter plate lengths to be separated from the wall head via a continuous damp proof membrane with plastic spacers to form a continuous ventilated air gap. Consideration may be given to the use of oak for new and replaced rafter plate sections for its increased rot resistant characteristics/invulnerability to infection by dry rot - Common rafters- After cutting back decayed sections to bearing ends, new partners of like species and section size to be introduced along side historic member and bear between positive points of bearing. Ie. Between the purlin and the rafter plate. Partner and historic member to be bolted together at ~300mm intervals with stainless M10 bolts - Ceiling joists – After cutting back decayed sections to bearing ends, new partners of like species and section size to be introduced alongside historic member and bear between positive points of bearing. Ie. Between the stud/partition walls and the perimeter wall plates. Partner and historic member to be bolted together at ~300mm intervals with stainless M10 bolts. Extensively decayed ceiling joists or joists with decay mid-span to be replaced entirely in like-for-like fashion. Ceiling joist ends to be separated from potentially damp and dry rot infected masonry via cutting back and isolating/supporting via stainless steel hangers - Floor joists – After cutting back decayed sections to bearing ends, new partners of like species and section size to be introduced alongside historic member and bear between positive points of bearing. Ie. Between the stud/partition walls and the perimeter wall plates. Partner and historic member to be bolted together at ~300mm intervals with stainless M10 bolts. Extensively decayed floor joists with decay mid-span to be replaced entirely in like-for-like fashion. Floor joist ends to be separated from potentially damp and dry rot infected masonry via cutting back and isolating/supporting on to a continuous right angled steel bracket ledger with a ventilated air gap between the end grain of the joist to the steel angled bracket at 10-20mm. SE to specify detailing to right angled steel ledger - Wall plates – All decayed and vulnerable wall plates to be cut out in ‘hit-and-miss’ fashion in say ~400mm intervals, and the cavity infilled with brickwork and a suitable hydraulic lime mortar to match the remaining facades internal face - Lintels- All decayed and vulnerable timber lintels to be replaced with new solid variants under the direction of the SE
RPT.3	Retention of infected and partially decayed timber elements	Existing timber elements that have been infected and partially decayed by dry rot in the past may be retained on refurbishment without any chemical remedial treatment, provided they are structurally adequate, and are separated from dry rot infected, damp or potentially damp masonry with a damp-proof material as described at 2 above; and that all practical measures are taken so as to prevent water penetration on future occupancy as described at 3.2 below	No chemical remedial timber treatments or injected damp proof courses/wall irrigations are required Structural timbers: Separation of structural timbers to be retained should be achieved in like methodology as to repaired/replaced members whereby the bearing ends are cut short from the potentially damp/dry rot infected masonry and supported onto a continuous horizontal wall plate formed of a right-angled steel bracket or onto stainless steel hangers. For additional protection,

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			further consideration may be given to introducing a damp proof membrane between the end grain face of the timber element and the structurally supporting steel member Non-structural timbers: Provision should be made for all vulnerable secondary timbers remaining within designated dry rot 'zones' to be documented and carefully removed, recorded and safely stored in conjunction to dry rot remedial actions as stated above. These should eventually be re-instated so as to be separated from the potentially harmful masonry structures via a damp proof membrane and/or a ventilated air gap. Secondary timbers include panelling, windows, skirting, architraves, doors and floorboards adjacent to dry rot affected walls NB. Re-implementation of secondary timbers should be delayed to allow for a suitable period of accelerated drying to the exposed walls Perimeter floor boards should stop short of potentially damp and dry rot infected walls by ~20mm and the gap concealed with a skirting detail
RPT.4	Accelerated drying to masonry and timber components	<i>Consideration should be given to accelerated drying of damp affected structures identified as described above before and during refurbishment; so as to meet the programme requirements. This should provisionally include for the introduction of targeted 110v radiant heaters towards the worst/damp affected internals walls, as well as the use of fans/forced extraction positioned at the basement stairs so as to force warm moisture laden air up and out of the property via the passive stack effect. H+R can advise further if required</i>	To promote accelerated short-term drying, consideration should be given to removing all wall linings, ceilings and soffits adjacent to or beneath damp and dry rot affected structures so as to promote drying and allow for effective decontamination works; and to facilitate access for inspection, conservation, repair, and for installation of insulation and services, so as to allow sustainable occupancy After decontamination and demolition works are completed, allow for the Installation of 1-2no. self-standing radiant heaters per floor. Heater to be directed towards the external damp affected walls and run on a dedicated 110v power system and operated only during periods of building occupancy. Alternatively, or in addition, consideration may be given to the positioning of a 110v industrial drum fan heater to the base of the stairs at lower-ground level so as to create a passive-stack effect of drying with ventilation up through the building. H+R can advise further after computer modelling if required
RPT.5	Long-term drying	<i>Consideration should be given to stripping damp and dry rot infected structures so as to promote drying</i>	Long term drying may be encouraged by the use of highly permeable and breathable holistic finishes such as NHL plasters and silicate based paints or in extremis via the recladding of structures identified as having high residual moisture content and/or vulnerable to further water penetration with insulated and vented dry-lining details; so as to allow dissipation of moisture and hygroscopic salts on future occupancy while preventing the conditions for dry rot infection and decay, or damage to vulnerable materials. H+R can advise further on detailing when required after detailed investigation as described above
RPT.6	Mould	<i>All visibly mould-affected contemporary plasterboard should be safely removed and disposed of upon future refurbishment works. All visible superficial mould growth to retained surfaces should be removed as soon as possible</i>	This may be achieved by 'wet wiping' using water with a minimal addition of detergent for removal of spores and mycelium, followed by a dilute (10 per cent) solution of sodium hypochlorite or appropriate biocide used fully in accordance with the recommendations of the manufacturers or suppliers. Those undertaking this task should be provided with appropriate respiratory protection to FFP3, eye protection, gloves and protective clothing
RPT.7	Further access	<i>Allowance should therefore be made for all vulnerable concealed timbers to be exposed and investigated. This will necessitate the careful removal of perimeter floor boards and finishes to investigate floor structures as well as wall plaster/linings to determine the construction and condition to lintels within compromised and dry rot infected masonry. All structurally decayed timbers may then be partner repaired or cut out and replaced in new. All remaining/new timbers should be detailed so as to be separated from vulnerable or potentially vulnerable dry rot infected masonry to a specification agreed to by the H+R and the Structural Engineer</i>	Access to floorboarded areas: See Plans to the timber condition report (reference: 162-58 37 North Road RPT 011124 AE) for all areas requested to be opened up for further investigation of vulnerable areas. These are normally in locality to areas deemed to be of high risk to water penetration or have been of high risk at some point in the past. Opening request areas have been categorised to differentiate between plasterwork and floorboards and for access hatches (to reveal inaccessible voids beneath valley gutters) In order of importance, H+R would recommend that priority is given to the lifting of floorboards and that the removal of plaster finishes/access hatches are postponed subject to findings from the lifting of the floorboards We recommend that the localised boards are documented prior to lifting. Boards should be removed carefully, numbered and stacked according to the numbering system ready for replacement into original locations. Fixings, where possible, should be retained for re-use. Any insulation/pugging and pugging boards should, where possible should be removed in whole sections and retained for replacement. Excessive leverage or prising of boards should be avoided, instead where practicable, fixings should be carefully extracted first. Cutting of boards

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			should be avoided, however, should it be absolutely necessary, then the boards should be cut with a multi-tool or equivalent at the centre of its bearing over a joist at a ~45-degree angle cut for increased bearing onto the next board Access to plastered areas: As per H+R report (reference: 162-58 37 North Road RPT 011124 AE) H+R have identified vulnerable areas of timbers concealed behind historic lath and/or plaster finishes To achieve openings with minimal damage, H+R recommend that the target areas of damaged plaster are removed from the laths using initially a paint scraper to de-bond the plaster from the laths leaving the keys in-situ (sometimes referred to as 'snots'). Laths should then be carefully removed and retained for reuse via cutting at points of bearing onto timber supports and/or pulling off fixings. Riven laths should be stored separately to sawn laths. Where possible fixings should be retained and re-used Personal protective equipment: Those carrying out the aforementioned tasks should be provided with suitable PPE during the works, in particular respiratory protection from many years of dust and contaminants within the previously closed voids which are likely to become airborne during anticipated disturbance. Any debris within voids should be left undisturbed
RPT.8	Contaminated dust and debris	<i>In conjunction to further proposed opening works, allowance should be made for tandem R&D asbestos surveys to newly opened voids in accordance with the Control of Asbestos regulations. Consideration should be given to removing all potentially contaminated dust and debris from roofs and other building voids as soon as practical</i>	To remove asbestos containing materials is a specialist task with its own methodology. Broadly, this entails encapsulation, capture of any fibre-release and responsible disposal off-site To remove contaminated dust and debris, operatives to clear-out voids with a commercial grade hepa vacuum. Areas of debris/dust should be superficially dampened so as to reduce airborne dust particles during clearing. Those undertaking this task should be provided with appropriate respiratory protection, gloves and protective clothing; and all practical measures should be taken so as to prevent potentially contaminated dust entering occupied air spaces before, during or after works