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Willington Lodge, Horseman's Green

Pre-Planning Structural Inspection Report

Addendum to GWK Structural Solutions – Structural Condition Report for the Proposed Barn Conversion Project

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This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

1 Executive Summary

JP Structural Design Ltd was appointed to undertake a pre-planning structural assessment of an existing farm building. The inspection was carried out on 1st May 2025 and comprised a visual inspection of the external elevations and an internal inspection of the visible structural elements.

This report is to be an addendum to GSK Structural solutions inspection report for the same building. GSK Structural Solution inspected the building on 8th February 2023, findings and conclusions are generally as described by GSK in their report.

During the visual survey, structural defects were noted including:

- Rotting, potential infestation and over-deflection of timber roof structure
- Cracked, damaged and eroded brickwork;
- Lean in masonry piers;
- Evidence of damp;
- Corrosion of steel columns;

None of the defects observed are likely to prevent the successful refurbishment and conversion of the building. Defects will require localised repairs to be undertaken as part of the refurbishment, the scope of which is outlined in section 6 of this report.

2 Introduction

2.1 JP Structural Design Ltd was appointed to undertake a structural assessment of an existing building at the following address:

Willington Lodge
Horseman's Green
Whitchurch
SY13 3BZ

2.2 A visual survey was undertaken on 1st May 2025 by Isaac Dale, Structural Engineer for *JP Structural Design Ltd.*

2.3 This report presents the observed defects, the high-level observations and recommendations for any remedial works to be undertaken as part of the construction works.

3 Survey Extent

3.1 The structural inspection was undertaken from ground level and 1st floor level where accessible. The survey was limited to the structural elements that were visible/ accessible. The survey focussed on the structural condition of the external elevations and the internal structural elements only and no trial pits were undertaken to expose foundations and no specialist investigations were undertaken such as timber rot/infestation surveys or asbestos materials assessment.

3.2 The survey inspection focussed on structural items only and did not include a review of non-structural items such as rainwater goods, cladding, flashings, or window/door casements.

3.3 Below is a plan view depicting the extent of the building intended to be converted and therefore the extent of the survey.



3.4 A visual inspection was undertaken which means that we did not take up carpets, floor coverings or floorboards, move furniture or remove the contents of cupboards. Also, we did not remove secured panels or undo electrical fittings. We inspected roofs and other surfaces on the outside of the building from ground level and we inspected the roof structure that was exposed and visible from within the building. We were not able to assess the condition of the roof structure concealed by the ceiling finishes.

3.5 Whilst this report presents the observations from the structural inspection, JP Structural Design Ltd gives no representations or warranties, express or implied, and no responsibility or liability is accepted for the accuracy or completeness of the information inserted in the document or any other written or oral information given to any interested party or its advisers. Any such liability is expressly disclaimed.

4 Existing Structural Form

4.1 The existing building is as described in GWK Structural Solutions report.

4.2 The following photos indicate the typical external elevations of the building surveyed:



Figure1: View of East facing side elevation of building



Figure2: View of North facing gable elevation of building



Figure3: View of South facing gable elevation of building



Figure4: View of North facing end of lean-to structure off main building



Figure5: View of West facing side elevation of lean-to off main building



Figure5: View of South facing end of lean-to structure off main building

5 Survey Observations

5.1.1 Typical defects observed during the external inspection are presented in the following photos:

	*Observation 1:* • *General view into building* • *General view into building* • *Erosion to brickwork.* • *Erosion to mortar joints.* • *Loose brickwork*
	*Observation 2:* • *General view into building* • *Erosion to brickwork.* • *Erosion to mortar joints.* • *Loose brickwork* • *Rot and potential infestation damage to timber infill members*
	*Observation 3:* • *General view into building* • *Erosion to brickwork.* • *Erosion to mortar joints.* • *Loose brickwork* • *Rot and potential infestation damage to timber infill members* • *Lean in masonry pier*

	*Observation 4:* • *General view into building* • *Erosion to brickwork.* • *Erosion to mortar joints.* • *Loose brickwork* • *Rot and potential infestation damage to timber members supporting cladding on gable elevation* • *Lean in masonry pier*
	*Observation 5:* • *General view of underside of roof* • *Rot and potential infestation damage to timber roof members* • *Corrosion in metal roof sheets* • *Roof members appear to be undersized*
	*Observation 6:* • *Rot and potential infestation damage to timber infill members*

	*Observation 7:* • *Erosion to brickwork.* • *Erosion to mortar joints.* • *Loose brickwork*
	*Observation 8:* • *Timber truss generally appears to be in reasonable condition* • *Visible deflection of truss – appears to be undersized*
	*Observation 9:* • *Erosion to brickwork.* • *Erosion to mortar joints.* • *Loose brickwork* • *Lean in masonry pier*

	*Observation 10:* • *Rot and potential infestation damage to timber purlin and rafters* • *Significant rot at purlin bearing location* • *Signs of water ingress at bearing location*
	*Observation 11:* • *Rot and potential infestation damage to timber purlin and rafters* • *Signs of water ingress at bearing location*
	*Observation 12:* • *Rot and potential infestation damage to timber roof members* • *Fractured rafter* • *Signs of water ingress*

	*Observation 13:* • *General view inside lean-to structure* • *Timber roof members appear to be undersized*
	*Observation 14:* • *General view of inside face of end of lean-to structure*
	*Observation 15:* • *Surface corrosion in steel columns*

	*Observation 16:* • *General view of roof from outside* • *Corrosion to metal roof sheets*
	*Observation 17:* • *General view of external ground floor slab* • *Slab appear to be in reasonable condition*

6 Defects Summary

6.1 Defects Summary Table and Likely Remedial Works

Typical Defect/Observation	Comments and likely remedial action
Rot and potential infestation to roof structure members	• *Evidence of potential rot and infestation to timber rafters and purlins.* • *The existing roof finishes will need to be removed to check on the timbers below. If rot is localised in nature, individual rafters can be replaced.* • *Extent of repair works to timber roof structure to be defined following a specialist rot and infestation survey once floor finishes have been stripped.* • *Timber members showing signs of excessive deflection will likely require replacement or strengthening works in order to meet relevant building design codes.*
Cracked, damaged and eroded brickwork	• *Exposed brickwork was observed to be damaged with missing or eroded bricks in a number of locations and cracked and eroded mortar joints.* • *As part of the refurbishment works, localised repairs will be required to make good these areas of masonry.* • *Damaged, cracked or eroded mortar joints will require re-pointing.* • *Missing brickwork will need infilling to match existing.* • *Cracks in masonry will need stitching with Helifix product or similar.*
General lean in masonry piers and foundations beneath piers	• *Lean in masonry piers to be assessed for stability and sustainability of support to new loads imposed by conversion works, both in the temporary and permanent cases.* • *Masonry with excessive lean to be demolished and rebuilt as required.* • *Trial pits conducted by GSK revealed the piers are founded on ground without foundations as described in their report. Masonry piers/ walls may need underpinning as part of the conversion works.*

Evidence of damp	• *As part of refurbishment work, the Architect should consider repair and replacement work to rainwater goods and installation of DPM/tanking as required to address areas of damp ingress.* • *There is potential for water damage to rafters. As part of the refurbishment work, the ceiling is to be removed and rafters to be inspected as part of a specialist rot and infestation survey.*
Corrosion of steel columns	• *Evidence of corrosion in steel columns.* • *Steelwork with mild corrosion to be painted with corrosion resistant paint.* • *Steelwork with significant corrosion to be replaced.*

7 Summary and Conclusions

7.1 The defects observed within the building are localised in nature and are not likely to necessitate large sections of demolition and rebuild.

7.2 A detailed specialist timber survey is recommended to identify and treat any rot or infestation present in the timber elements. Defective rafters or joists will require localised replacement and it is recommended that all timbers to be retained are treated by a specialist timber survey company.

7.3 As part of the refurbishment works, calculations will be required to justify the existing roof structure for the proposed use. This assessment should be carried out by a chartered engineer following strip-out works.

7.4 Cracked and eroded mortar joints will require repointing and any damaged / missing areas of brickwork will require localised repairs. Cracking in masonry will require crack stitching with Helifix product or similar.

7.5 As part of the refurbishment works, calculations will be required to justify the existing masonry piers for the proposed use. The piers may require rebuilding and may require underpinning.

7.6 Steelwork with mild corrosion to be painted with corrosion resistant paint. Steelwork with significant corrosion to be replaced if deemed necessary.

7.7 It is recommended that the remedial works presented in section 6 of this report are implemented as part of the refurbishment works.

7.8 All recommendations described in GSK Structural Solutions inspection report also to be implemented as part of the refurbishment works.

7.9 All observed defects can be readily addressed as part of the detailed design of the refurbishment works and none of the structural issues observed are likely to prevent the successful conversion of the building.