Finite Design LTD
Structural and Civil Engineers
EST. 1996

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30 September 2026
Douglas J P Edwards
Blonks Barn
Hooklands Lane
Shiply
West Sussex
RH13 8PY

Fd: The Stables, Grain Barn, Park Farm, Wheatsheaf Road. BN5 9BA

Introduction

We visited the above property in July 2026, to carry out a visual inspection and comment upon the property structural suitability for conversion to domestic dwellings.

The Building is an agricultural barn type structure used for the storage and drying of grain, the building is approximately 19m long 7m wide and 5m high at the eaves with a general ridge high of 7m. there is a high section of roof over the southern end, where the building reaches a max height of around 9m. the date of the building is reportedly early 1950s and was apparently still in use up to 2020.
From its general external appearance the building appears to have been reasonably well maintained over recent years.

The building lies on a north south axis, the southern end of the building is a steel frame open barn structure containing the grain drying and lift machinery. This area is approximately 7m wide and 5m long on the north south axis, with the max height of 9m. the grain drying and lifting machinery is still all in place.

The remaining section of the building is made up of 8 large steel framed square storage silos each approximately 3.3m on a side and 5m high. A steel portal frame style barn roof extends over the silos and is supported off the perimeter edges of the silos. The roof is covered in cement fiber corrugated sheeting, supported by steel rolled steel angles working as purlins between the steel portal frames at 3.3m centers.

The site is generally flat, with the exterior land being given over the grassed fields and horse riding out door area.

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Structural Observations

When viewed externally, the roof of corrugated cement fiber sheeting appears to be in reasonable order and has a good line and level. With no signs of movement, sagging or general roof spread.

The external walls are made up of galvanized steel sheeting bolted together to form the 8 grain silos. The line of the steel sheeting acting as the external walls appears sound and true with no indications of damage or distortion or significant rusting or damage. The external walls of the southern machinery end of the building are clad with corrugated cement fiber sheeting to match the roof.

Internally in the southern machinery end of the building the structure is an open steel portal frame construction, incorporating steel columns and portal rafters and rolled steel angles as sheeting rails and purlins to support the external cladding.

While there is some minor surface corrosion of the steel frame, its condition is considered as good, all the bolted and plated connections in the frame appear sound and free from any structural movement or distortion. The floor in this area is a concrete slab that contains a large pit that held the lower section of the drying and lifting machinery, this pit is currently filled with surface water.

The main bulk of the building is formed from the 8 square silo tanks, there is an access walk way across the top of the tanks that allows a good inspection of the internal roof structure and a view down inside the steel silos.

The interior of the roof showed the steel work to be in reasonable condition with only light surface rusting, the connections all appeared to be sound and the portal rafters and rolled steel angle purlins all appeared to be straight and true. The main roof frames bearing off the extremal walls of the silos where two adjacent silos are bolted together. Also at the location are a series of horizontal diagonal steels bracing bars that span between the external wall skin and the internal skin. These act to brace and strength the structure to ensure it can support the roof structure. While the silos were full of grain they also acted to brace the walls against the internal pressure of the grain. The restraint bars all appeared to be in good order when viewed from the overhead walk way.

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The internal condition of the galvanized steel sheets forming the silos walls was good with no significant rusting or deformation. The floor of the tanks appears to be solid concrete, there also appears to be a channel in the floor used to collect the grain via a conveyor belt or similar to carry it to the southern end where the drying and lifting machinery is located.

Trial holes excavated to the side of the building found a 600mm deep concrete slab, likely some kind of raft foundation that the building is constructed upon. The condition of the slab appears to be good and the top edge could be seen around the edge of the building just above ground level. The slab appears to be straight and level all round the building, with no signs of cracking or movement observed.

The 8 silos each could contain 55 cubic meter of grain at 88kg/m3, that is 44 tonnes of grains in each with a total weight of 352 tonnes spread out over the existing raft style foundations. This would give a rough ground bearing pressure under the slab of around 4 tonnes/m2 (4000kg/m2, 40Kn/m2). This is significantly higher than any conventional domestic loading would put on the existing slab. Therefore in principle we would consider the existing slab suitable to carry the weight of a proposed conversion

Conclusions and recommendations.

From our inspection we noted that the existing structure is sound and stable, with no signification structural defects that require repair or strengthening.

Any proposed conversion of the building needs to be sympathetic to the layout of the existing silos and to maintain the external walls and internal bracing. Window openings could be cut in to the silo walls without changing the internal cross walls and bracing. Therefore the overall structural integrity of the silo walls is maintained and they can still provide adequate support to the roof structure.

The existing roof finishes being corrugated cement fiber sheeting is relatively heavy and likely to contain asbestos. Therefore it should be possible to replace the existing roof covering with an acceptable material of similar or lesser weight, therefore the existing roof structure should not need signification strengthening or alteration.

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The existing foundation slab has carried significant agricultural loads over the past 75 years without any apparent structural defects or movement, therefore we would consider the existing foundation suitable to carry a lighter domestic loading.

From our inspection and the above noted points, we would consider the grain barn to be suitable for conversion to domestic dwellings without significant structural strengthening to the existing frame.

We trust that the above will meet your requirements. Should you have any further comments or questions please do not hesitate to contact us directly.

Regards
Steve Saunter
Director Finite Design
Structural Engineers.