

**BV Fabrications Ltd**

The Saxon Site
Riverside Industrial Estate
Marsh Lane
Boston
Lincolnshire, PE21 7PJ
Telephone: 0(+44)1205 367222
Fax: 0845 280 1697
Email: rod@bvfabrications.co.uk
www.bvfabrications.co.uk

Date: 12th November 2020

Mrs Angela Keen
AKM Architecture
5 Station Street
Donington
Spalding, Lincs.,
PE11 4UQ

Your Ref: Mr Paul Codling

Boston Borough Council Ref: B/20/0385 – Technical Support

Dear Mrs Keen,

Mr Codling has employed our Company to undertake and supply a Structural Survey in Compliance with Item 3 of a letter dated 13th October 2020 and with reference to:

Change of use of land and existing building from agriculture to create an Autism Support centre, providing respite short stay, physio-therapy and day support at Land North of A52. Between Butterwick and Bennington

Observation:

The site was visited on 2nd November 2020 in the presence of Mr Paul Codling.

The current building is a portal steel frame building that has 171mm deep Z-Section Steel roof purlins attached by bolted plate connections to 203 x 133 UB Rafters.

These roof purlins are spaced at approximately 1750mm centres.

The Roof Rafters are supported by 203 x 133 UB Vertical Support Columns which are spaced at approximately 6.0m centres, supporting a timber eave rail at 4.4m high, the Roof Apex being approximately 6.0m high.

The sheeting rails are positioned generally at 1350mm centres and are 141mm Z-Section Steel secured to the web of the support columns by welded plates and bolted connections.

The building is approximately 42 metres in length utilising 7 equal bays of 6.0m. The width is 11.3m, including the current cladding and fully braced in both directions.

Existing cladding is generally in good condition and the building appears to be stable and watertight in it's entirety.

The existing internal flooring is concrete based and there are no obvious signs of stress causing major structural compromise or concern.

Assessment:

Provisional inspection of the structure accompanied by initial design checks indicate that the current existing building could be retained without major Structural changes and with minor modifications to accommodate mainly access requirements for the proposed future purpose.

The roof structure is considered adequate to support an overlay roof cladding system to increase the thermal ability or alternatively the existing roof cladding could be totally removed and a new composite system could be installed to meet with the proposed Building Regulation requirements.

Similarly, the side cladding, while generally in good condition could be overlaid using an ash grid system, supported by the current structure or replaced as the roof or indeed separately reinforced with an internal steel or timber stud wall, built from the floor slab and retained by the existing sheeting rails, utilising a thermal quilt to provide the required thermal value to meet with Building Regulation requirements.

Recommendation:

Remove and replace wooden Eave Rail with New Galvanised C-Section Eave Rail connected to existing portal columns as manufacturers specifications.

The owner indicated that he may wish to introduce an external brick dwarf wall to enhance both security and aesthetics to the external vertical elevations. In this case further investigation in line with Building Control should be sought and agreed following architectural presentation for planning approval.

Recommendation:

The existing base supports to the vertical columns should be exposed and checked to comply with required loadings prior to cladding/wall changes and findings presented to Building Control for approval.

Internally, there are some current stud walls erected and supported from the existing floor slab and retained by the building fabric, there are no apparent adversities being caused to either the fabric of the building or the supporting floor slab so it is reasonable to presume that the proposed internal works will be adequately supported and retained without major alterations being required or introduced to the current building.

Recommendation:

Consultation with Architect for upgrades to existing concrete floor slab to possibly included introducing vapour barrier and thermal improvement as the age and use of the building would indicate that the current floor slab would be lacking in both these areas.

R Rickett:- BSc Eng (Hons)
For and on Behalf of BV Fabrications Ltd