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5th April 2021

NDA Properties Ltd
C/o Avison Young (PMA 321)
PO Box 8790
Birmingham
B1 2JJ

For the attention of Mrs O Harker

RE: <u>Structural Inspection, Dutch Barn, New House Farm Drigg</u>

Dear Madam

As requested I carried out a structural inspection of the Dutch Barn adjacent to New House Farm and note the following:-

1. The inspection was carried out on the 26th March 2021 and was limited to a non-disruptive visual inspection of the property.
2. The barn comprises precast concrete framed structure with precast concrete purlins and side rails which support a cement fibre cladding system. The barn is open on one side and cladded on both gables and rear elevation. Photograph 01 attached shows a view on the front of the property. The building is over 40 years old.
3. For the purposes of this report all areas will be referenced as if looking at the barns front elevation, that is the elevation which overlooks the main barn.
4. The concrete columns, rafters, purlins and side rails to the building have suffered carbonation and spalling of the concrete. The reinforcing bar is exposed in numerous locations and is excessively weathered. Cracking is apparent in a number of location which suggests that the concrete is close to spalling. Photograph 02 attached show a typical view on an affected area.
5. The cladding to the building may have an asbestos content and will need checked by a specialist.

Considering the above it our opinion that the concrete structure is nearing the end of its life. The sections will further deteriorate as the reinforcement rusts and deteriorates. The building at present is structurally adequate however it will probably need replaced in the next 5 years.

The concrete could be repaired however this will involve cleaning down all affected concrete areas and removing loose and cracked concrete to at least 10mm behind the embedded rebar and removing all rust and applying a rust inhibiting paint to the rebar prior to reinstating the

section with a non-shrink cementitious grout. Where the rebar is excessively corroded the bar will need replaced and a new similar rebar section spliced into place prior to reinstating the section as noted above. This will be a costly exercise and may only extend the life expectancy by a further 10 years. It probably more cost effective to replace the building than refurbish.

As noted the cladding may have an asbestos content, this needs verified prior to any works commencing on the building.

I hope you find the above acceptable however should you have any queries please do not hesitate to contact me.

Yours Faithfully

Mr Tom Short B. Eng. (Hons), C. Eng., MICE
For WDS Limited

PHOTO 01 VIEW ON DUTCH BARN

PHOTO 02 TYPICAL VIEW ON AFFECTED CONCRETE