



**WHINBARROW DESIGN  
SERVICES LIMITED**  
CIVIL & STRUCTURAL  
ENGINEERS

**Whinbarrow House  
Aspatia, Cumbria,  
CA7 2PJ.**

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**Tel/Fax : 016973 21984  
Mob : 07803 943 248**

## **VISUAL STRUCTURAL INSPECTION**

**OF**

**SANDY ACRE  
DRIGG  
CUMBRIA**



**FOR**

**AVISON YOUNG**

**Reference - WDS/05/8680/REP01 MOD A**

**Date - 09/05/2024**

**WDS/05/8680REP01 MOD A**

## **1.0 BRIEF**

- 1.1** WDS Limited were instructed by Avison Young to carry out an inspection of Sandy Acre, Drigg Cumbria. The survey was limited to a visual non-disruptive structural inspection of the property and outbuildings.
- 1.2** The property is a detached bungalow which comprises the original building, a rear lean-to extension and an extension off the left hand gable. Bay windows have also been added to the front elevation of the original property. The loft to the original extent has been converted into a bedroom and bathroom. Externally there are a number of outbuildings which are all single storey construction.
- 1.3** The inspection was carried out on 1st May 2024. On the day of the inspection the weather was sunny and dry.
- 1.4** It should be noted that there may be faults with the building which are masked or hidden by finishes or decoration that are not normally identified during a non-disruptive visual inspection. Furthermore, the foundations to the property were not visible at the time of this inspection and thus their condition was not inspected.
- 1.5** For the purposes of this report locations around the property will be referenced as if looking at the front elevation.

## **2.0 OBSERVATIONS**

- 2.1** The original bungalow comprises masonry walls which support a joisted first floor and traditional timber rafter and purlin roof structure. The properties loft has been converted in to living space and two UPVC bay windows have been added to the front elevation. The rear wall of the property has been locally removed over the kitchen area and a timber beam inserted to support the roof and floors over. In terms of structural defects please note the following:-
- The right hand gable wall has horizontal cracks at regular vertical centres which is indicative of cavity wall tie failure. See photograph 01 attached.
  - It appears that there is inadequate support to the floor and roof structure over the bay windows. See photograph 02
  - The roof and floor support beam over the kitchen is inadequate see photograph 03 attached.
  - The chimney breast to the front living room has been removed and the remaining breast above has been supported off corbels set in the internal

kitchen wall and a timber beam which spans adjacent to the kitchen wall. See photograph 04 attached.

- The floor joists to the attic rooms deflect excessively when walked on. These are over spanned and not suitable. The roof is also inadequately insulated. It is unlikely that the loft conversion works were carried out with Building Control involvement.
- The concrete flat roof extension off the right hand gable is not suitably flashed into the main gable and the roof has no suitable water proofing. Furthermore the rear extension has not been suitably tied into the main original bungalow wall and no vertical damp has been inserted which is allowing damp entry into the property in the kitchen. See photographs 05 and 06 attached.
- The render generally is in a poor condition.
- The chimney stack is cracked, this may be associated with movement of the breast below when the front portion was removed and inadequately supported. See photographs 07 attached.

**2.2** The rear lean-to comprises single skin block construction with a timber rafter and purlins roof structure which supports a profiled metal cladding roof finish, see photograph 08 attached. In terms of structural defects please note the following:-

- The roof structure is inadequate. The purlins are over spanned and the timber beam over the rear window is showing signs of rot. The roof is not suitably insulated and the roof drainage is incomplete. See photograph 09 attached.
- The single skin block walls are structurally inadequate and are not in accordance with Building Regulations. They are not suitable to withstand expected wind loading and they are not suitably damp proofed or insulated. See photograph 10 attached. This portion of the building has been erected without any Building Control involvement.

**2.3** The left hand side extension was originally a garage however it has been extended up in block to support a new pitched roof which comprises timber rafters and purlins. The following structural defects were apparent:-

- The render is at the end of its life, cracking is apparent to all elevations.
- The roof purlins and ridge beam are over spanned and not to standard. See photograph 11 attached.
- The roof flashing into the original house gable is sub standard. See photograph 12 attached.
- Internally the extension is inadequately damp proofed and also not suitably insulated.
- It is unlikely that the original garage conversion scheme was carried out with Building Control involvement.

**2.4** The outbuildings comprise a combination of block masonry walls and timber and steel structure supporting the steel and timber roof structures, see photograph 13 attached. In terms of structural defects please note the following:-

- The outbuildings are structurally inadequate. The walls are not suitable to withstand expected wind loading and the roofs are at risk of being blown off.
- The boundary timber fence has failed and has blown over. See photograph 14 attached.

### **3.0 DISCUSSION/RECOMMENDATIONS**

**3.1** The property is generally in a poor structural condition, the whole property needs modernised. The works carried out to the property over the years, namely the loft conversion, garage conversion and rear extension have not been carried out in accordance with Building Regulations. In terms of structural remedial works we recommend the following:-

- The attic floor to the original property needs strengthened as does the timber beam over the rear kitchen.
- The beam over the front bay windows needs exposed and assessed.
- The right hand gable needs checked for cavity wall tie failure.
- The chimney breast over the front living room needs fitted with a suitably designed beam to replace the timber beam and corbelled masonry. The cracking to the chimney stack needs tied.
- The flat roof lean-to off the right hand gable needs weatherproofed and roof flashings installed.
- The attic roof needs suitably insulated; this may necessitate the roof purlins to be strengthened.
- The rear lean to extension is substandard and needs demolished. As do the outbuildings.
- The left hand garage conversion needs the roof strengthened.
- The left hand extension needs suitably damp proofed and insulated.
- The boundary fence needs replaced.

In terms of the future use of the property we advise the modernisation of the property to be habitable will need significant structural and building remedial works, the elements noted as needing demolished will still need removed as part of any modernisation work and the rear extension replaced. In our opinion the cost of modernising the property will be excessive and it will be more cost effective to demolish the whole building and replace with a new build.

The property could be made weathertight and left unused, however this will still require the rear extension and outbuildings to be removed as these are unsafe. There is a real risk that the roof cladding sheets could become detached in high winds and impact the adjacent security fence or the public using the adjacent road or surrounding field. The rear of the original bungalow will need boarded up where access was made into the rear extension to keep the property secure; the windows and doors will also need boarded.

In our opinion the most cost effective solution is to demolish all the buildings. This will also leave the plot safe and secure without any future care and maintenance being necessary.

The boundary fence needs reinstated where wind damaged. This will help keep the site secure regardless of which option noted above is adopted.

For and on behalf of WDS Limited

Tom Short BEng (Hons) CEng MICE





PHOTO 01 VIEW ON CRACKING TO RIGHT HAND GABLE



PHOTO 02 VIEW ON FRONT BAY WINDOWS



PHOTO 03 TIMBER BEAM OVER KITCHEN



PHOTO 04 CHIMNEY BREAST SUPPORTS.





PHOTO 05 VIEW ON RHS FLAT ROOF EXTENSION ROOF



PHOTO 06 INADEQUATELY FLASHED IN REAR EXTENSION





PHOTO 07 CRACK TO CHIMNEY STACK



PHOTO 08 VIEW ON REAR EXTENSION



PHOTO 09 VIEW ON REAR EXTENSION ROOF



PHOTO 10 VIEW ON DAMP TO REAR EXTENSION





PHOTO 11 VIEW ON LHS EXTENSION ROOF



PHOTO 12 VIEW ON ROOF FLASHING TO LHS EXTENSION



PHOTO 13 VIEW ON OUTBUILDINGS



PHOTO 14 VIEW ON BOUNDARY FENCE