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Prepared by: Steve Ainge

**CLIENT:  
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THRAPSTON  
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**VISUAL STRUCTURAL  
INSPECTION OF  
AMERICA FARM,  
WARMINGTON  
PE8 6UP**



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## PREFACE

- a) This brief, preliminary report and / or opinion has been prepared for the specific purpose stated herein.
  
- b) The report has been prepared for the exclusive use of: -  
  
Andrew Middleditch of Bletsoes, Oakleigh House, Thrapston, Northants, NN14 4LJ
  
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- e) It is a condition of this report that we have not inspected all woodwork or other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that such parts of the property are free from defect.

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## APPENDICES

### **Appendix A**

Typical Photographs

### **Appendix B**

Paul Bancroft Architects Drawing

## **1.0 INTRODUCTION**

- 1.1 Steve Ainge of David Smith Associates has been appointed on behalf of Andrew Middleditch of Bletsoes, Oakleigh House, Thrapston, Northants, NN14 4LJ, to carry out a Visual Structural Inspection of the Barns known as 1, 2 and 3 America Farm, Warmington for the purpose of conversion from Agricultural to Residential use.
- 1.2 We can confirm having visited the site on Thursday 13<sup>th</sup> May 2021.
- 1.3 The weather conditions during our visit were cool, overcast with spots of rain.
- 1.4 The Barns known as 1 and 3 America Farm, Warmington are essentially one building unit, with Barn 2 being a separate building unit. Therefore, for clarify within this Report, we will comment on Barns 1 and 3 and 2 individually. Please refer to Paul Bancroft Architects drawing within Appendix 'B' of this Report.

## **2.0 RESULTS OF VISUAL STRUCTURAL INSPECTION & RECOMMENDATIONS**

### **2.1 BARNS 1 & 3**

2.1.1 In principle, Barn 1 is a traditional, double height, brick built, Agricultural Barn with a tiled duo-pitched roof covering. (Please refer to Photographs 1 – 3 in Appendix 'A').

2.1.2 Barn 3 is partially of similar construction, but has a lower roof located to the South. The eaves and ridge heights are lower, albeit the pitch of the roof remains the same and the roof is covered with profile metal sheet rather than the tiling. (Please refer to Photograph 4 in Appendix 'A').

2.1.3 In principle, this is a 450mm thick brick walled Barn that has several internal gables which divide up the space. The extended lower pitched roof to the Southern end is also of similar construction albeit the ridge and eaves level are lower. The 450mm thick walls are generally in good condition given their type and age and are vertical and relatively plumb. There will be the requirement to replace spalled brickwork and carry out repointing where necessary as well as some minor localised rebuilding in patches around the Barn. But generally, this is in reasonable condition. (Please refer to Photographs 5 – 8 in Appendix 'A').

2.1.4 The roof structure consists of king post trusses supporting 4No. timber purlins which span the length of the Barn. In turn these support sawn cut timber rafters that hold the roof covering as previously mentioned. We can confirm that there is no undue deflection to any of the purlins or roof trusses in the higher portion of the Barn and confirm they are generally in good condition. (Please refer to Photographs 9 & 10 in Appendix 'A').

- 2.1.5 The timbers within the lower ridge roof have been exposed to weathering over the years and therefore, will require some updating during the conversion works. (Note, this was not accessible during our visit).
- 2.1.6 The internal walls within the Barn are again, generally true and in good condition, albeit will benefit from some strapping which will assist in tying the internal walls back to the external walls during the course of conversion. (Please refer to Photograph 11 in Appendix 'A').
- 2.1.7 Additionally, the timber lintel between the higher ridge and lower ridged portions of the roof requires the brickwork to be rebuilt in order to ensure no further cracking takes place albeit this is likely to be resolved as part of the conversion works. (Please refer to Photograph 12 in Appendix 'A').
- 2.1.8 The existing timber floor within the lower roof Barn to the South is in need of replacement timbers in certain areas due to water ingress that has caused some of the timbers to rot. In addition to this, the brickwork walls would also benefit from the installation of a new floor within this area in order to provide restraint to the brickwork walls themselves. Again, localised brickwork repairs will be required as part of the conversion, but generally, this is in reasonable condition given its type and age. (Please refer to Photographs 13 – 15 in Appendix 'A').
- 2.1.9 The ground floor slab is in good condition for an Agricultural Building and is suitable to be used as a sub-base for a new concrete floor-insulation and screed as desired during conversion works.

The floor has clearly undergone significant loading with various agricultural machinery over the years and therefore, will easily be capable of supporting a domestic floor.

On this basis that the floor remains, there will also be no need to carry out any trial holes in order to confirm the depth of the existing footings as there will be no need to undermine these during the installation of a new floor slab. (Please refer to Photograph 16 in Appendix 'A').

## 2.2 **BARN 2**

2.2.1 In principle, this is a brick built, relatively smaller Barn in relation to Barns 1 & 3 and has been converted from what is likely to have been an open Barn in the past. (Please refer to Photograph 17 in Appendix 'A').

2.2.2 The gable ends are 9" brickwork, and the Western elevation consists of a combination of cladding and blockwork up to dado level. The Eastern elevation looks like it has been infilled in possible the 60's or 70's with new roller shutter doors creating three units. (Please refer to Photographs 18 – 20 in Appendix 'A').

2.2.3 The roof structure is cementitious fibre carried by a cut timber roof with purlins running the full length of the Barn sitting on TRADA style trusses at regular centres. (Please refer to Photograph 21 in Appendix 'A').

2.2.4 The floor slab, again, is a concrete floor and is suitable for re-use as a sub-base for a new concrete floor with insulation and screed as desired during the conversion works.

- 2.2.5 The Northern gable does show some minor leaning from eaves level up to ridge and this will benefit from the installation of a new ridged roof structure that can be tied back using galvanised straps in accordance with Building Regulations. (Please refer to Photograph 22 in Appendix 'A').
- 2.2.6 The timber lintels over the roller shutter doors do show some signs of rot and therefore, will need to be replaced as part of the conversion works albeit it is highly likely that these apertures will be partially infilled and therefore, this will negate this issue during conversion. (Please refer to Photograph 23 in Appendix 'A').



### **3.0 CONCLUSION**

- 3.1 Following our Visual Structural Inspection and subsequent consideration, it is our opinion that the Barns have survived many decades of usage. This has included withstanding significant storm periods, particularly the peak of the storms which occurred in the 1990s and late 1980s. It has easily withstood the significant snow loads that occurred over its life without any undue deformation or distortion. In addition to this, there is no signs of any significant misalignment, deformation, or deflection of the framing as a result of being subjected to this loading.
- 3.2 From the above therefore, it is our conclusion that Barns 1, 2 & 3 are structurally suitable for its change to residential usage.

**4.0 CERTIFICATION**


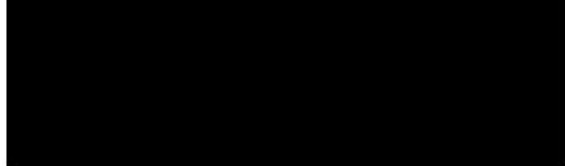
4.1 We trust that we have interpreted your instructions correctly and that this report is satisfactory for your present requirements. However, should you require any further information or clarification, please do not hesitate to contact the undersigned.

Sig 

**Steve Ainge** B.Eng (Hons), I.Eng, A.M.I.Struct.E

Date..... 18<sup>th</sup> May 2021 .....

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## **APPENDIX A**

Typical Photographs



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5



Photograph 6





Photograph 7



Photograph 8



Photograph 9



Photograph 10



Photograph 11



Photograph 12



Photograph 13



Photograph 14





Photograph 15



Photograph 16



Photograph 17



Photograph 18



Photograph 19



Photograph 20



Photograph 21



Photograph 22

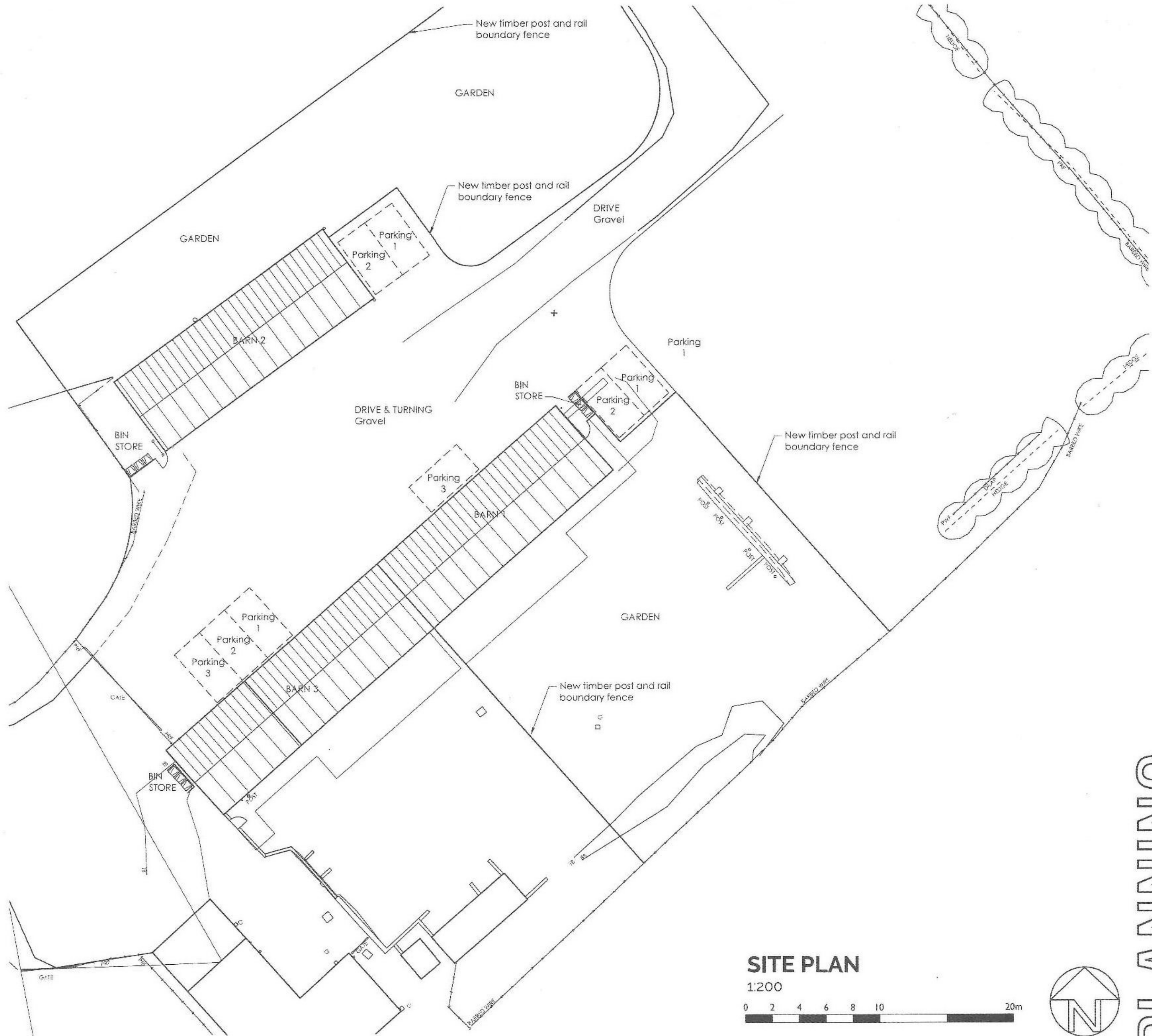


Photograph 23

**APPENDIX B**

Paul Bancroft Architects Drawing





Rev.	Date	Description

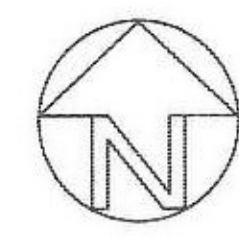


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PLANNING

Job Title  
**AMERICA FARM  
 BARN 1, 2 & 3**  
 Drawing Title  
**PROPOSED SITE PLAN**

**SITE PLAN**  
 1:200  
 0 2 4 6 8 10 20m



Scale (A2)	Date	Drwg. No.	Revision
1:200	Jan 2021	1327-03	B

This drawing shall NOT be scaled other than for planning purposes.  
 All dimensions to be verified on site.  
 All wording dimensions to be taken from site.  
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