JUNE 2010

Gyoury Self
CONSULTING ENGINEERS
STRUCTURAL·CIVIL·ENVIRONMENTAL

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Also At Hove and St. Albans

STRUCTURAL INSPECTION

OF

THE GRANARY

UPPER TYE FARM

COPSE LANE

HAYLING ISLAND

HAMPSHIRE

FOR

MR & MRS BALCH

F.15454

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Gavin M Owens B.Eng(Hons).,C.Eng., M.I.Struct.E. Antigua Office
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constructionline

INVESTOR IN PEOPLE

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1.0 SUMMARY

1.1 The building was considered to be in a DANGEROUS condition at the time of our inspection.

1.2 There has been a partial collapse of the building which has left the remaining building exposed to the elements.

1.3 A barrier should be provided around the building to protect the occupants of the site from future building collapses.

1.4 Consideration should be given to careful dismantling of the remaining building and re-construction using the original building materials, to provide a safe building.

2.0 APPOINTMENT

2.1 Gyoury Self Partnership were appointed by Mr & Mrs Balch, of Upper Tye Farm, Copse Lane, Hayling Island..

3.0 BRIEF

The brief was as follows:

3.1 To undertake a structural inspection of the building.

3.2 To prepare a report commenting on the condition of the building and providing a methodology for repair or re-building to provide a structurally sound Granary Store building.

4.0 CONFIDENTIALITY

4.1 This report is intended for the private and confidential use of Mr & Mrs Balch and their associated professional advisers. It should not be reproduced in whole or in part or relied upon by third parties for any use whatsoever without prior written authority.

5.0 LIMITATIONS OF REPORT

5.1 We did not inspect any parts of the structure which were covered, unexposed or inaccessible and we are, therefore, unable to report that any such part of the property was free from defect.

5.2 No investigations were made as to the presence of deleterious materials, such as asbestos and the like.

5.3 This report considers the Structural Engineering aspects only of the building. Planning and Listed Building considerations have not been taken account of, but may have an impact on the final solution of the building.

6.0 INSPECTIONS

6.1 Our structural inspection was undertaken on Wednesday 7 April 2010. Our inspection consisted of a visual inspection of the building, internally and externally.

6.2 A photographic record of the building was taken and has been stored for future reference.

6.3 The inspection was undertaken in conjunction with Martin Critchley from Martin Critchley Consultants Limited.

7.0 DESCRIPTION OF THE BUILDING

7.1 A road plan and aerial photograph are contained in Appendices A and B respectively to show the building and the site in relation to the surrounding area.

7.2 Elevations and a plan of the building are contained in Appendix C. This plan includes a grid reference system which is referred to in this report.

7.3 The building was rectangular, but almost square. It consisted of a single storey Granary Store building with a raised floor supported on steddle stones.

7.4 The structural fabric of the building consisted of clay tiles supported on a timber roof structure. This roof was supported on the four side walls of the property. The side walls of the building consisted of brick infilled timber frames, with the exception of the wall on gridline 7, which was a load-bearing masonry wall. These walls were supported on timber floor beams which spanned between steddle stones. The ground floor of the building was constructed with timber floor boards, supported by timber joists spanning between the timber floor beams.

7.5 The building was located within a domestic small holding. The building was effectively within the garden of a domestic property with normal family activities being carried out around it.

7.6 As with all buildings of this historical age, considerable repair and re-building works have been carried out throughout the life of the building.

8.0 COMMENTARY

8.1 The North elevation wall had collapsed at the time of our inspection. We understand that this was a sudden collapse without any prior warning signs. The bricks from the wall were laying where they had fallen.

8.2 The roof pitch supported by the collapsed wall had remained insitu, although it was deformed by the loss of support. At the time of our inspection, a mid-span 'acrow' prop had been placed below the wall plate to prevent a roof collapse.

8.3 Close inspection of the bricks and mortar forming the external walls revealed that they were not consistent. Many of the bricks on gridline 7 were 50mm bricks in a hard cementitious mortar. The majority of the brickwork in the other elevations was a soft line mortar with areas of re-pointing.

9.0 CONCLUSIONS

9.1 The Granary Store was considered to be in a DANGEROUS condition at the time of our inspection. The building has reached the end of its serviceable life.

9.2 The collapse of the wall on gridline E has left the remaining building exposed to the elements. This will speed deterioration caused by the elements.

9.3 The wall panels on gridlines 1 and 7 are now unsupported at one end, therefore more susceptible to wind loads.

9.4 We understand that the collapsed wall on gridline E showed no obvious signs of failure prior to the collapse.

9.5 It is likely that the collapse was caused by wind load and a lack of restraint of the wall at the head (wall plate) and at the ends (side walls).

9.6 As there were no obvious signs of failure prior to the collapse, it is reasonable to suppose that the remaining walls could suffer a collapse if similar conditions prevail.

9.7 The construction of the remaining building is in a poor condition.

10.0 RECOMMENDATIONS

10.1 Due to the location of the building (in a domestic family garden) and the poor condition of the remaining fabric of the building, we would recommend that the building should be carefully dismantled and re-built, using original materials, to provide a safe structure.

10.2 The following works should be carried out to the building to provide a safe, serviceable, structure:

- A detailed drawn and photographic survey of the building should be undertaken prior to any works being undertaken.
- The building should be carefully dismantled, taking photographs throughout the process for use in reconstruction of the building.
- All materials should be carefully set aside for re-use when re-building the structure. Bricks from each elevation should be stored separately.
- Once the building has been dismantled down to the steddle stones, the plan position of the steddle stones should be surveyed before they are removed.
- The steddle stones should be removed and a concrete pad foundation should be built below each stone to provide a common level for the steddle stones.
- A concrete strip foundation should be provided along gridline 7 to support the brickwork, which goes down to ground floor level along this elevation.
- Once the steddle stones have been located on the new foundations, the structure can be re-built using the original materials in the original location.
- The corners of the brick walls should be brick bonded together to provide some corner restraint to prevent a similar collapse happening.

- Lime mortar should be used when re-building the walls.
- Timber members that cannot be salvaged should be replaced with oak timbers of the same size.

10.3 It will be essential that a Contractor experienced and specialising in this type of work is employed to undertake the work.

10.4 Full consultation with the Local Authority Planning Department should be undertaken at all stages of the project, from agreement in principle to the scheme, to completion of works on site.

10.5 The above work should be carried out as soon as practicable. Extended negotiations could result in further collapses of the building.

10.6 Until the above work is carried out, a Heras type secure fence should be placed around the building, at least 2.0 metres away from the building, to prevent access.



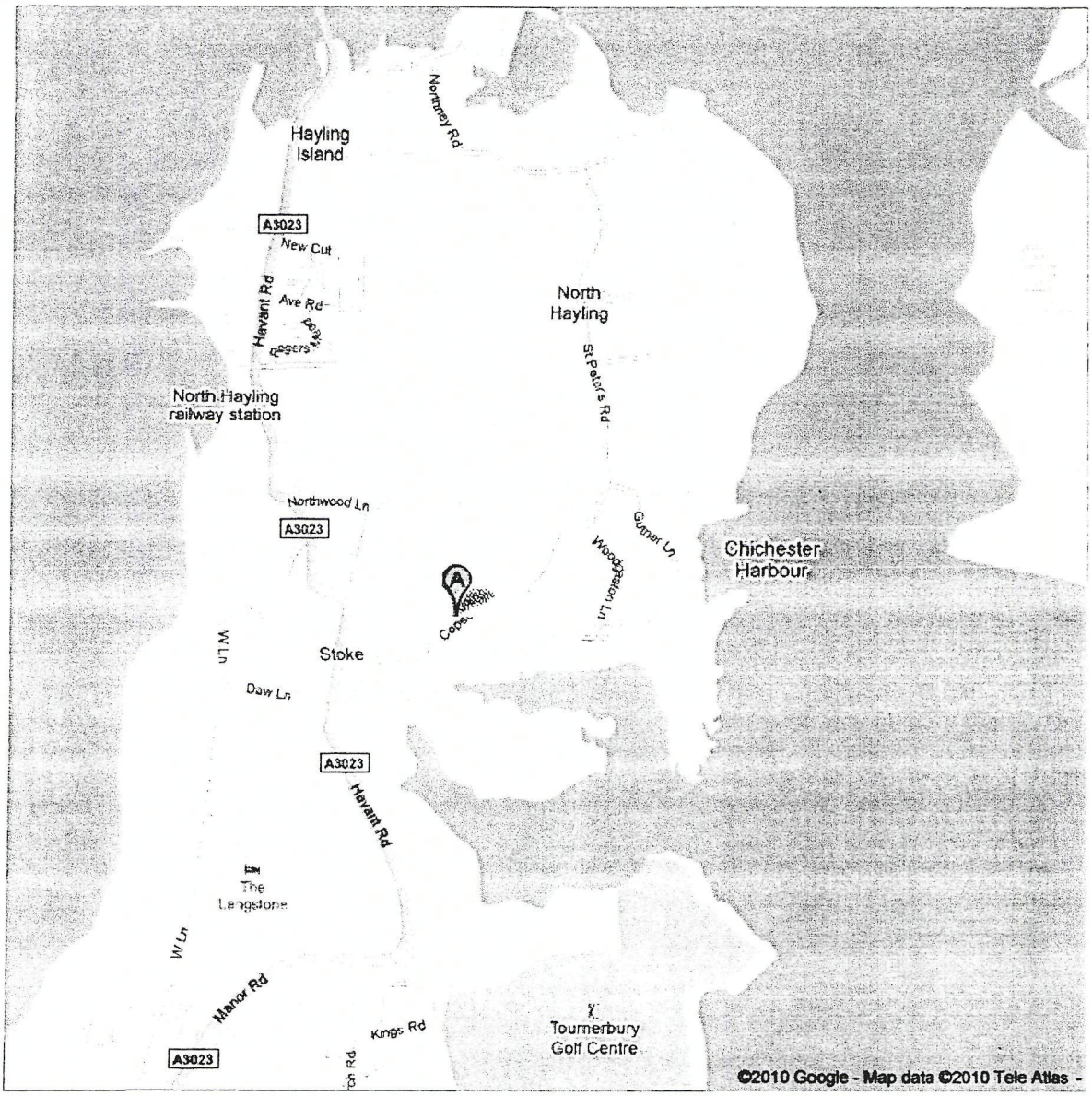
ROBERT J PRAGNELL, B.Eng.(Hons), C.Eng., F.I.StructE., M.I.C.E.
Gyoury Self Partnership

APPENDIX A

Road Plan

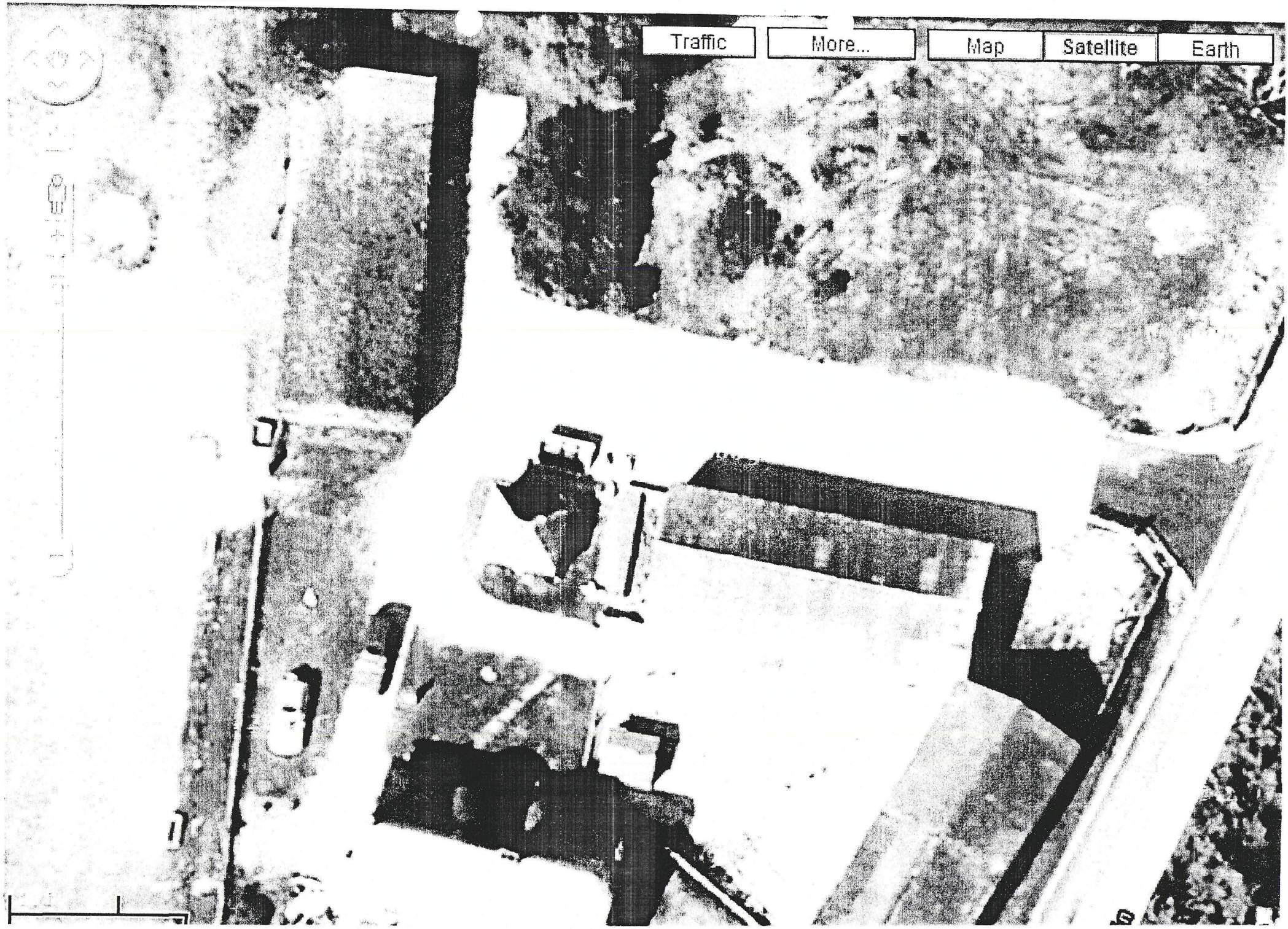
Google maps UK

Address **Copse Ln**
Hayling Island, Hampshire PO11
UK



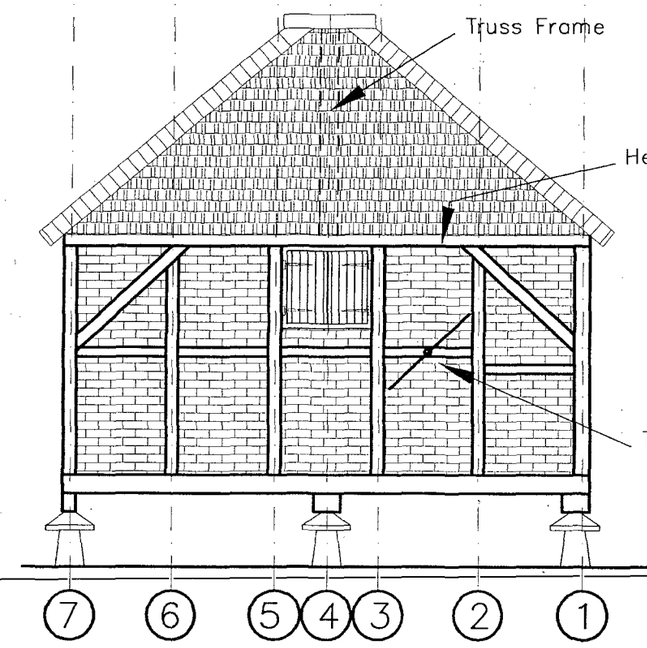
APPENDIX B

Aerial Photograph

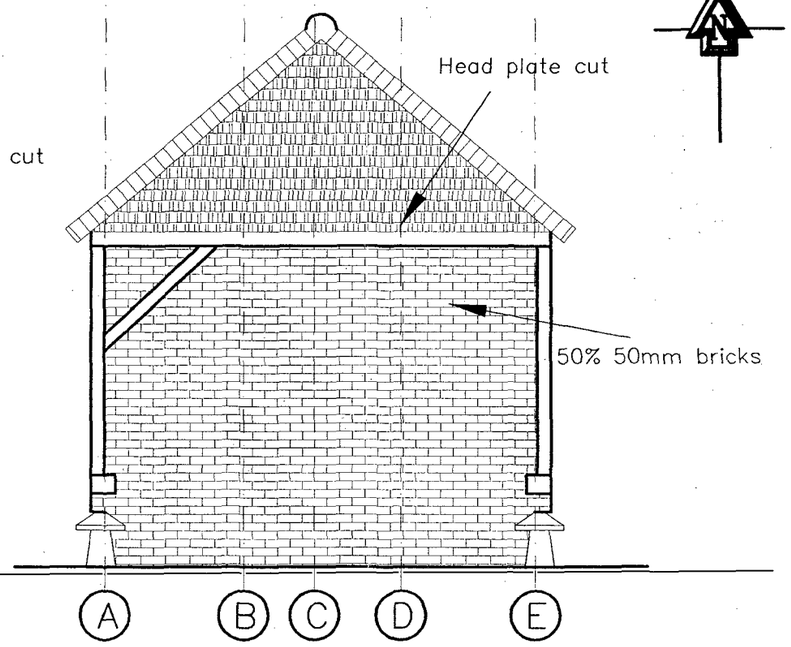

Traffic
More...
Map
Satellite
Earth

APPENDIX C

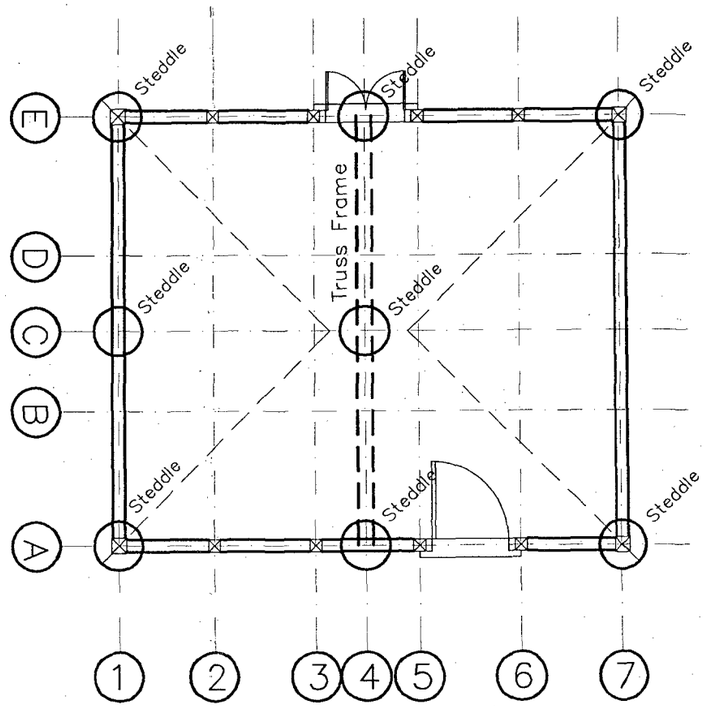
Plan and Elevations



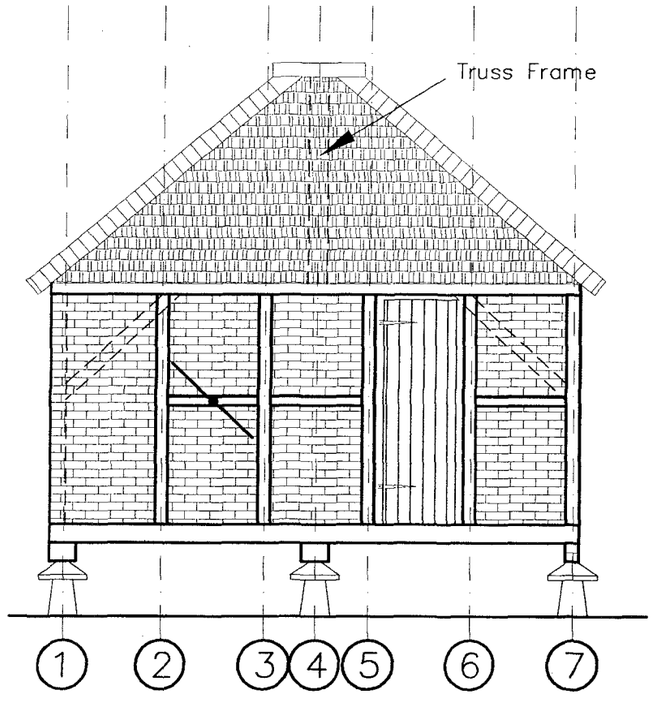
North



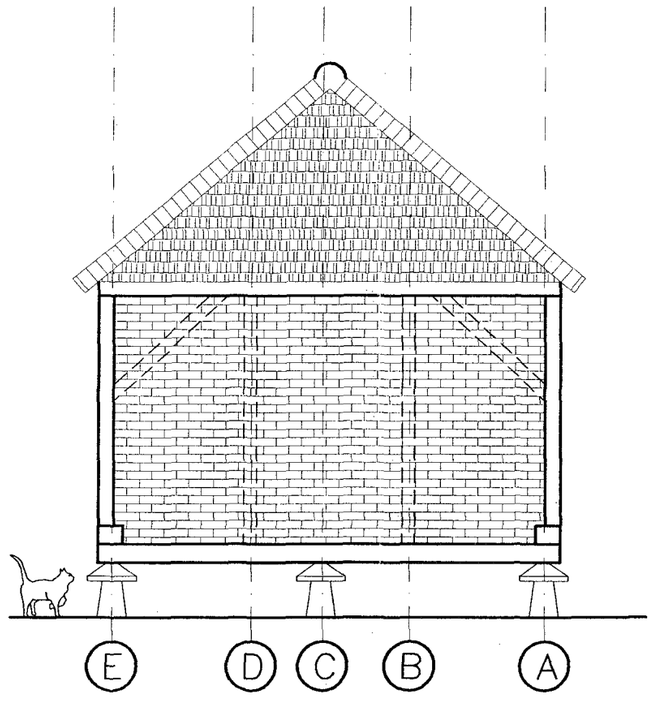
East



PLAN



South



West

Upper Tye Farm
Hayling Island

Granary
Survey #2

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Scale A3 = 1:50
Drawn JSC/MHC
Date 06/04/10

Revisions

A. East steddles shown. 08/04/10
B. Grids added. 28/05/10
C.
D.

0721–418 B

metres