BJHC
Barry Hillman-Crouch
Design & Recording Services

Maypole Farm, Top Road, Wimbish, Essex CB10 2XJ.

Description and analysis of the Barn and Outshots. Surveyed 24 02 2015.

2006 Google earth. Location of Maypole Farm, Wimbish.

2009 Google earth. Detail of the site showing the building under study.

Location.

Maypole Farm, Top Road, Wimbish, Essex CB10 2XJ. The Barn is located at TL 59574 35464 (quite far west of the centre of the Post Code).

Barry J Hillman-Crouch MStPA DipFA BSc HND. Tel. 0794 2010703.
e-mail barry@hillman-crouch.fsnet.co.uk. Website www.dowsingarchaeology.org.uk

Listing

The Barn is not Listed. The House is Listed.

The Farmhouse adjacent to the Barn. There is no Images of England image.

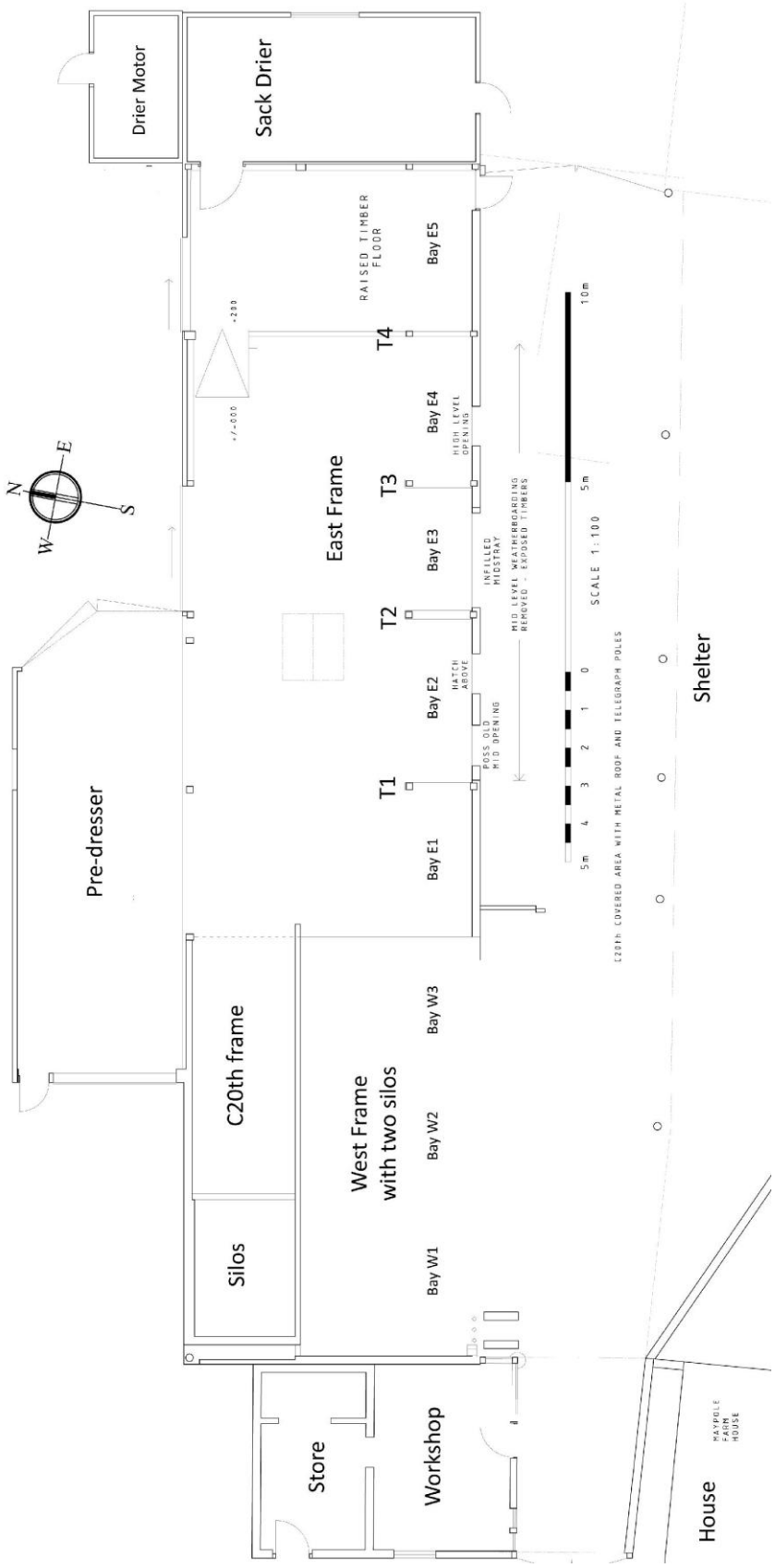
WIMBISH TOP ROAD
1. 5222 (south side) Upper Green Maypole Farmhouse
TL 53 NE 12/842. II
2. C17 timber-framed and plastered building on an L-shaped plan. The south end of the west front is gabled, 2 storeyed, with a jettied upper storey and the main block is one storey and attics. Casement windows. Roof tiled, with a central square chimney stack. (RCHM 56).
Listing NGR: TL5956335442.

The Barn is mentioned in *An Inventory of the Historical Monuments in Essex, Volume 1, North West. Originally published by His Majesty's Stationery Office, London, 1916.*

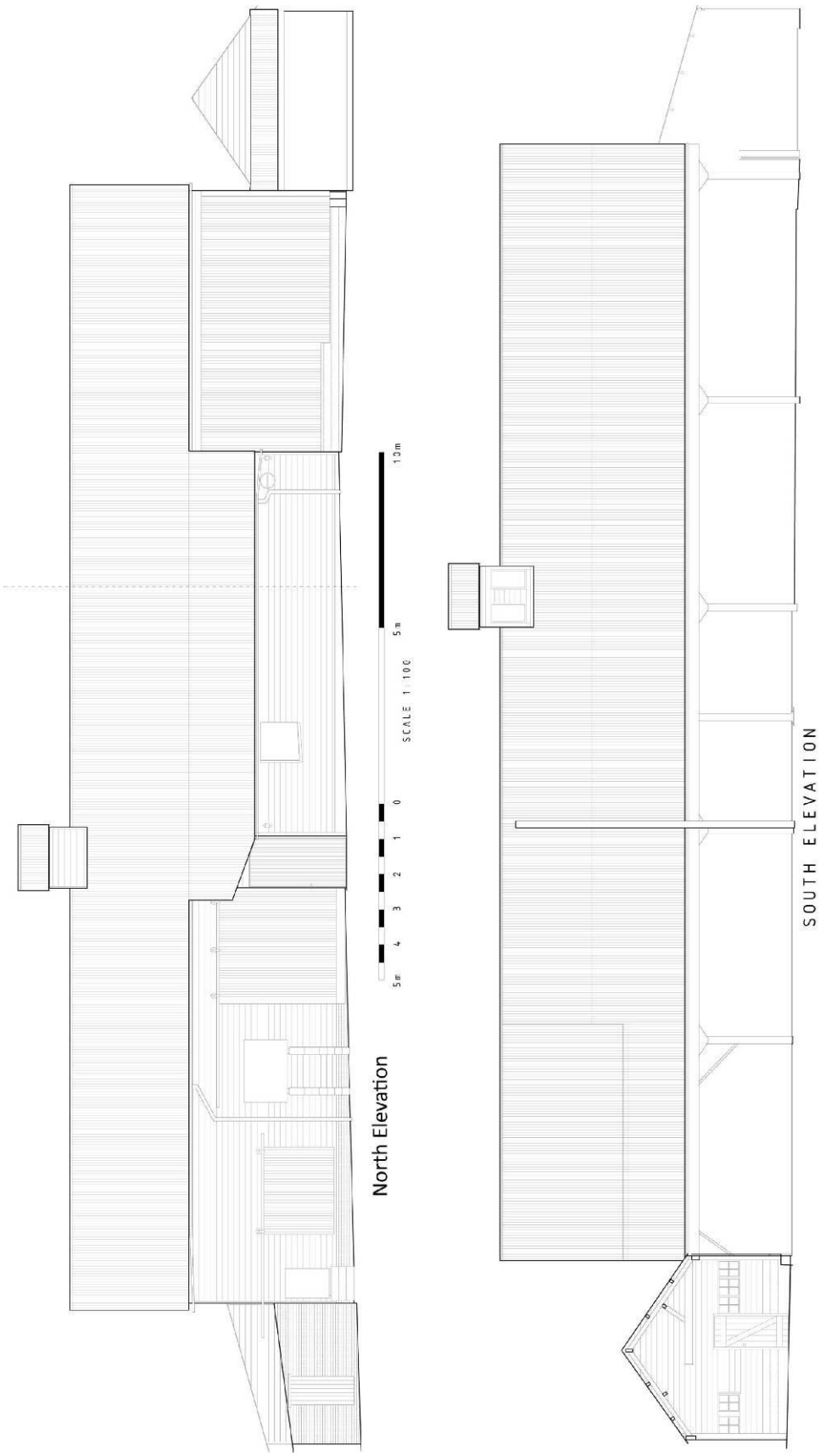
56). *Maypole Farm*, house and barn, 100 yards S.W. of (55). The *House* is of L-shaped plan, with the wings extending towards the N. and W.; at the S. end of the E. front the upper storey projects. Inside the building, the timber-framing is visible in the walls, and a doorway on the ground floor between the two wings has a four-centred arch in a square head, with sunk spandrels, all of oak.

The *Barn*, N.E. of the house, is of the same date, with braced transverse and longitudinal roof trusses and an aisle on the N. side.

There is an obvious problem with this description as the aisle is on the south side.



Maypole Farm Barn. Ground plan naming the rooms and uses.
Kay Pilsbury Thomas Architects 2013.



Maypole Farm Barn north and south elevations. Kay Pilsbury Thomas Architects 2013.

Barry J Hillman-Crouch MStPA DipFA BSc HND. Tel. 0794 2010703.
e-mail barry@hillman-crouch.fsnet.co.uk. Website www.dowsingarchaeology.org.uk

Maypole Farm Barn east and west elevations. Kay Pilsbury Thomas Architects 2013.

Scope of this Report

This report describes and analyses the conjoined buildings that form the Barn at Maypole Farm, Wimbish. The main building is formed from two large timber-framed barns containing old frames but extensively remodelled circa 1800. The outshots house the Workshop, Drier Motor, Sack Drier and the former Pre-Dresser Room. Most of the machinery has been removed but half of the C20th silos are still in-situ. A full length open-sided Shelter has been erected against the southern side.

The report adheres to English Heritage Level 3 as outlined in English Heritage. Understanding Historic Buildings – A guide to good recording practice. 2006. Page 14. The outshots are recorded to Level 2 as they are all LC20th.

The findings are summarised on the last page.

Description – The Outshots

The Workshop and Barn to the north of the House. Looking E.

The Workshop

The Workshop consists of two E-MC20th buildings. The larger houses a small garage workshop to the north while the southern half is open as a carriage arch into the farmyard. This keeps the farmyard secure and gives a handy shelter for a car or tractor. The smaller houses a tool shed and is sprung off the larger. Both are made from lightweight machine sawn softwood with C20th weatherboards fastened with French nails. The roofs are of corrugated cement board which may be asbestos based.

The tool store and workshop in relation to the House. Looking SE.

Detail of the garage workshop.

The garage workshop can only be entered by pedestrian doors at either end so it can be imagined that the mechanic worked under cover of the carriage arch using the machine shop tools and benches inside the workshop.

The garage workshop under the carriage arch. Looking NW.

The House side of the carriage arch is made of blockwork.

The carriage arch was erected in the MC20th as the southern wall is constructed of medium density blockwork and the roof structure is of this period. The Workshop has been altered with blockwork and C20th weather-boarding.

The Pre-dresser, the Barn and the Workshop looking E.

The Pre-dresser, north elevation.

The Pre-dresser

The Pre-dresser was a unit designed to receive the freshly harvested grain and clean it before it was stored in the silos. Pre-dressers vary in form and normally are two storeys to house the gravity fed silos. However Maypole Farm Barn has a separate Drying House at the eastern end with its own Drier Motor House so it seems likely the grain was dried there and then brought up for pre-dressing later. The building is entirely LC20th and is shown on the 1970 OS map, probably 20 years or so after it was built.

Looking W inside the Pre-dresser. The objects and flats are theatrical props.

Looking E inside the Pre-dresser. The gates likely opened to admit lorries or trailers.

The interior of the Pre-Dresser is sparse. All the machinery has been removed and the structure is of the bare minimum to create shelter and security.

The western room of the Pre-dresser.

Detail of the extractor fan.

The Pre-dresser was fitted with electric extractor fans of which only one remains. It construction and detail suggests it was fitted in the 1950's or 1960's.

The Drier Motor House looking SE.

The Drier Motor House looking W.

The electrically powered drier motor.

Drier Motor House

The building is made of LC20th Fletton brickwork with a corrugated iron roof. It is not shown on the 1921 OS map but features on the 1970 OS map. Its sole purpose is to house the drier motor which drives a fan sending a draught of air under the Sack Drier which rises through vents in the floor to dry the produce hung up in sacks. A former farm worker kindly outlined the process to the current owner. Inside the East Barn is a labelled switchbox for a Sack Drier. The room was locked shut and there is no key.

The large drier motor and its switchgear all appear to date from the 1950's or 60's. A quick scan of the internet shows that sack drying was introduced after the 2nd World War in Britain and used on farms with relatively low yields as it is very labour intensive. As the yields increased, column drying (i.e pre-dressing) became dominant. See Appendix 1.

The Sack Drier looking W.

The Barn, Stables and south flank of the Sack Drier. Looking N.

Sack Drier

The Sack Drier is on the footprint of an older building and has been completely rebuilt in the M-LC20th with blockwork walls and corrugated iron roof. The southern flank is made of LC20th studwork and bandsawn weather-boards all fastened with French nails. The brick plinth is made of Flettons. The floor is ducted to distribute heat and airflow from the Motor Drier.

Looking S inside the Sack Drier.

Detail of the floor vent for the drying.

A selection of old sacks remain.

The entrance door from the Barn.

Detail of the LC20th weather-boarding.

The oldest thing in the Sack Drier is the entrance door which is an EC19th vertically boarded, tongue and grooved timber door with horizontal ledgers. It is hung on hand wrought iron pintle strap hinges. The frame of the Barn has been reboarded in the LC20th.

The Open Shelter looking NE.

The Open Shelter looking NW.

Open Shelter

The Open Shelter is a simple structure erected and altered in the M-L20th and shown on the 1970 OS map. It is constructed of sawn softwood planks and purlins supporting a corrugated iron roof. The support posts are a mixture of tree trunks and telegraph poles that have been morticed for fence rails and large pintles driven in for iron gates.

The more recent roof of the West Frame above the Open Shelter.

The corrugated iron roof of the East Frame.

Description - The Barn - Exterior

The Barn is made up of two distinct sections. The West Frame is narrow, of three bays filled with silos and under a LC20th corrugated iron roof of a markedly different colour to the others. The East Frame has five bays with an aisle to the south side and is much wider than the West Frame. The remaining area to the north side has been filled in with a LC20th machined studwork and corrugated iron structure containing two rooms.

The northern elevation of the west half of the Barn. All fabric is M-LC20th.

The remaining timbers of the West Frame are few. The storey posts and some parts of the sills and top plates remain on the northern side and a framed wall remains on the southern side visible in the Open Shelter. Otherwise the roof and tie-beams have been largely removed. The plan of the frame corresponds to that on the historic maps but the structure was removed to implement the silos inside.

The northern side of the Barn is entirely M-LC20th is design and fabric and consists of medium density blockwork plinths with a scant machined timber-frame skinned with corrugated iron.

The entire roof of the Barn has been removed and replaced with a lightweight structure clad with corrugated iron. The section over the West Frame looks more recent but still over 20 years old.

The eastern end of the Barn.

The Barn is clad with LC20th weather-boarding easily recognised by its green colour from the growth of algae. Some earlier riven boards remain just under the eaves which are slightly deeper at about 8in instead of 7in. Bay 3 of the East Frame has been fitted with a full height sliding door with a steel frame and corrugated iron skin. This replaces a pair of doors indicated by the frame inside.

The sliding steel door to Bay 5..

Detail of the suspended timber floor.

Bay 5 of the East Frame has been fitted with a M-LC20th sliding steel door giving access to a suspended timber drying floor that is ventilated on both sides of the Barn. The floor is stood on brick plinths and laid with sawn tree trunks fastened with wrought iron clout nails. The detail inside suggests it was put in place in the LC19th or EC20th. Raised timber floors were quite commonplace in C20th grain barns to prevent the bagged up goods from overheating and germinating before being shipped.

The southern elevation of Bay W1 in the West Frame.

The southern elevation of Bays W2 and W3 in the West Frame.

The external cladding of the West Frame is nearly all LC20th. Only a very few boards appear to be remnants of the older cladding. There are three doorways and a hatchway, all of which are C20th as they serve the layout of the internal silos and gantries. The main split stable door is MC20th fixed with French nails and hung on a variety of reused C19th pintle hinges.

Bay E1 has been largely reclad with new boards.

Bay E2 has the cladding removed exposing the circa 1800 frame.

Sections of the cladding are missing from Bays E2 to E4 revealing the interrupted nailed studwork with straight diagonal primary braces. The frame is raised on a rebuilt brick plinth containing EC19th bricks set in lime mortar.

Bays E3 and E4. Bay E3 has been rebuilt with side nailed studwork.

Interrupted stud nailed to the primary brace and numbered V.

The wall of Bay E3 has been rebuilt with an inserted lintel to support the failing mid-rail. The studs have been sawn down and side nailed to make up the wall panel in the C20th. The studs in Bay E4 are numbered in sequence on the outside with a chisel. Most marks are lost to rot near the sole plate.

Looking up at the midrail in Bay E4. The shuttering is part of an old timber silo.

Nearly all the timbers in the southern wall are reused or do not coalesce with the mortices in the principal timbers. The aisle is clearly an addition to an earlier frame which has been dismantled and brought from elsewhere and redesigned into a circa 1800 building. A large number have nails and lime stripes from being lath and plastered – a common feature on Essex barns. The plasterwork has a tendency to fail and may account for the exposed frame.

The section above the mid-rail has been reboarded in the MC20th and later still large timber silos were built inside. These have been sawn down leaving only the exterior wall panels.

Bay E5 has an EC19th door.

Ventilation duct for the boarded floor.

There is an EC19th boarded door hung on wrought iron pintle hinges with spooned terminals. It appears to be of the same type as that leading into the Sack Drier. Below it is a ventilation duct for the boarded floor that has been raggedly broken through the plinth. It has been blocked with split down logs to prevent the animals getting under there.

Description – Internal – The Barn

Looking E at the eastern wall of the East Frame.

Looking W inside the East Frame.

While the East Frame contains elements of a C16th or EC17th barn it is evident that the frame has been re-erected with many new timbers and interrupted stud walls c.1800.

The southern side of Bay 5. The boarded floor appears LC19th.

The northern side of Bay 5.

The East Frame is 25ft wide and has five bays. Bays 1-4 are 13ft across and Bay 5 with the boarded floor is 16ft across. (Measured centre to centre on the principal posts). The walls are composed of nailed, interrupted studwork with primary braces. Nearly all the timbers are cut from reused oak timbers on a 3x4-5in module. Repair studwork is of 2x4in section.

Detail of the arcade post in Truss 2, south side. Curved and straight spandrels.

There are other indications that the frame has been re-erected. The posts are not consistent in section or form. They vary between 5x6in, 6x6in and 7x7in at the base and the jowls are of different styles, some with very abrupt transitions while others are swept. The spandrels also vary considerably. Some are long, slender and curved while the later ones are straight and heavy and have the red-grey hue of elm. These are pit-sawn and poorly chamfered, conforming to the style of c1800.

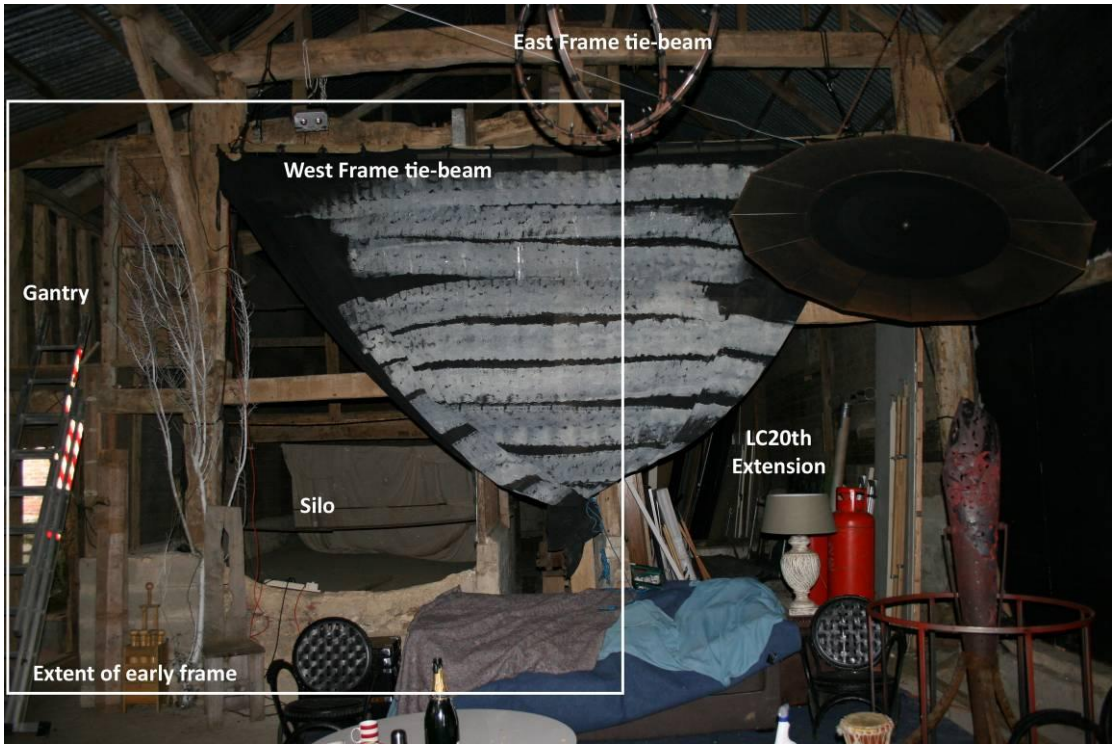
Bays 1 and 2 on the northern side. The studwork was removed for the Pre-dresser.

Bay 3 on the south side retains one side of a wooden silo.

Large sections of the frame have been removed in the LC20th. The wall common to the Pre-dresser has had all its studs removed and the current panels are made up of theatrical flats and a prop door and window from a stage set.

Truss 3, adjacent to the boarded floor has mortices in the arcade and wall posts for a top-beam for a curtain wall across the barn to close of Bay 5. The undersides of most of the aisle ties also have mortices for studwork to create partitions. When in use the barns were not open as today but divided by timber partitions to contain the produce. The end bays were made into huge hoppers and the unthrashed produce stored there until processed.

In the M-LC20th these divisions were restored by building huge silos from timber with interlocking members and shaped concrete floors designed to channel the grain out to a port. The grain was moved by elevators, augers and chain drives of which half of the system remains in the West Frame.



Looking W at the West Frame and LC20th extension.

The West Frame is more difficult to illustrate because most of it is subsumed in the silos. The frame is 15ft wide and retains its southern wall consisting of original oak studs that can be examined from a gantry installed for the silos. All the other walls have been removed. The tie-beams remain and there is a granary floor retained in the westernmost bay W1.

Looking W into the eastern silo. Note the main joist that originally supported a floor.

Standing in the eastern silo looking at the arcade post of the East Frame.

Looking NE into the western silo beneath the granary floor.

In the eastern silo is a main joist that supported a former granary floor that ran the whole length of the West Frame. It is morticed for large axial joists. The structure remains above the western silo where it has been repeatedly repaired and propped. The 6in flat joists are axe hewn from oak and clad with elm and pine boards (overboarded above).

The granary floor has flat joists and wide elm and pine boards.

Detail of the southern wall of the West Frame.

Most of the original studs have been removed from the West Frame but a few remain on the southern side that look original. The 5-6in oak axe hewn studs are at 14in centres. Each bay is 12ft across and is defined by an 11x8-9in section storey post with heavy jowl connected to a chamfered and cyma stopped tie-beam. The frame has a very unusual detail in that the mortices have not been cut square but left round ended. This is normally associated with LC18th or EC19th work but the holes have been cut with spoon bits and so must be earlier.

Detail of the storey post and main joist for the granary floor.

Rounded mortice with original peg.

Rounded mortice and wattling groove.

Detail of the cyma stop on the floor joist.

C.1800 iron tie reinforcing the floor joist.

The soffits of the mid-rails and top-plates have wattling grooves for wattle and daub panels and the flanks of some of the studs have darts for ledgers. The major joints are reinforced with wrought iron ties that are c.1800 in design. C20th RSJ's have also been added.

Trenched studwork in the southern wall.

There is evidence for two mullioned windows in the southern wall.

The upper section of the southern wall can be examined from the gantry. The studwork is trenched for internal curved braces to the SE storey post. There is also evidence for two diamond mullioned windows set against the storey posts. These have been subsequently over-boarded with c.1800 style studwork. One original mullion remains.

The LC20th addition to the north side of the West Frame.

The silos were built inside the West Frame.

On the north side is a LC20th lightweight structure built solely to contain silos which have now been removed.

The roof structure over the West Frame. Looking W.

The roof structure over the East Barn looking W.

Roof Structure

The two frames have very similar LC20th roof structures of lightweight timbers skinned with corrugated iron. That over the West Frame is obviously more recent as it lacks the patina and corrosion of the other. Also it has been painted black on the outside – a common addition in the 1990's when it was a conservation issue to dampen down the bright steel.

The Remaining Machinery.

Looking E along the upper gantry. The box channel above contains the chain drive.

Electric motor gear to run the chain drive in the roof. Looking E from the W end.

The silos were fed by elevators, in turn fed by chain drives in channels in the floor and in a long wooden box above the silos. The elevators are missing and could have been augers but were more likely to be bucket lifts common to the 1950's and 1960's. The grain was diverted through chutes into each silo of which the numbering system indicates there were at least 12.

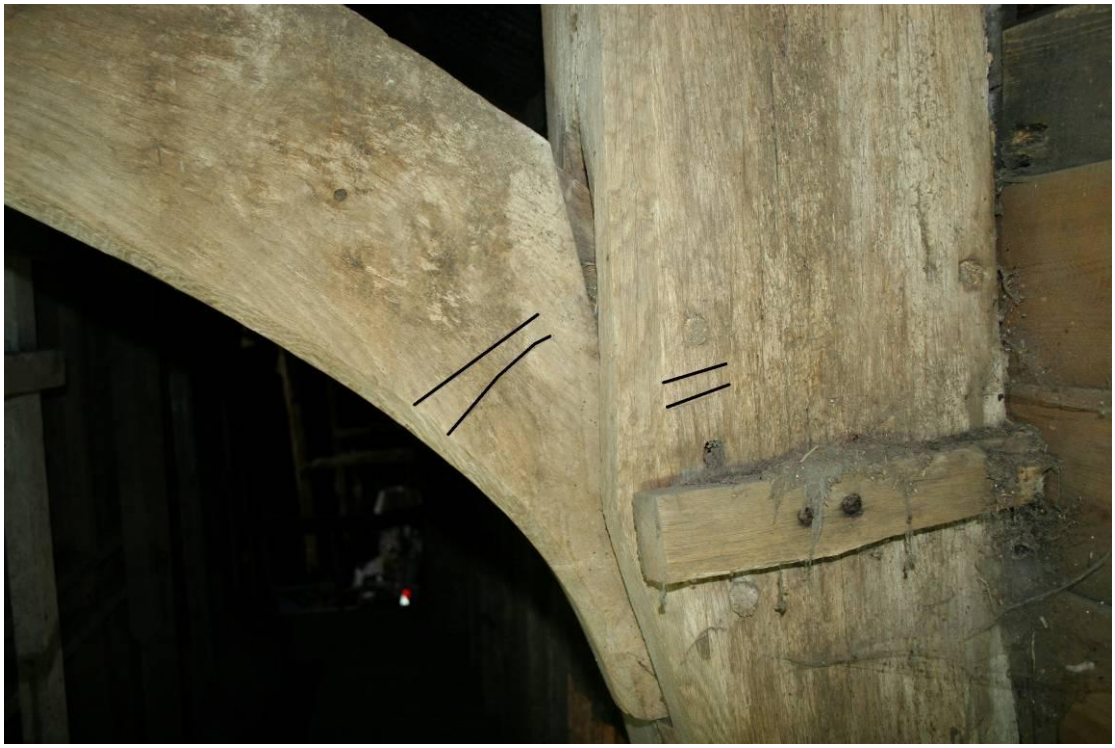
Electric motor to run the chain drive in the floor.

Detail of the floor motor.

Detail of the chain drive in the upper channel.

The grain was moved inside channels in the floor and above the silos by an electrically driven chain drive. The central links pass over the pulley wheels and side plates push the grain along to the chutes. Small lift panels in the sides of the upper channel allow the grain to be diverted where necessary.

The electric floor motor has a manufacturers plate for the Lancashire (Dynamo &) Crypto Motor Company and describes it as a 'single phase – repulsion start induction motor'. The company was in business under that name between 1951 and was closed down in 1967 (See Appendix 2).



The West Frame storey post and brace is marked II.

Stud marked with an X in the West Frame.

The arcade post in the East Barn has an X.

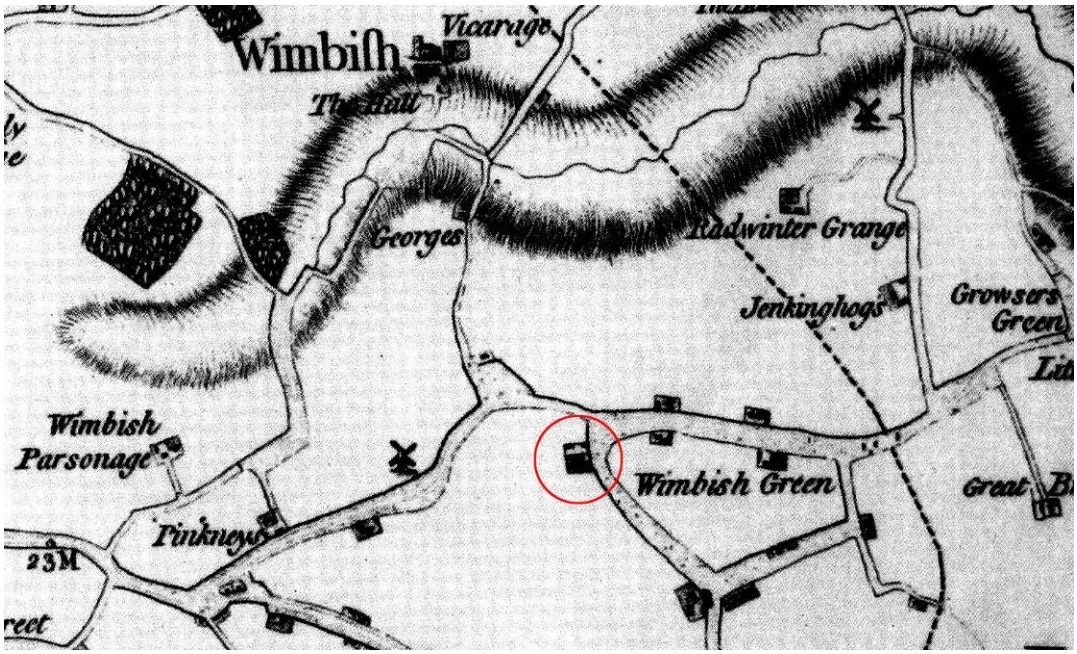
Carpenter's and Timber Marks, Apotropaic Marks and Graffiti.

The East Frame is marked sequentially on the exterior in the manner of c.1800 . (Page 18).

The West Frame has a number II incised on the storey post and brace (of Truss W2) cut with a race knife and it is likely the others were also numbered.

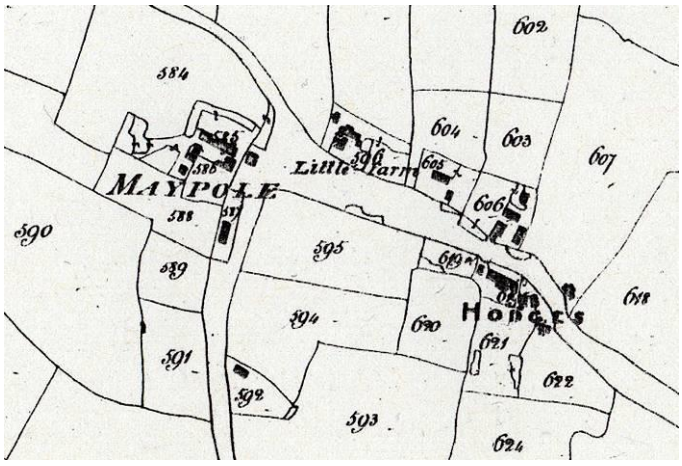
In the south wall of the West Frame and the rear of the arcade post in Truss 3 of the East Frame are inscribed two X's with a narrow blade. These are often interpreted as apotropaic marks representing Chi (X), the first letter of Christ, put in to bless the building and protect it from witches. This style of mark is most common in the C17th due to the intense interest in witchcraft expressed by James the 1st and particularly during the Civil War (1642-52).

Topographical Survey from Maps



1777. Chapman and Andre's Map of Essex.

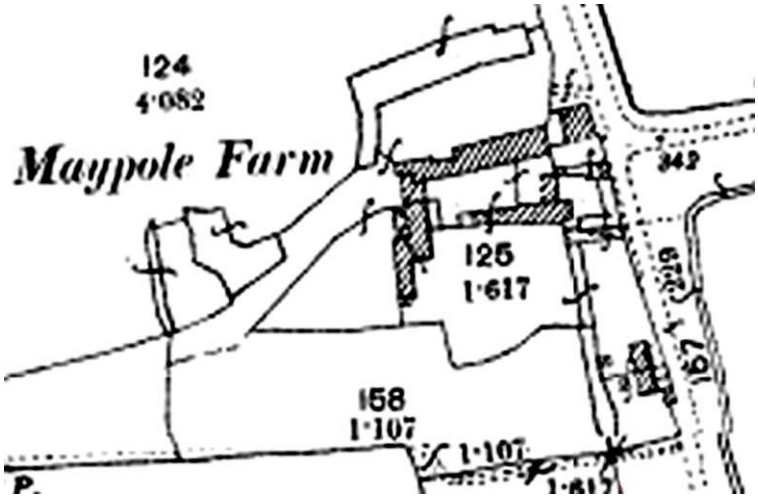
The settlement is shown on the 1777 Map of Essex by Chapman and Andre but the quality is poor in the reproduction from the Essex Record Office. However two separate buildings can be seen on the northern boundary that corresponds with the position of the current Barn.



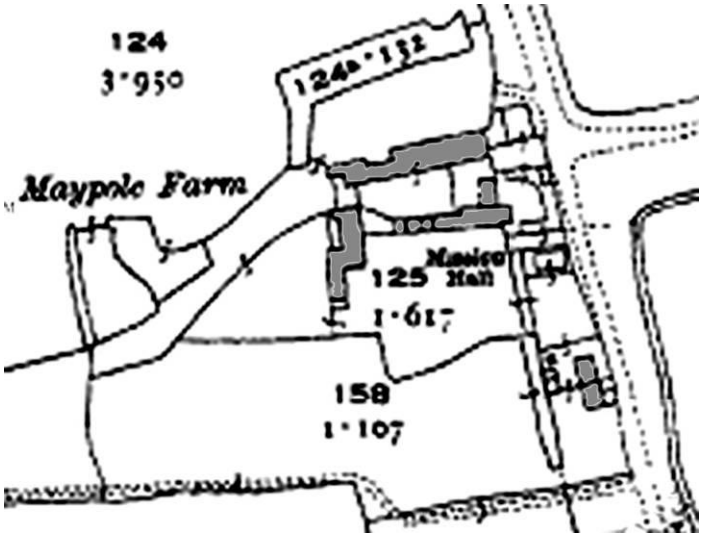
1840. The Tithe Award Map for Wimbish. ERO D/CT 404B.

In the 1840 Tithe Award for Wimbish the Barn is clearly drawn in its current plan and disposition in relation to the Farmhouse. The site is labelled as Maypole. Plot 586 is listed as Homestead, Maypole belonging to Thomas Andrews and occupied by William Norris and part of May Pole Farm. Plot 586 is noted as the garden. William Norris is in the 1848 edition of White's Directory and there is a John Norris in the 1863 edition. In the PO Directory of 1874 James Rushforth, farmer is listed against Maypole Farm.

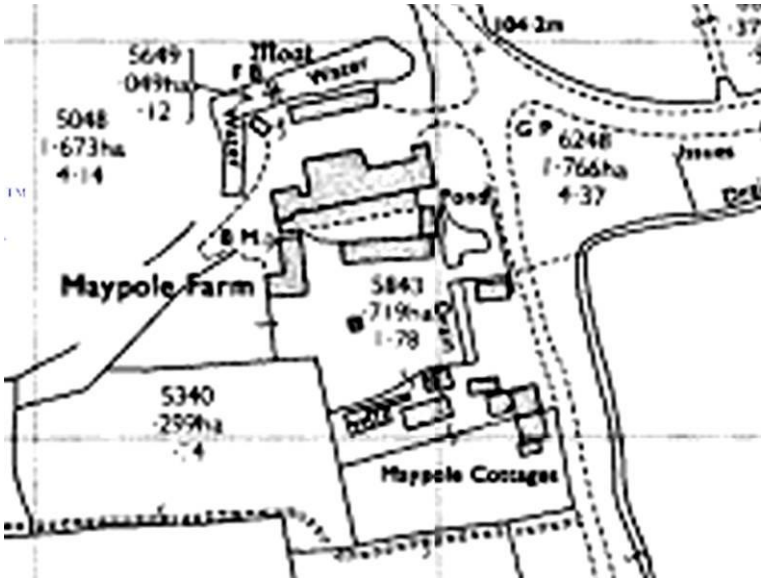
1877 First Edition Ordnance Survey.



1896 Ordnance Survey

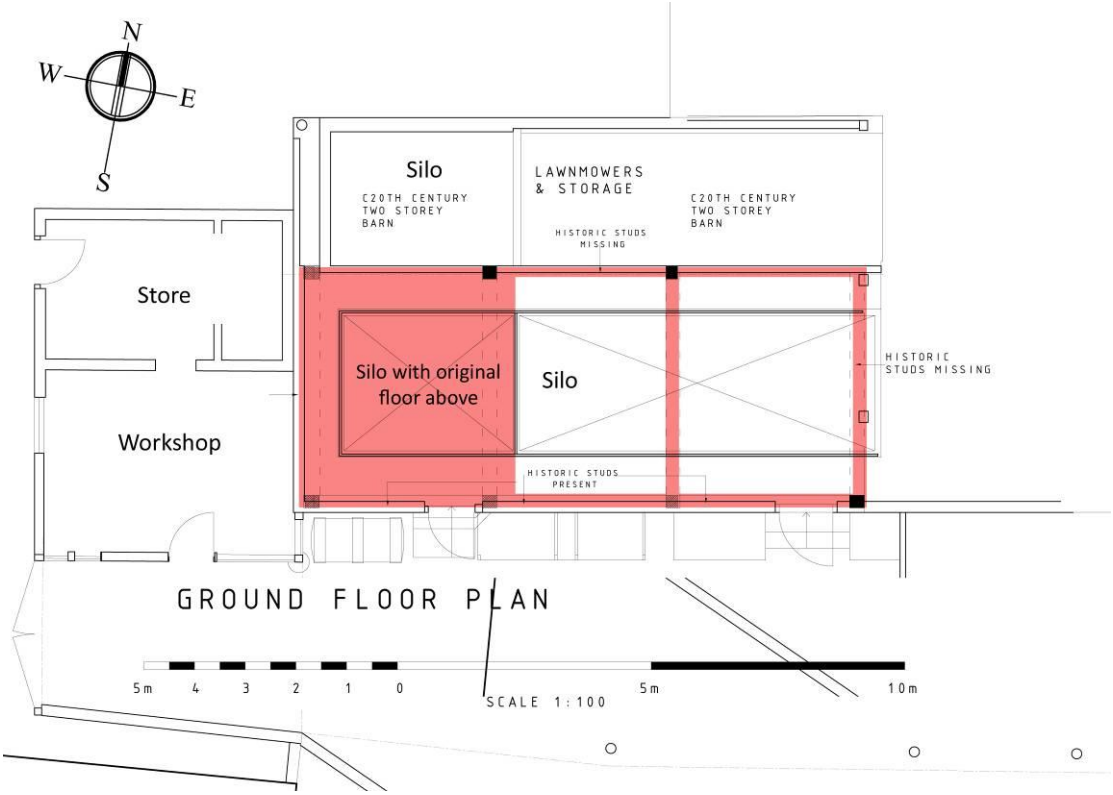


1921 Ordnance Survey.



1970 Ordnance Survey.

Phasing and Discussion



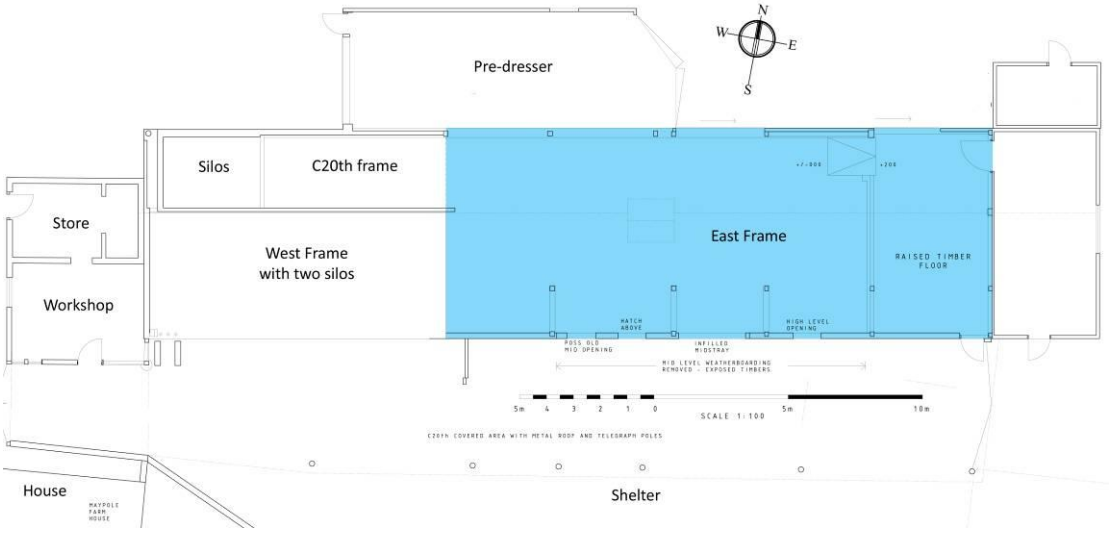
Phase 1 – LC16th or EC17th frame.

The West Frame retains most of the principal posts and parts of the south wall of a floored granary with carpentry features dating to the LC16th or EC17th. Half of the granary floor structure is still in-situ and the main transverse joist is in place for the other half.

Consisting of three 12ft wide bays and 15ft across it was a relatively modest oak framed granary with mullioned windows on the upper floor (at least on the southern side) and wattle and daub panelled walls.

The axe hewn 6in studs were trenched on the inside to allow curved braces to pass from the corner posts down to the mid-rail. The remaining tie-beams show the eastern and western ends were fully framed. There is no indication of mortices for a crown post roof or queen posts so it may be assumed the roof was either a simple clasped side purlin roof or, more likely, a butt purlin roof. The current roof is entirely modern.

The Chapman and Andre map of 1777 shows a building of the correct aspect ratio and position to conclude the West Frame was in position then.



Phase 2 – Circa 1800. The East Frame.

After the French Revolution of 1789 there was a long period of instability culminating in the Napoleonic Wars of 1799 to 1815. Britain and France declared outright war in 1803. England also went to war with the USA who in 1807 declared the Embargo Act preventing European vessels from trading with America. War was declared in 1812 and ceased in 1815.

The Barn is a typical building of the Napoleonic War Era which ignited the rush for farms to convert to grain production to capitalise on the grain embargo imposed during the hostilities from AD1799 to AD1815.

'Napoleonic Barns' sprung up all over Essex. They are built to a pattern, one that does not reflect the earlier barns and their intrinsic dimensions based on rods. It is significant that the Barn is measured in exact dimensions of feet and inches. It is composed of simple frames using primary bracing with nailed in interrupted studs.

At the same time wrought iron fixings, in the form of screw threaded bolts and the traditional 'blacksmith's joints' were being commonly used to repair old frames and the West Frame has several. Spandrels were often replaced with hanging knees bolted into place which were economic on space as well as materials. The East Frame however retains its long braces, the older curved ones being replaced with straight elm timbers where necessary.

The East Frame was weather-boarded and lath and plastered on the outside in the common Essex style of the period. This hid the comprehensive carpentry marks that aided assembly on site. The simple, primary bracing with nailed interrupted studwork was commonplace at this time and reflected the economy, availability of timber and the rush to convert farms in a very short time-frame. Most of the timber is reused.

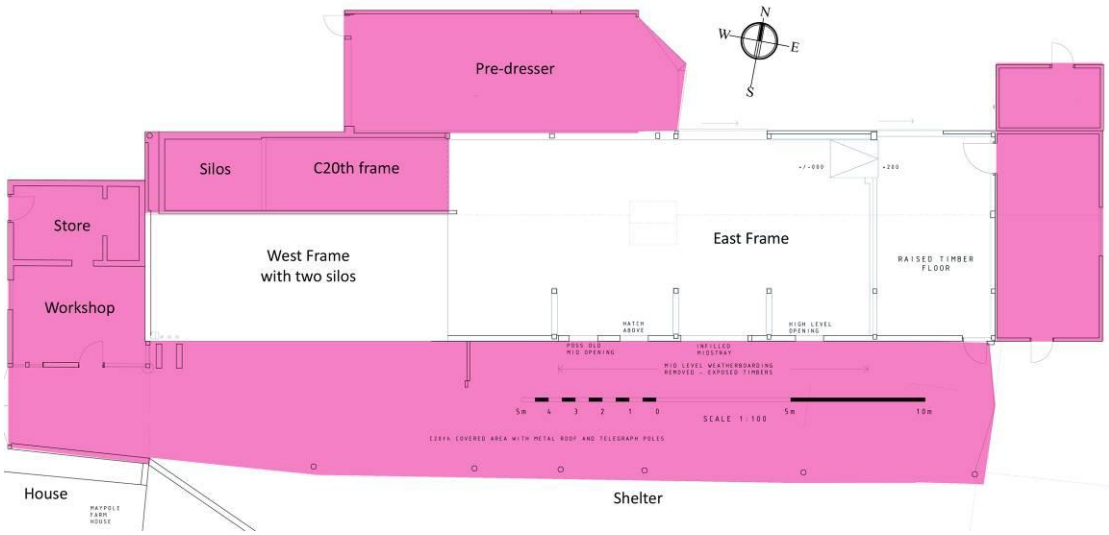
There is a tendency to think that barns were large, open buildings without internal divisions or floors but this is purely down to all the divisions being removed in the C20th to install modern machinery, in particular seed dressers and grain dryers. Bay 5 of the East Frame was divided off by a curtain wall that went across the barn to create a hopper to store

unthrashed produce. The floor is suspended on brick piers and has a sawn tree trunk floor which may well be original.

The carpenters extended the volume of the East Frame by adding an aisle on the south side again using reused timbers. The aisle ties each have mortices for studwork in their soffits so each bay was further partitioned.

Eventually the wars came to an end and trade resumed its old pattern which was disastrous for the newly improved farmsteads. There was an exceptional harvest in 1813 which drove the prices down due to over-supply. The farmers had borrowed heavily to build their new buildings and the resulting decline in prices led to a recession.

The economic climate would have been reflected in the farm buildings whose function may have been changed when the farmers used increasing mechanisation in the production of grain to reduce their labour costs.



Phase 3 – LC20th Mechanisation.

It is very unlikely the Barn remained static from c.1800 through to the LC20th. By the 1840's the concept of Victorian High Farming emerged. According to G.E Mingay in Victorian Countryside (2000) High Farming ' was the achievement of high production by the widespread application of new knowledge and equipment. Land was drained to grow more grain and other food for more and fatter stock, yielding in turn more manure and heavier crops.'

At Maypole Farm on the 1877 OS map we see a fully developed farmyard system fully corralled for animal husbandry. As Mingay says 'To house valuable stock, preserve its manure and promote greater efficiency in the working of the greater complexities of the system, new buildings in new configurations were required. Implements of unprecedented complexity and dedication to single tasks became increasingly common and steam power invaded, first the barn and eventually the field.'

However, all traces of these activities have been removed in the Barn which was extensively remodelled in the LC20th. Clearly shown appearing on the OS maps between 1921 and 1970, all the outshuts were built in this period.

Most of the remaining machinery derives from the 1950's and 1960's when there was a considerable drive to update farming. The silos and grain moving machinery appear 1950's in design and the one identified manufacturer, Lancashire Dynamo & Crypto went out of business in 1967.

The outshuts – the Motor Dryer House, Sack Drier, Open Shelter and Workshop are all lightweight structures built from machine sawn timbers and medium density blockwork and Fletton bricks and skinned or roofed with corrugated iron. As such they are poor structures with little heritage value as essentially they are machine guards.

Significance

The Barn at Maypole Farm is largely a LC20th construction. It houses the skeleton of a 3 bay LC16th or EC17th oak timber frame (West Frame) for a two storey granary that was likely built from new on the farm. The larger eastern part (East Frame) is a more complete c.1800 Napoleonic War era 5 bay barn that was added as a result of the desire to cash in on the grain embargoes put in place during the conflicts of 1795-1815. This frame incorporates parts of older barns that have been reused. There is no evidence that they were part of an earlier building on the site.

The outshuts containing the Workshop, Sack Drier, Drier Motor, Pre-dresser and Open Shelter are all M-LC20th and were put in place between 1921 and 1970 from the OS maps. The electrically driven machinery that remains suggests they were erected in the 1950's.

The significance of the building lies in its massing and dominance of the landscape not in its historic fabric which is large confined to the two frames.

Acknowledgements

I am indebted to the owner Mr Hugo Villiers for engaging me to record the buildings and to architect Lisa Vohmann for recommending me. Thanks are due to Richard Havis of the Essex County Council Heritage Environment (Place Services) for his assistance with the Brief. The drawings were kindly supplied by Sibyl Thomas of Kay Pilbury Thomas Architects.

Bibliography

'Wimbish', in An Inventory of the Historical Monuments in Essex, Volume 1, North West (London, 1916), pp. 349-357 http://www.british-history.ac.uk/rchme/essex/vol1/pp349-357 [accessed 10 March 2015].

Ives, Norton C. 1953. Grain Drying Studies. American Institute of Agricultural Sciences.

http://www.gracesguide.co.uk/Lancashire_Dynamo_and_Crypto

Andrews, DD and Stenning DF. Regional variation in timber-framed building in England and Wales down to 1550. Essex County Council 1994.

Alcock et al. Recording Timber-framed buildings: an illustrated glossary. CBA Reprint 2008.

Brunskill, R.W. Brick and Clay Building in Britain. 2009

Lord Ernle (Prothero). English Farming Past and Present, 1st-5th edition. Chicago: Quadrangle Books, 1962. First published London: Longmans, Green & Co. 1912.

Hall, Linda. Period House Fixtures and Fittings 1300-1900. Countryside Books. 2005.

Harris, Richard. Discovering Timber -framed Buildings. Shire Publications. 1978.

Hewett, Cecil. English Historic Carpentry. Phillimore. 1980.

Hillman-Crouch, B J. Historic Ironwork Repairs in Timber-framed Buildings. 2003. Published on the internet in 2006. http://www.dowsingarchaeology.org.uk/Ironwork/iron-index.htm.

G. E. Mingay, B. A. Holderness, Michael Edward Turner. Land, labour, and agriculture, 1700-1920. Published London 1991.

G. E. Mingay. Victorian Countryside. New Edition 2000.

G. A. T. Middleton. Modern Buildings, Their Planning, Construction and Equipment Vol6. The Caxton Publishing Company. 1921.

Directories.

White's Directory of Essex. 1848, 1863.
Post Office Directory. 1874.

EH Publications.

English Heritage. Understanding Historic Buildings – A guide to good recording practice. 2006.

Appendix 1 – Grain Drying Studies

Inter-American Institute of Agricultural Sciences
Field Service Unit
Technical Cooperation Program

GRAIN DRYING STUDIES

COLUMN-BATCH DRYING DEVELOPMENTS
AND DEMONSTRATIONAL ACTIVITIES

By

Norton C. Ives
Agricultural Engineer

--..--

ORTON MEMORIAL LIBRARY
INTERAMERICAN INSTITUTE OF AGRICULTURAL SCIENCES
TURRIALBA, COSTA RICA

I. REASONS FOR STUDIES AND BACKGROUND

In regions where grain is handled almost entirely in sacks, there are many advantages in drying the grain, when necessary, without removing it from the sack. It eliminates problems resulting from mixing, and it requires little or no mechanical equipment to move the grain to or from the drier. If temperatures and rates of air flow are properly controlled, and sacks are stacked or dumped and mixed immediately after removal from the drier, adequate drying can be accomplished at little or no damage qualitatively to the grain. Therefore, it is probably the first method to be recommended for drying grains in so-called under-developed rural areas, where drying in the sun-patio is inadequate or unreliable.

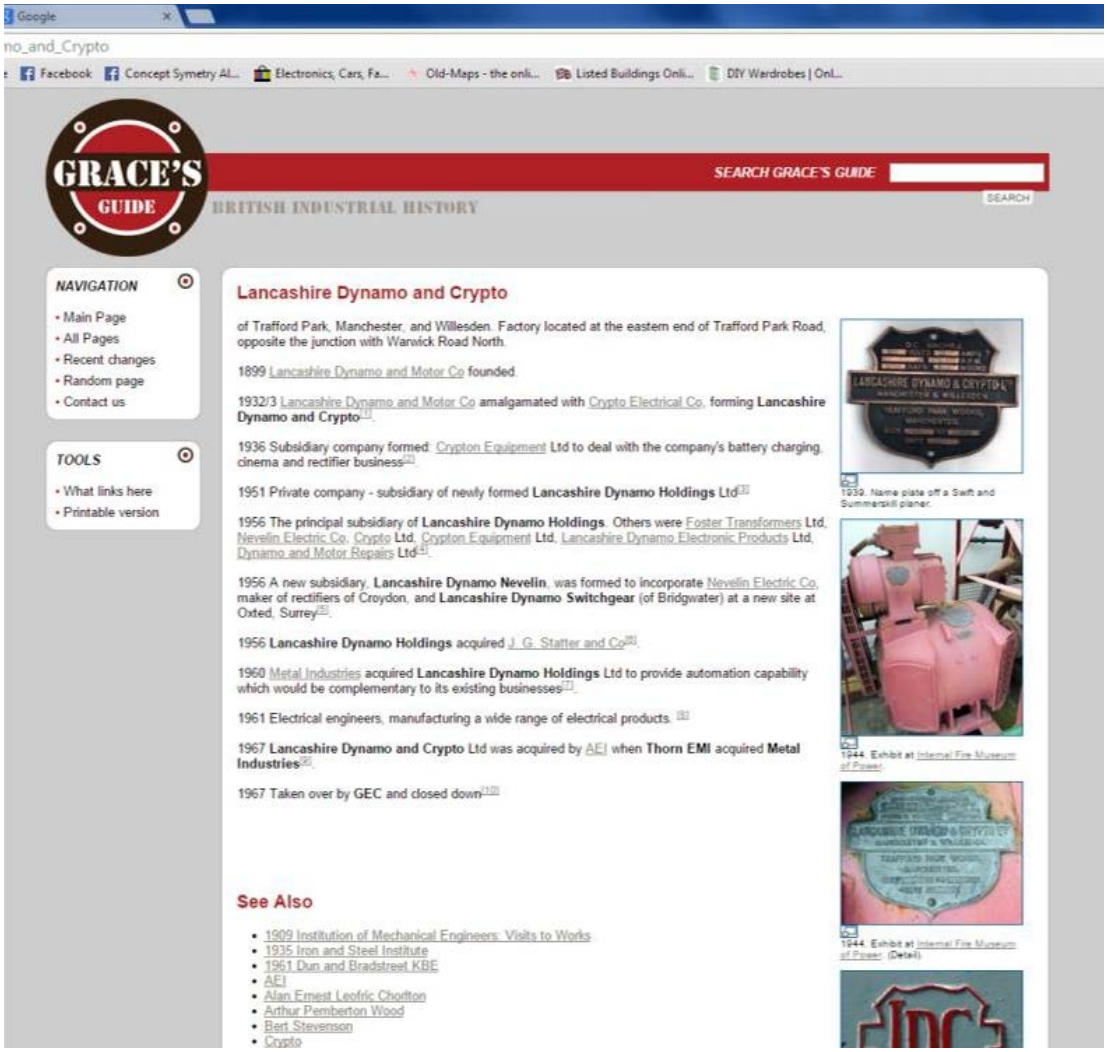
However, sack drying does require a fan and motor and source of heat, and it is a relatively slow system which requires arduous manual labor. As a result, an operator who is willing or likely to go to the expense of providing mechanically forced heated air is also likely to be desirous of obtaining a drying system which is relatively fast and which requires a minimum of labor. There appear to be many operators who want something better than a sack drier but not something as expensive as a continuous drier. It is for such requirements that a column-batch drier offers many advantages. It provides relatively fast drying, requires about the minimum of operational labor and machinery, and almost any carpenter or handy farmer can build one. Lumber, building paper and hardware cloth are about the only materials required, although other materials can be used.

The maximum speed and heat use efficiency of a column-batch drier consistent with the maintenance of desired grain quality are closely associated with or dependant upon the entering air temperature, the amount of drying air used (mass rate of flow per unit of grain) and the air movement system through the grain. Proper design and operation conditions of column batch driers appear to require better design and operational data than are now available.

Also there is seemingly an inherited concept on the part of drier operators and laymen alike that grain cannot be dried properly without being mixed during

Opening paragraphs from a study of grain drying techniques by Norton. C. Ives. 1953.

Appendix 2.



http://www.gracesguide.co.uk/Lancashire_Dynamo_and_Crypto

ESSEX HISTORIC ENVIRONMENT RECORD
ESSEX ARCHAEOLOGY AND HISTORY
SUMMARY SHEET

Site name/Address: Maypole Farm, Top Road, Wimbish, Essex CB10 2XJ.	
Parish: Wimbish	District: Braintree
NGR: TL 59574 35464	Site Code: N/A
Type of Work: Historic Building Recording	Site Director ; Barry Hillman-Crouch
Date of Work: 24 02 2015	Size of Area Investigated: 25x50xm
Location of Finds/Curating Museum: N/A	Funding source: Owner
Further Seasons Anticipated?: No	Related EHER Nos:
Final Report: Maypole Farm, Top Road, Wimbish, Essex CB10 2XJ. Description and analysis of the Barn and Outshots. Surveyed 24 02 2015. Barry J Hillman-Crouch MStPA DipFA BSc HND.	
Periods Represented: C18th - C20th	
SUMMARY OF FIELDWORK RESULTS: The Barn at Maypole Farm is largely a LC20th construction. It houses the skeleton of a 3 bay LC16th or EC17th oak timber frame (West Frame) for a two storey granary that was likely built from new on the farm. The West Frame retains most of the principal posts and parts of the south wall of a floored granary with carpentry features dating to the LC16th or EC17th. Half of the granary floor structure is still in-situ and the main transverse joist is in place for the other half. Consisting of three 12ft wide bays and 15ft across it was a relatively modest oak framed granary with mullioned windows on the upper floor (at least on the southern side) and wattle and daub panelled walls. The larger eastern part (East Frame) is a more complete c.1800 Napoleonic War era 5 bay barn that was added as a result of the desire to cash in on the grain embargoes put in place during the conflicts of 1795-1815. This frame incorporates parts of older barns that have been reused. There is no evidence that they were part of an earlier building on the site. The simple, primary bracing with nailed interrupted studwork of East Frame was weather-boarded and lath and plastered on the outside in the common Essex style of the period. This hid the comprehensive carpentry marks that aided assembly on site. The outshuts containing the Workshop, Sack Drier, Drier Motor, Pre-dresser and Open Shelter are all M-LC20th and were put in place between 1921 and 1970 from the OS maps. The electrically driven machinery that remains suggests they were erected in the 1950's.	
Previous Summaries/Reports:	
Author of Summary: Barry J Hillman-Crouch MStPA DipFA BSc HND.	Date of Summary: 19 03 2015.