DEVON EARTH BUILDING ASSOCIATION

Newsletter TWO

THE DEVON EARTH BUILDING ASSOCIATION

D.E.B.A. was founded in the spring of 1991 by Larry Keefe, then Conservation Officer for Teignbridge District Council, and Ray Harrison, Architect with English Heritage Properties in Care South West - now Conservation Officer for Thanet District Council. In early 1993 Ray Harrison was instrumental in setting up a national network of earth building practitioners. This has now been formally accepted as the ICOMOS (UK) Earth Structures Group and DEBA is one of a number of regional groups affiliated to it.

At present the Association is made up of a technical panel, known as the Working Group, which meets on average nine times a year, and a Wider Group of corresponding members. DEBA has only two officers, a Secretary and a Treasurer, both of whom are appointed by informal agreement from within the Working Group. Under proposed new arrangements there will, in addition, be a Membership Secretary and a Publications Co-ordinator, who will also have responsibility for editing the newsletter.

The aims and objectives of D.E.B.A. are as follows:

1. To provide a forum for the discussion of issues relating to the conservation of earth buildings in Devon and south-west of England.

2. To provide advice and technical guidance on the repair and maintenance of earth buildings, including composite structures, daubs, renders and plasters, through an information service, the publication of technical leaflets dealing with specific issues, and the organisation of practical demonstrations, exhibitions/displays and seminars.

3. To encourage and support scientific and technical research, and practical/ professional training, in the field of earth construction and associated traditional building methods.

4. To establish mutually beneficial links with groups and individuals working with earth buildings in other parts of Britain and abroad.

5. To encourage the revival of earth building techniques for new building construction and to investigate the potential of the material for low-energy 'appropriate technology' building.

Membership of the association is open to any individual or organisation having an interest in either the conservation or earthen buildings or the use of earth for new construction. Membership entitles you to receive the DEBA newsletter - to be issued twice annually - and free copies of new technical leaflets, advice notes etc. Also to attend the annual (Wider Group) meeting. The annual subscription, due on 1st January, is £5.00 for individuals and £10.00 for groups/organisations.

TO BUILD A COB THOLOS

By Kevin McCabe

You may be wandering, what is a tholos? I certainly could not have told you, before I had begun to build this, my most recently completed cob building. I just knew the shape of the building I wanted to try and create. It is to me a very pleasing shape because of it's inherent strength and stability It was Linda Watson who was able to name the structure for me. Tholos: a round building with a domed roof. Apparently, this shape of building is quite common in certain parts of Africa, where normally some sort of timberwork reinforcing is incorperated into a much thinner wall.

The actual cross section of the domed roof is a catenary arch: the shape a chain will naturaly fall into inverted; similar to the well known "Nubian arch" vaulted rooves which are generally constructed from earth block (Adobe). I was not aware that a building quite like this had ever been attempted in mass monolithic cob - at least not in Northleigh anyway! No doubt there is probably very good reason for this, but sometimes there is nothing like finding out for yourself.

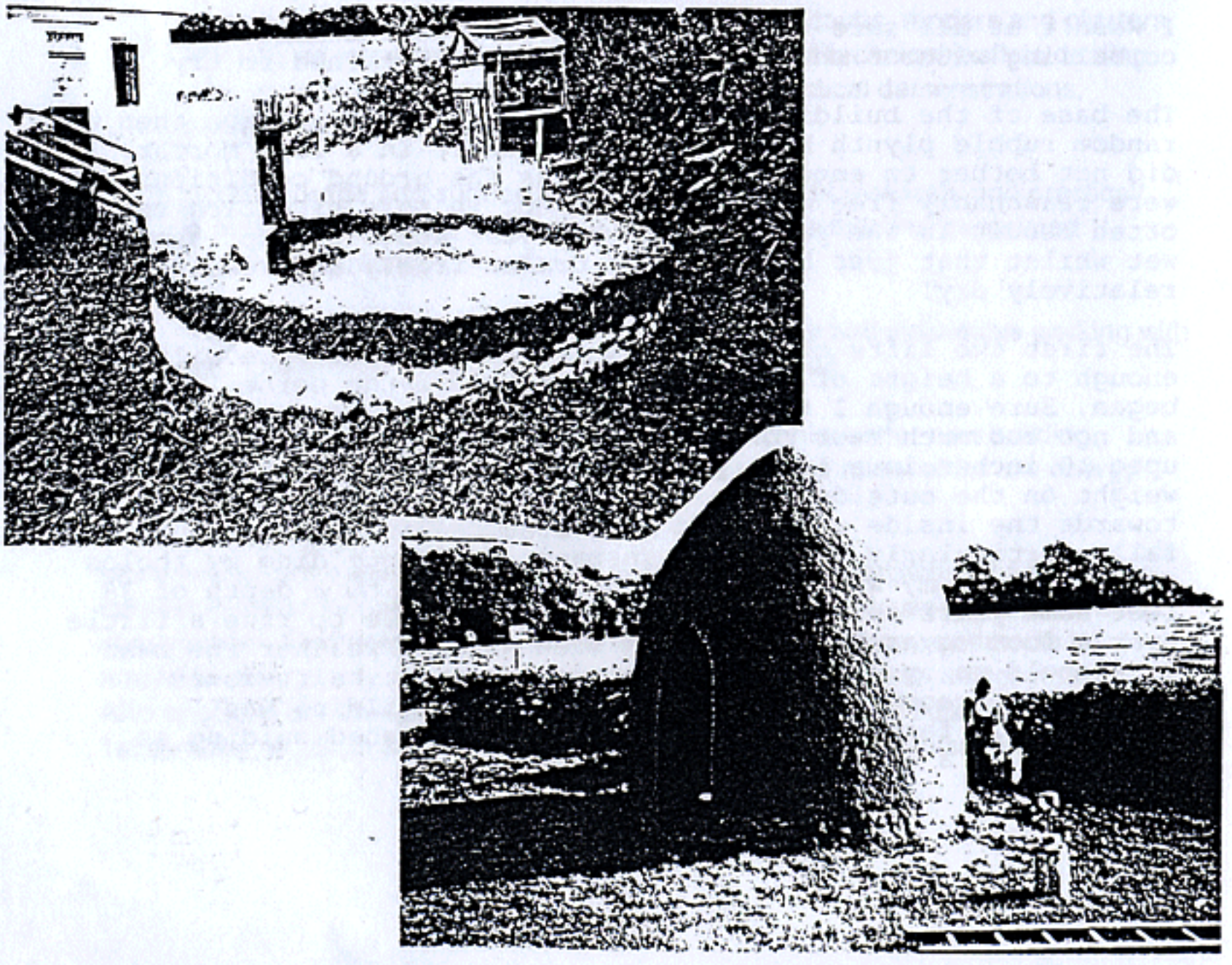
I wasn't at all sure whether I could achieve the necessary corbelling without shuttering, but I was determined to try.

The base of the building was a concrete strip foundation then a random rubble plynth built from local chert in a lime mortar. I did not bother to encorperate a dpc as the ground conditions were reasonably free draining and a dpc in this situation can often result in the part of the wall just above the dpc staying wet whilst that just below drains drains freely and remains relatively dry!

The first two lifts of cob were vertical and went up easily enough to a height of about four feet before the corbelling began. Sure enough I found that with an ideal mix consistancey, and not too much beer consumption, it was possible to corbel in upto 10 inches in a lift; provided I was careful to keep my weight on the outside as it rose. A carelessly placed foot towards the inside edge could have resulted in a desastrous fall, particularly as in this instance I was building my tholos directly over my well which had been hand dug to a depth of 38 feet some years earlier. In this way I was able to rise a little over a foot on each lift. With a week of good weather the next lift could go up. In practice this meant about half adozen sunday afternoons and the twelve foot high building was complete. In fact I like to think of the finished buiding as just part of a 50 foot tall structure!

As with all good buildings it serves more than one purpose. Firstly, I have been describing it to my children as their play house, although, despite occaisional spates of enthusiastic help in the construction, once finished,what seems to provide me with endless pleasure and stimulation, does not alas, do the same for them. Secondly, and perhaps it's primary function is to keep the rain and surface water out of our well. Thirdly, the 18" thick walls will provide excellent insulation against frost for any pump or pump controll gear.Last but not least it has been a very usefull learning vehicle, both for myself and many others (including those attending the builders course run by Plymouth University last year); and it continues to be so, as I am carefully monitoring the performance both of the structure as a whole, and the single coat lime render which I applied in the late Autumn as the heavy rainfall was making it painfully obvious to me, why traditionally cob structures like this in Devon would be capped with a generously overhanging thatch. However, I am hopefull that provided it gets a coat of well tallowed limewash each Autumn, it will stand up quite well without any other roof covering at all: Time will tell.

My plans for new cob building in "96" include two substantial outbuildings (one two storey) at Lower Tricombe.(Volunteer help welcome). An extension to a listed building near Colyton, together with an imaginative alteration and reconstruction of a linney.



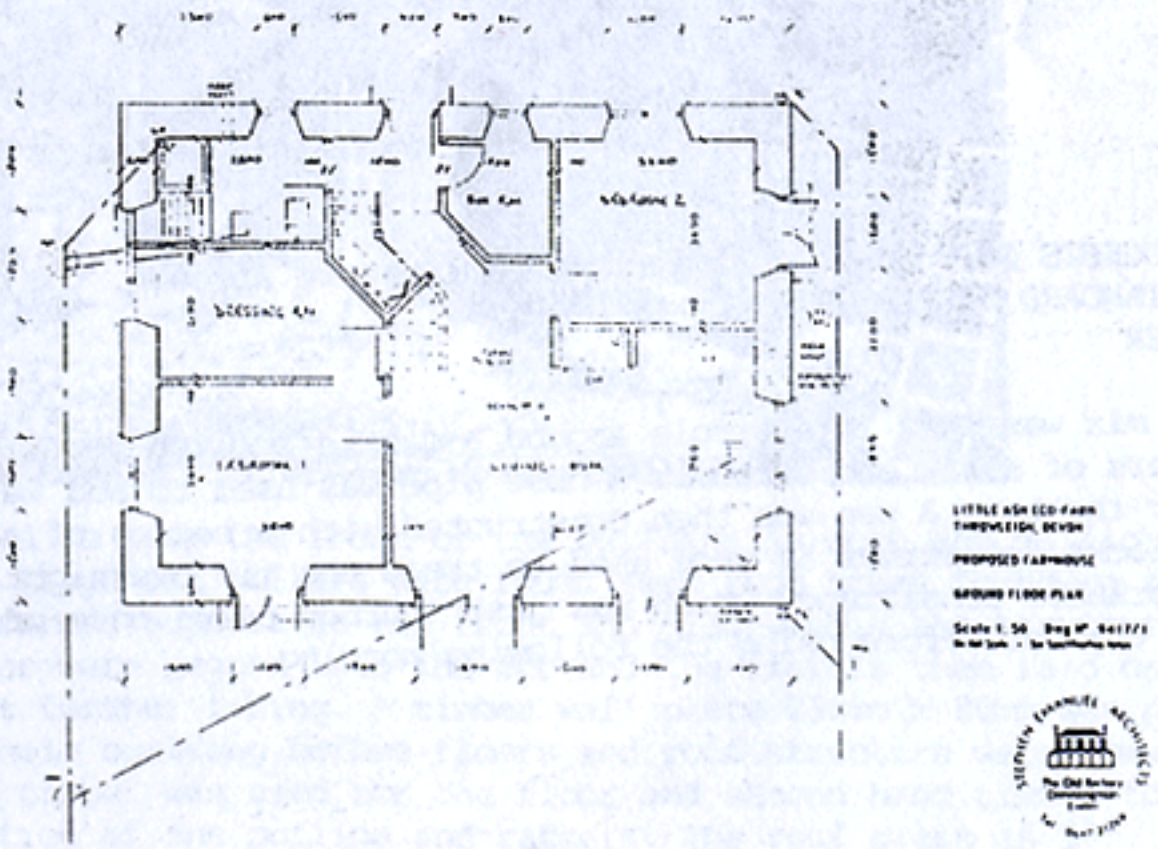
PROJECT TO BUILD A HOUSE AT LITTLE ASH ECO-FARM THROWLEIGH

THE OWNERS

Dr M.Kiley-Worthington is the Director of the Eco-farm. She has been developing the idea of Ecological Agriculture for over 20 years and is still researching and lecturing all over the world.
Chris Rendle is Sub-Director. He trained as an aeronautical engineer and these skills have contributed greatly to the building at Little Ash. His interests include ecological power sources, water supply systems etc. He would like to see earth used as a building material in the future and he feels its versatility could contribute to some exciting new buildings.

THE ARCHITECT

Stephen Emanuel is based in Dartmoor National Park. Many of his projects involve conservation and alteration to listed buildings. Little Ash is the first new building he has designed, in cob. He worked closely with the owners to develop their ideas.



THE SITE

The idea was to build using materials which could all be found on the farm - the earth, stone, timber and thatch. The Ecological Farm is defined as 'self sustaining, diversified, high yielding, socially, ethically and aesthetically acceptable and causing no long term or irreversible environmental changes.' The building is very much a product of this philosophy. It was felt important that it should be 'sympathetic' with its environment.

THE CONSTRUCTION

I first visited Little Ash in July 1995 when the construction of the building was in its early stages. The foundations, DPC, floor and plinth were complete and the first lift of cob was being placed. The foundations were sunk to a depth of aprox.450mm and were 750mm wide. A DPC was laid under a continuous reinforced slab. The floor is self supporting with a plastic membrane to protect from Radon gas.
The stone used was all collected from the farm and the plinth built to a height of 460mm, width 600mm. Building Regulations required an internal skin of thermal blocks.
The first subsoil was dug to form a pond close to the site. However it was found to be very low in clay and it was decided to dig a second area a little further away. This subsoil was felt to be adequate for building, though still had a low clay content.

THE MIX

4 BUCKETS OF SUBSOIL (1 bucket = ½ cu.metre aprox)
3 STANDARD BALES STRAW
WATER

The mix was laid in a circle around a cattle feeding pen with alternate layers of straw and subsoil. A hose pipe was used to add water evenly over the top. A pen was then constructed with a series of gates and 3 bullocks (sometimes 5) were used to tread the mix overnight. This produced a workable consistancy which was just 'turned over' once or twice by the tractor before using the following morning.

WALL BUILDING

The cob was placed on the wall with pitch forks and trodden down. On average there were 4 people working at any one time. The builders were unable to work round the walls in the traditional way because the number of openings meant that the building was constructed as a series of pillars. The cob was placed in 3 lifts of aprox. 660mm each. A week was left between each lift to allow for drying and paring back. The paring was rather time consuming as no formwork was used around the openings. Pieces of timber were set into the edges of the openings, at intervals, to be used as fixings for windows and doors.
In August I was able to spend a day building. We reached the full height of 2360mm (plinth 460mm & cob 1900mm). It was estimated that the building from foundations to full cob height took about 8 weeks, the three lifts of cob 18 days.

THE TIMBERWORK

It was decided to keep the front of the building as open and as light as possible. Large oak pillars were rough sawn from trees found on the farm. These formed support at the front and also within the structure. Tressel pieces were pegged into the cob and the lintels then laid on these without further fixing. A timber wall plate 230mm x 80mm was placed around the whole building before floors and roof structure were commenced. Joist graded timber was used for the floor and second hand timber for the construction of the purlins and rafters. The roof pitch is 50°. The main timber work was carried out in only 9½ days.

THATCHING

860 bundles of wheat reed were used to thatch the roof, 460 of which were grown at Little Ash, the other 400 on a neighbouring farm. The thatch was harvested in 1995 shortly before use. The roof structure, including the thatch is estimated to weigh 10 tons. The weight is supported by the large timber pillars, the ring beam and the cob walls.

GABLE ENDS

It had been envisaged at one stage, that the gable ends should be constructed in cob. However it has been decided to use timber. The offcuts from the oak pillars will be used as weatherboarding or horizontal slats. The Window openings are being constructed in timber to fit second hand windows which the owners are collecting.

COMMENTS

My third visit to the site was in February this year. Chris Rendle brought me up to date. He is busy completing the floors and windows. It is hoped that the first floor can be used as an open plan living area and 'sometimes' lecture hall. Due to the large window openings and 50° pitch there is a wonderful feeling of light and space. The cob seems to have dried out well with very little shrinkage as one would expect given the low clay content.
Though unconventional in construction, I find the building delightful and individual. Hopefully it will encourage those who would like to build in cob in the future.

Jill Smallcombe 1996.

(The Eco-Farm has an open day on August Bank Holiday).

MAJOR STRUCTURAL COB REPAIRS AT CULLACOTT NEAR LAUNCESTON

A complete season has now been devoted to carrying out repairs to this grade I listed late medieval house, which excavation has now revealed to have been an exceptionally high status longhouse, with a cattle byre or shippen at its lower end.

Around 35 tonnes of cob has had to be mixed and placed for the repairs and for reconstruction of a former rear lean-to which had all but disappeared. Originally it was thought that the raw material (sub soil) required would need to be dug from the site. However, quite by chance, a derelict former two-roomed cottage, located only 500 m east of Cullacott, collapsed only a week or so before the start of the contract. (I was assured the presence of a J.C.B. on site at the time was purely coincidental!). So the problem of where to obtain suitable cob was conveniently solved; the material from the collapsed building was transported and stored, in a dry state, under tarpaulins ready for re-cycling.

The sub-soils, and therefore cob walls, in this areas are characterised by their excessive stoniness (on average around 50% of material over 2 mm dia.), their lack of sand-sized particles (average around 20%) and a tendency, in the fine soil fraction, for there to be rather more clay present than silt. Weathering and erosion of unprotected cob walls is therefore something of a problem. The repairs fall into three main categories: Structural repairs (reconstruction) of walls using mass cob, composite structural repairs using timber supports together with either mass cob or cob blocks (often a mixture of the two) and non-structural facing repairs to badly eroded walls using cob blocks or bricks. Structural crack stitching has been carried out using cob blocks externally and fired clay plain tiles internally.

Cob blocks were fabricated on site in timber moulds, using a cob mix from which the larger stones had been extracted by sieving. Three sizes of block were made for use in different repair situations: 450 x 225 x 100 mm for structural repairs, 300 x 150 x 75 mm for facing repairs and crack stitching, and 225 x 112 x 100 mm, also for facing and other minor repairs.

No lime or any other form of earth stabilisation has been used for the repairs. Cob blocks and bricks are laid by the masons, or 'adobe - wallahs', in a mud mortar of 3 parts sieved subsoil to 1 part coarse sand (the addition of sand improves the workability of the mortar by reducing its strong cohesiveness when wet.).

Extensive use has been made of stainless steel e.m.l., to strengthen structural crack stitches, and Helifix stainless steel helical wall ties, to bond new work to old - mainly in the facing repairs. Thorough compaction of the mass cob has ensured that shrinkage and settlement has been kept to the minimum - no more than 1 to 2%, which is about what one would expect in a soil of this type.

Prior the commencement of repairs this important historic building was, as a result of long-term decay and neglect, on the point of total extinction.

The repairs, which have been made possible by very generous grant-aid from English Heritage, should ensure a viable future for the building. Whether or not the cob repair techniques employed will stand the test of time is, or course, not known at this stage. However, it is hoped to monitor their effectiveness over a period of several years as part of an ongoing research project.

Main contractor Carrek Ltd, supervising surveyor David Scott (Stratton Creber, Truro), cob consultant Larry Keefe, cob contractor Adrian Hunt (Twyford Lime Products, Tiverton).

Larry Keefe.

ICOMOS(UK) Earth Structures Committee Meeting at Stirling Castle 22nd September 1995

Despite an early start - leaving my home at 2.30 a.m. - the trip to Stirling for the second ICOMOS(UK) ESC meeting was worthwhile. The event was held in Stirling Castle and hosted by Historic Scotland. Reports from the regional committees on progress throughout the United Kingdom showed there to be considerable activity. For instance EARTHA (East Anglia) are organising a number of hands on events for clay lump and wattle daub and EMESS (East Midland) are doing similar for mud and stud. Whilst Historic Scotland in collaboration with Dundee University are hosting the third annual ICOMOS(UK)ESC conference 'Out of Earth III'. This is to be held in Dundee on August 27th-31st. Further information can be gained from Gordon Lockhart

There is still now news as to the host country of the next international conference, however U.K. seems to be a favourite.

The event in Scotland continued with a visit to a typical stone cottage undergoing repair. Here earth had been used as a mortar in the core of the wall. The tour ended with a visit to Stirling Castle. Whilst there was no earth it evident in the building, Historic Scotland had undertaken high quality repair work, with good contemporary interventions and informative interpretation.

The next meting will be at St Fagan Building Museum, South Wales on 25th March '96.

CONGRATULATIONS JONATHAN RHIND

The architect Jonathan Rhind was recently given the North Devon Conservation Society annual award for this cob repair work at Hill Farm, Landkey.

BARAKEL AT BOW

This property sits at the eastern end of the main street in Bow at the point where the road narrows. Its western gable therefore is in a prominent position at the tope of the main street and has suffered in the past from severe exposure to the weather from a westerly direction, as the buildings on either side of the main street tend to act as a funnel and direct the weather straight on to this gable wall. To cope with this situation, slate hanging had been fixed to this wall. To cope with this situation, slate hanging had been fixed to this wall. The slates, most of which were probably Delabole's, were fixed with long cut nails, through a lime render and into the cob. Over the years, the slating had deteriorated and although much patching and repairs had been done in the past, rainwater had eventually penetrated through the slating and caused damaged to the cob behind. This eventually lead to the failure of the cob immediately below one of the bearings of the lintel over the ground floor window which caused one end of the lintel to drop, together with the wall above, creating a shear plane at first floor level.

Scaffolding was erected to give earthen protection to the wall and props were put in place to support the wall while remedial works were being designed, the various grants, and planning and building regulations permissions were being resolved. However, severe weather at the end of December 1994 finally got through the earthen protection and caused the collapse of the gable wall at first floor level, leaving the ground floor wall in place.

After a redesign of the remedial works and a further round of seeking approvals, grants and the additional complexity of an insurance claim, work was finally started by Dart & Francis in the autumn of last year.

The gable wall is being reconstructed with cob blocks supplied by Alfie Howard with the slate hanging reinstated on the external face but this time fixed to timber battens attached to the remaining cob wall at ground floor level and an independent timber frame at first floor level. It is anticipated that the project will be completed during the next few weeks.

A variation of the cob technique:

Barry Honeysett has observed that in several properties, includes and including the cob walls of his own house, that the cob appears to be laid in layers or clods of perhaps three or four inches with straw lying between. In other words, the straw does not appear to be fully mixed in with the subsoil. The question this raises is did they in the past pay as much attention to pre mixing the cob before placing it on the wall as we have considered necessary or did they simply spread straw over the previous layer and throw neat soil on top, with the only mixing being carried out as it was trodden down on top of the wall.

Has anyone else's observed this or other variations of the cob building technique?

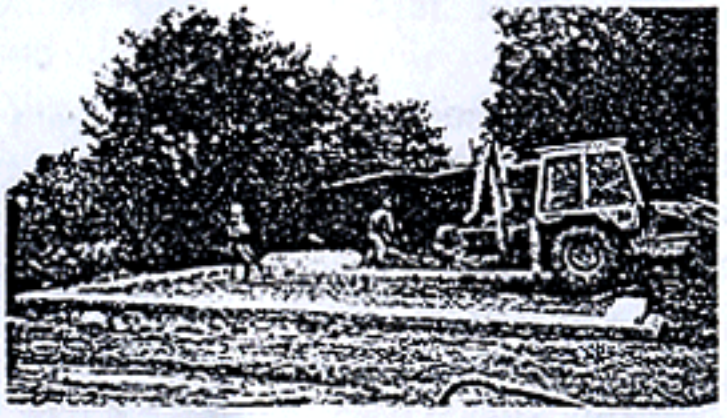
The New Construction at Great Burrow

The two above pictures show the derelict barn as it was and the new building as it is at the moment (2/96) without a roof.

Start Of Project: - Friday 15th of September

Site preparation and Foundations

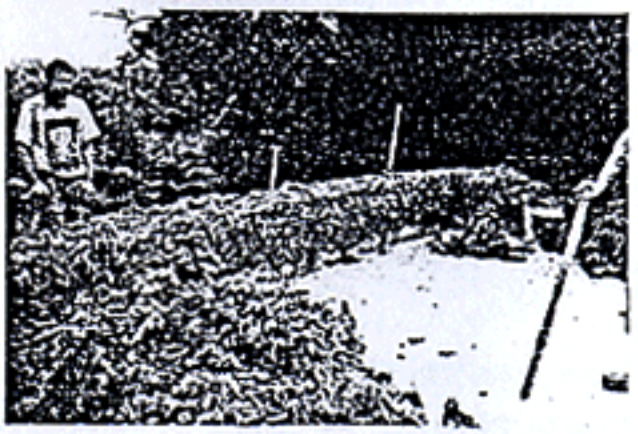
On the first day the existing building was levelled, the foundations marked out and then initiated. The foundations (600 mm wide × 900 mm deep) were completed by the following day and a 300 mm course of concrete laid.



The foundations were laid in two levels. Excessive moisture and low stone content were found in the surrounding subsoil at the eastern face. This meant that the foundations had to be dug a further 300 mm. Hence one half of the foundations are approximately 225 mm lower than the other.

Insulation blocks (150 mm × 225 mm) were laid onto the course of concrete. Five courses at the eastern end and four at the western to bring the level to damp course (D.P.C.), the top outer 225 mm being stone faced. Broken lumps of old concrete and hard-core (50 mm), compressed using a plate compactor, were used to fill the internal area up to 150 mm below D.P.C.. This was then topped with 50 mm of compressed stone dust and a damp membrane (D.P.M.). A concrete floor (100 mm) was laid the following day. The D.P.C was laid onto the outer wall under a further course of insulation block, again the outer face being stone.

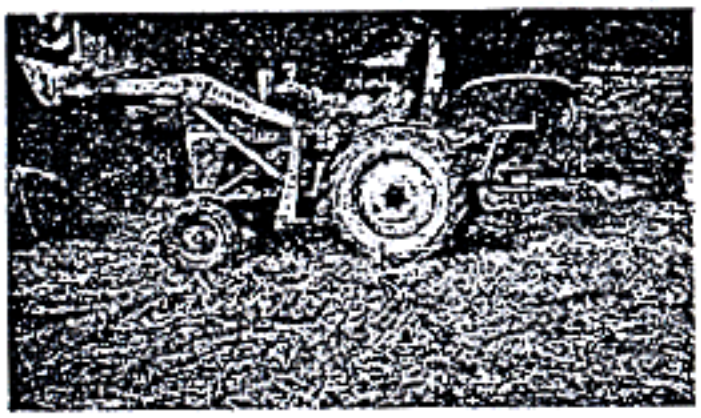
Cob Preparation and mixing

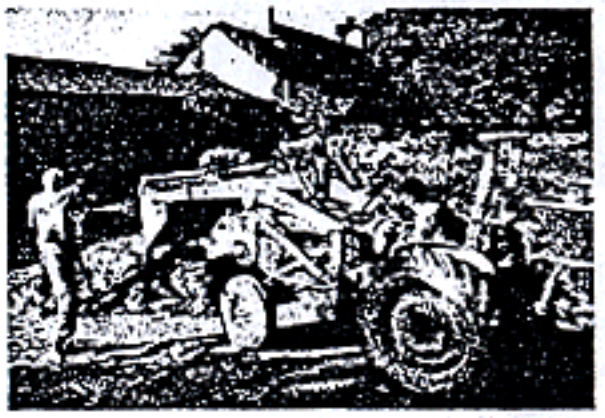


The first Cob mix was found to have an excessive moisture content, partly due to rain at the time of mixing. A small amount of this was used but found to be generally useless as it was far too plastic and bulged greatly at relatively low lifts (e.g. 300 mm, See adjacent picture). A second mix done on the first day was found to be more satisfactory but still the moisture content was too high.

The mix was finally perfected at 8 buckets (900 mm tractor bucket) of clay with 2 of '½ inch to dust' chippings or stone dust..N.B. The aggregate was added to reduce the expected amount of shrinkage in the cob as very little was present in the natural state of the clay, also because of the high fines content of the clay. Water, 6 - 8 minutes with the hose on full (approx. 9 - 12 pails), was added at this point to soak the dry clay. Two 150 mm layers of straw were added (approx. one 29 kg bale per ton) with mixing in between.

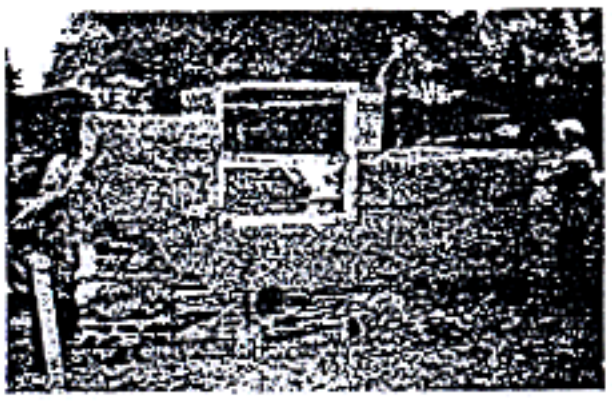
The tractor was driven back and forth over the mix to first compress it and then the wheels spun to turn and mix the clay, gravel and straw. The prepared cob was then left compressed on the concrete slab for ease of use. Due to the low water content of the cob it was more practical to scrape up the cob than to take crumbly pieces from a pile.





Wall construction

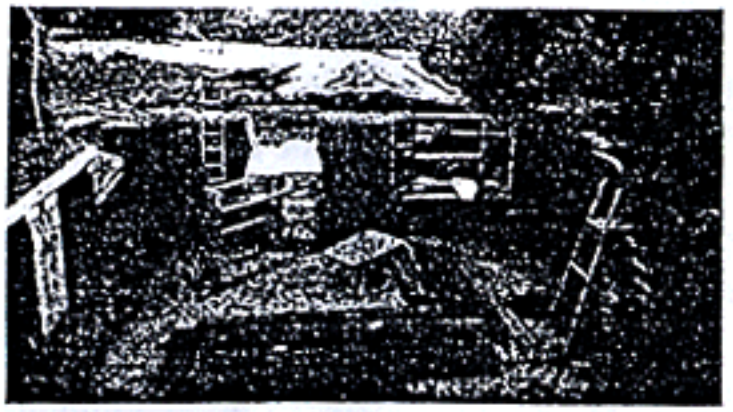
The walls were of solid construction (i.e. no cavity for insulation) and a minimum of 700 mm thick to satisfy the minimum thermal conduction coefficient for external walls.



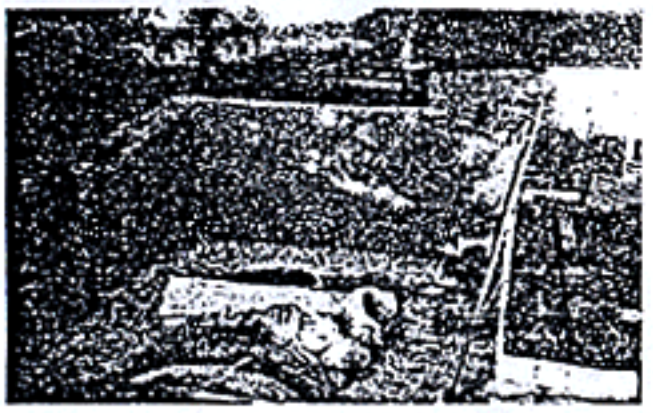
Shuttering was used to form the window openings with a reveal of angle 40° (See adjacent picture). The shuttering was removed after the wall had been initially shaped to allow drying and paring. As the surrounding wall gained in height the shuttering was not needed as a large enough void had been formed to enable paring as a method of shaping the window opening.

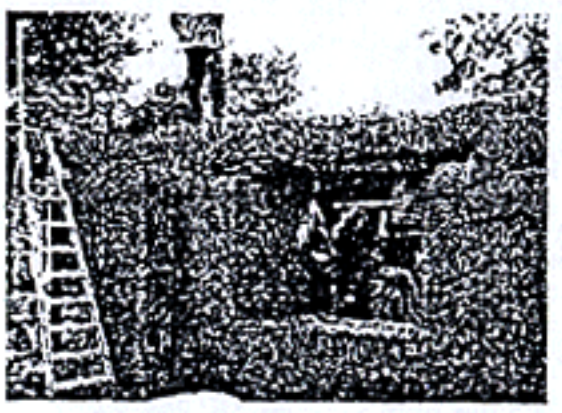
Lifts of between 450 mm and 1050 mm were used to build the wall, the large variation due to the differences in moisture content of the cob affecting the amount of 'bulging' observed. The large height of the lifts demonstrates the unusual properties of the high fines content clay used.

Cob walling began on the 9th of October before the stone mason had finished facing the outer wall. Cement in the stone face that was only 'green hard' (1 day old) was strong enough to withstand cob without any fracturing or other deformation.



The timbers had needed no chemical treatment for the prevention of dry and wet rot due to the pickling effect of the sea. This process of wood preservation was commonly used in latter years when chemical preservatives were not available, thereby adding to the traditionality of construction.





The general dimensions of the timbers were 300 × 100-150 mm at the appropriate lengths. Each trestle piece was held in place by drilling two angled holes through the thickness of the wood through which 450 mm × 20 mm oak pegs were inserted.

Wall Settling

The walls were then left for 3 months to settle, dry and shrink before the roof was expected to be attached. During this time 1000 mm pieces of corrugated tin sheeting with a slight camber were placed on top of the walls (with the ridges running perpendicularly to the wall). These were weighted with stone to prevent the gales experienced over the winter months from removing them. The window sills were also protected from the elements by polythene sheeting.

Rain experienced during this time collected on the interior floor and occasionally maintained a depth of 25 mm but appeared not to soak up through the insulation blocks at floor level into the cob wall. This rain also washed the exterior of the walls and ,through the movement of the clay and fines, filled in any small shrinkage cracks.

This 'washing' also caused structural difficulties in that the exterior of the eastern wall was experiencing constant hydration, hence swelling, from the elements whilst the interior was experiencing dehydration and shrinkage. This effected a twisting movement causing a deviation from verticality of approximately 50 mm before action was taken to correct it. Polythene sheeting was attached to the exterior of the wall to prevent further excessive hydration and allow even drying.

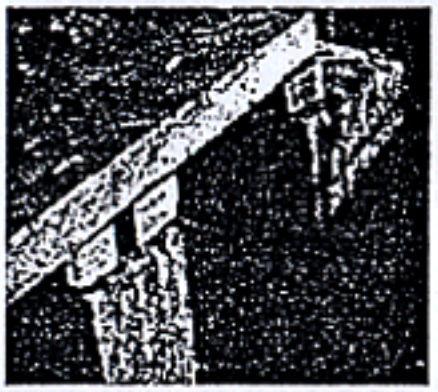
It was also noticed that a small amount of cracking occurred above the doorways as it was at this point that the cob was its thinnest (225 mm). Lateral shrinkage had occurred and at the ends of the door lintols cracks appeared.

The Roof

During wall construction it was realised that the initial plan to build a gable at each end of the building was impracticable as an excessive load would have been applied to the wall below. As

At first it was envisaged that a circuit of building would take place but due to restrictions from the stone mason and the initial wet cob this was not possible. The building progressed much faster on the west end than the East, so much so that the western end was at 2290 mm whilst the eastern only 900 mm at one point.

When building finally resumed on the eastern end two lifts of 600 mm were completed on consecutive days to bring the walls to 1880 mm. This enabled the trestle pieces to be positioned and pegged in place with 450 mm 'green' oak pegs.



Lintels were laid in position on top of the trestle pieces (Shown in adjacent picture) and walling resumed. The lintels were not placed evenly or regularly on top of the trestle pieces mainly for aesthetic purposes but also for structural reasons. The lintels were laid wider apart above the window cavities that will bare the weight of the roof trusses. This is to prevent any possible shearing of the cob wall due to excess loading.

The top side of the lintels had old nail stumps protruding from them that were used as a key for the cob so it was decided not to bind the lintels together in any way. The weight of the cob above and the key provided by the old nails was considered to be enough to prevent any lateral movement.

Paring

Most of the paring was carried out from above, after each lift, with a sharpened, flattened garden spade. It cut through the cob with great ease, moreover cut the straw at approximately 25 mm from the surface of the wall. This enabled any water in contact with the wall to run off the straw ends instead of continuing down the surface. This what happens with thatch and not only protected the surface of the wall but gives a superb key for any applied render or limewash..

The surface of the outer wall was artistically sculpted to give an undulating 'aged' feel to the building to blend in with the surrounding ancient constructions.

Timber

The timbers used were salvaged from a pier constructed of Canadian pine. The wood surface has great aesthetic qualities that arise from slight erosion by sea organisms attached to the wood whilst in use. The Canadian pine is much slower growing than its European counterpart giving a much stronger, denser wood, which is pink in colour, as opposed to the lightweight European sandy coloured wood.

can be seen from the plans, at the eastern end there is a pillar between the two windows. It was decided that the load applied to this would have been far in excess of the limitations of damp cob (approx. 672 kpa or 56 psi) . The construction of the roof was changed accordingly to accommodate this, hence a hipped roof was planned instead.

Frost

As would be expected from building so close to winter, hence damp cob, a small amount of damage was incurred from frosts during the winter months. The frost penetrated a mere 15-20 mm into the walls but caused excessive surface cracking and a small amount of surface erosion in some areas. Due to the expansion of the moisture in the walls as they froze the surface density of the cob was greatly reduced, becoming 'spongy' to the touch.

As the ambient temperature increases work will be undertaken to reverse this damage. This is done by moistening the surface of the affected walls and impacting with a mallet to form a solid surface on which to render or plaster.

It was noted that where methods had been used to compress the surface of the wall before any frost, e.g. malletting, the frost damage was negligible.

Additional Work to be undertaken

Internal walls of pre-prepared cob blocks are to be built to enable the finish of the walls to be similar throughout the building and to insulate sound. Sound insulation is of great importance as one of the rooms will be for consultations. The walls will be constructed using lime mortar and keyed into the main walls at each end by cutting chases to receive the blocks.

The internal walls, after 6 months of drying will be plastered using lime-hair plaster and then coloured with a lime wash containing pigment.

External walls will be smooth-rendered, again with lime render, and lime washed. The rendering is of great importance as the building is sited in an exposed situation and will receive extreme weathering, therefore the walls need a degree of protection.

Details of Construction

The construction of the walls finished in the first days of November '95, the overall time taken to build the entire building to this point being approximately 7 weeks.

The timetable for each day of cob construction was 4 people building from 8 am - 1 pm followed by lunch, then myself mixing up approximately 4 tonnes of cob for the following days building. This carried on for 25 days and so overall the building contained 98 tonnes of wet cob (not 100 as at least 2 tonnes were removed during paring). This contains 2 tonnes of straw and 23 tonnes of stone dust and chippings, involving 500 hours of building labour.

All the paring was carried out by myself and involved approximately 60 hours of labour.

A costing for the building is underway and is not expected to exceed £14,500 which includes wiring, plastering, doors, windows, light fittings and the tin roof.

Overall design

The building was designed with the practicalities of running a business in mind. The rooms had to be reasonably light and large enough for the uses expected of them. I personally would have had slightly smaller and lower windows as was more traditional but in this case practicality outweighs aesthetics.

The design is not particularly traditional and it seems that tradition was certainly not all aesthetics but also structural. The construction has been a great learning process for all involved and without the problems met, much useful experience and knowledge would not have been gained.

Further Cob Work

Work must now be undertaken to repair and restore an adjacent building to enable it to become useable not to mention structurally safe. It is an 25 m longhouse, some of which is two storeys, in much need of attention to stop any further deterioration.

The walls contain some very large cracks that, although they have not moved for quite some time, are in need of repair. A leaking roof has caused extensive erosion and the collapse of certain areas of wall. The building contains many original timbers and original cobbled floors that are also in a poor state of repair.

This project is expected to be finished in mid 1997.

All enquiries to for further information or a visit are welcome at the following address:-

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Devon. EX20 4JJ

Telephone : (01837) 871454

COB AWARENESS SEMINAR
27th January 1996

The Centre for Earthen Architecture, University of Plymouth organised a day seminar at Bicton College of Agriculture. The seminar was aimed initially at the Cob Home Owners and was advertised in many of the local village/town newsletters, and local newspapers. Several D.E.B.A. members kindly gave their time to give a talk - Peter Child, Kevin McCabe, Larry Keefe, Barry Honeysett and Tony Ley. As a result of keeping costs to the minimum we were able to keep the seminar rate low and this appeared to be reflected in the large number of delegates and the positive feedback that we have received.

It was a cold day with snow in North Devon and so we were not surprised to know that few people could not attend, including Mr Howard. Despite this we had an attendance of 95 delegates of which, most stayed until after 5 p.m. Our bookstall and information table proved to be very popular. Lists of D.E.B.A. members, D.E.B.A. publications, information on courses and handouts were all voraciously collected, an excellent P.R. exercise! Many of the delegates had asked to receive the D.E.B.A. Newsletter and we have compiled a list for the D.E.B.A. Secretary. The 'Cob Question Time' provided an opportunity for the delegates to talk with some of the speakers about particular problems associated with their own buildings and many owners had brought photographs which was most interesting.

All the delegates were sent an evaluation sheet and we had received returns representing 17 people - most of the returns found the day 'very use, informative or very interesting' .

The general feeling appeared to be that delegates were satisfied with the information offered, especially with D.I.Y. maintenance and repair techniques, and also found it very useful to know who the specialist's are and how to contact them. Cob Home Owners and Specialists, thank you for your participation.

Sue Harding.

D.E.B.A. WIDER GROUP MEETING - 27TH OCTOBER 1995

This meeting, which was very well attended, took place at Teignbridge D.C. offices, Forde House, Newton Abbot.

The meeting was opened by Larry Keefe, who gave an illustrated talk on several repair and restoration projects with which he had been involved, starting with a cob barn re-build/conversion at Doddiscombsleigh in 1989 and culminating with work in progress at Cullacott, a grade I listed medieval house near Launceston.

Barry Honeysett then talked about various major structural cob repairs which he had specified and supervised, discussing the relative merits of raw earth as opposed to masonry repairs; also showing some slides of 'D.I.Y.' cob repairs carried out at East Butterleigh and Black Dog.

The morning session finished with Kevin McCabe describing the repair works at Town Farm, Gittisham (1991) and his two storey cob extension at Lower Tricombe.

After lunch Sumita Sinha gave a most interesting account of her trip to the south-west U.S.A. and northern Mexico, where she looked at various examples of green architecture, including raw and stabilised earth construction.

Linda Watson then discussed the cob building tradition in an international context, emphasising the progress being made in reviving the use of raw earth in Europe and elsewhere, and showing some examples. The work of the Centre for Earthen Architecture at Plymouth School or Architecture was described, including the research programme and forthcoming training courses.

At the end of the day the issue of subscription membership of D.E.B.A. was discussed and it was agreed that this should go ahead. Details of, and application forms for, membership are included in the newsletter.

CEA/SCHOOL OF ARCHITECTURE/UNIVERSITY OF PLYMOUTH

Due to the response of individuals to the Cob Building Techniques Course, we have rescheduled and re-structured the programme to run on a day release basis. The course which aims to familiarise participants with cob as a building material will also offer the opportunity to have practical experience of repair and maintenance of cob. There will be three lectures based at the University of Plymouth, practical sessions delivered at Bicton/Stallcombe House, Woodbury Salterton and site visits in Devon. The course will run from 24th April 1996. For further information please contact Centre for Earthen Architecture, School of Architecture, University of Plymouth, Hoe Centre, Notte Street, PLYMOUTH PL1 2AR Tel: 01752 233630 Fax: 01752 233634