


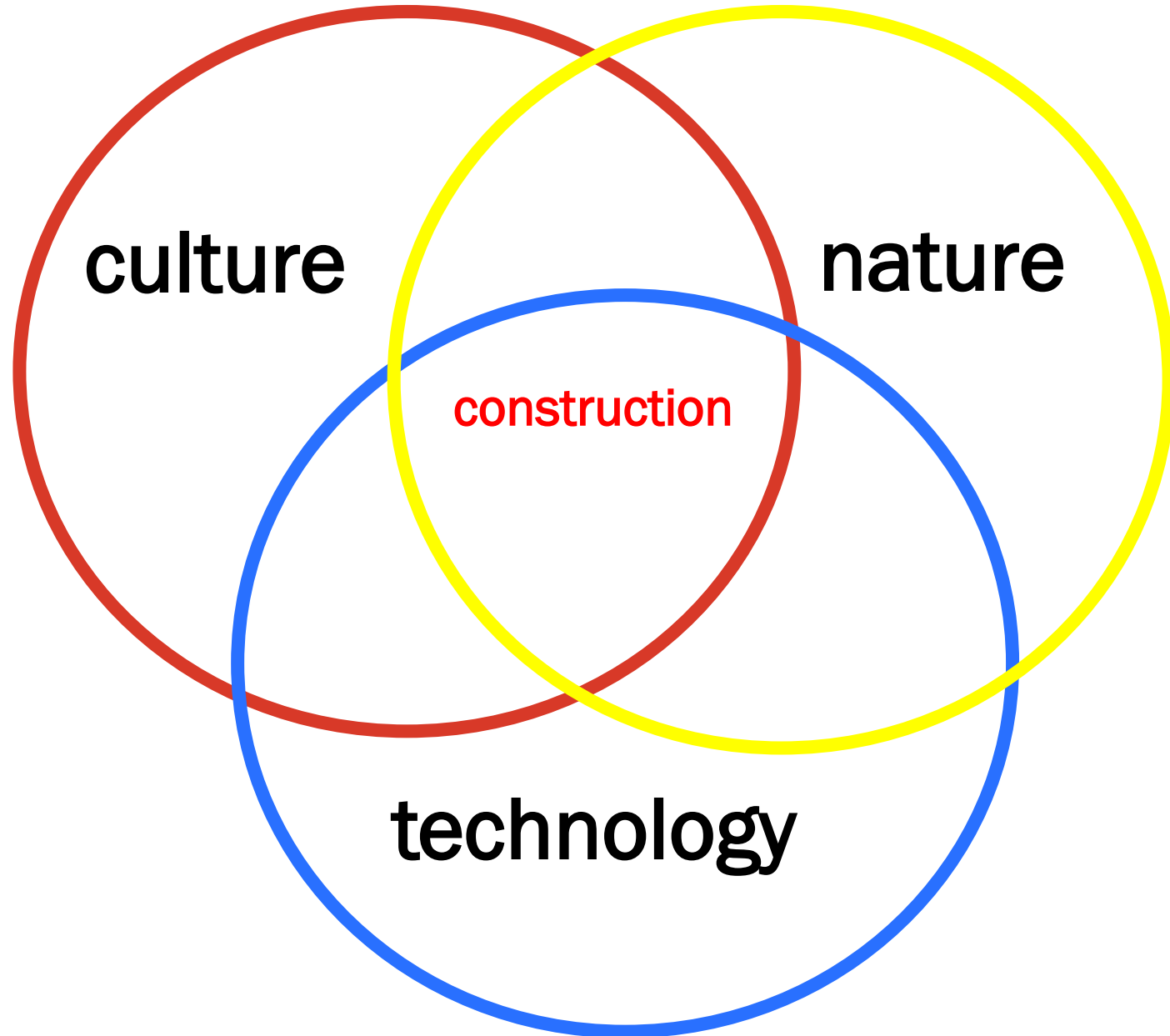


Training for CobBauge

Tom Morton, RIBA, Earth Building UK & Ireland
Francois Streiff, Parc of Contentin & Bessin

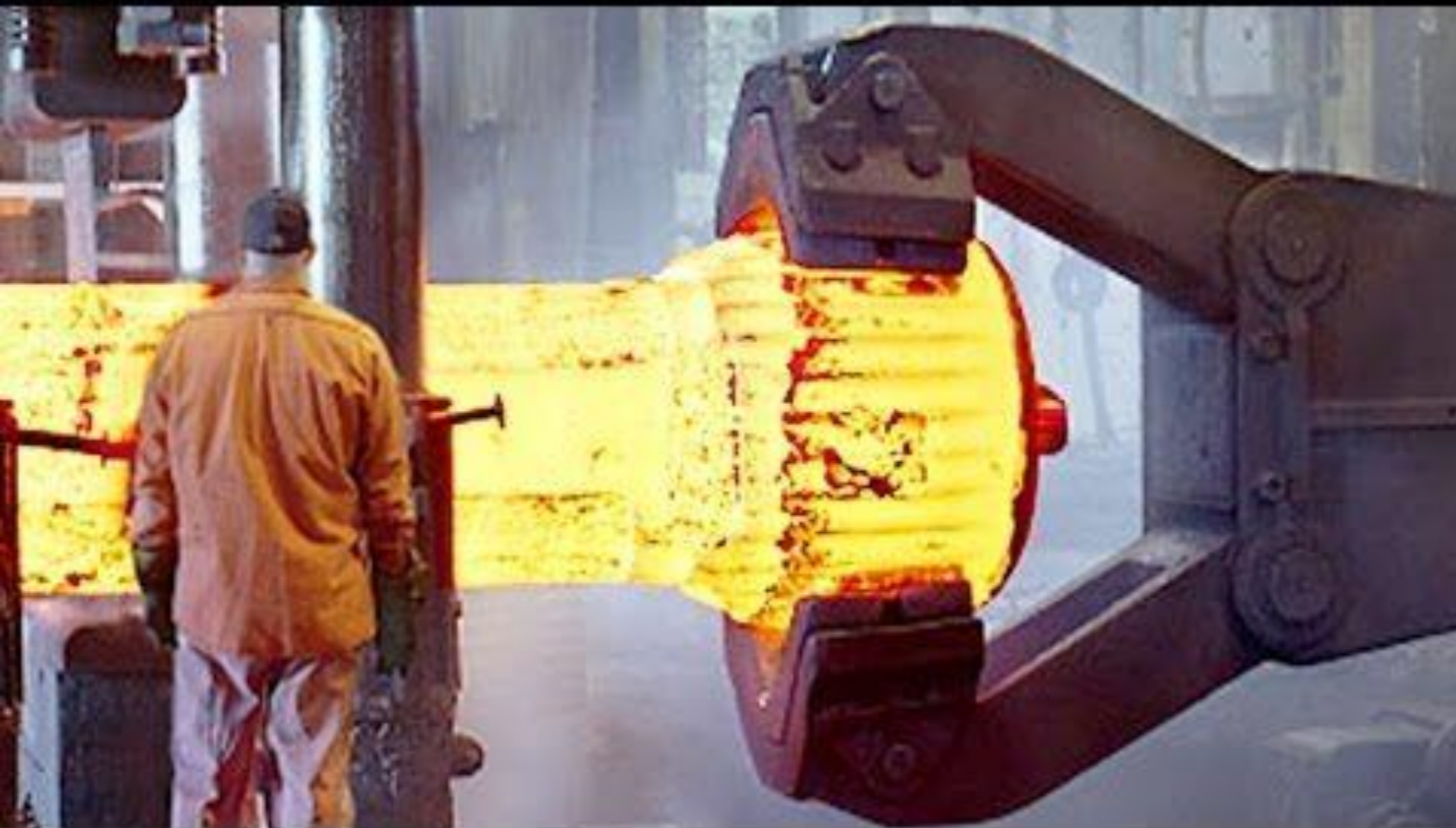
3 Things

- Why do we need training?
 - Who are we going to train?
 - What will they be trained to do?
- 















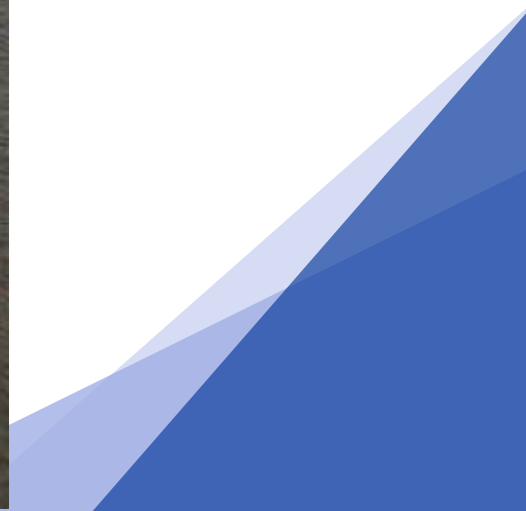
UK Architects Declare Climate and Biodiversity Emergency

Screenshot of www.architectsdeclare.com

Seventeen recipients of the RIBA Stirling Prize are founding signatories of Architects Declare, a UK-based commitment that aims "to create architecture and urbanism that has a more positive impact on the world around us."























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Claytec clay plasters

A practical alternative to gypsum based plasters

Overview	Advantages	General	Product Data
Documentation	Order		



The versatility, flexibility, ease of application and cost-effectiveness of clay plasters makes them a practical alternative to gypsum based plasters. Clay plaster has excellent properties of regulating both temperature and humidity, making it ideal for 'breathing' constructions. Clay plaster also has the major advantage that it can be reworked at any time in the future.





OUR OBJECTIVES

The CobBauge project is part of the work by the European Union to reduce the carbon emissions of the FCE area by 2020 by 20% (2012/27/UE). The energy consumed for the building sector currently represents 40% of the total energy produced (UE2010), 60% of which is used by occupants to heat buildings.

The cob houses that are commonly found in the Channel regions of France and Great Britain do not meet the current thermal regulations. So the objective of the CobBauge project is to create new cob materials and processes that are both economical and compliant with building standards while answering the needs for the preservation of the local historical heritage.

The CobBauge project was selected under the European cross-border cooperation Programme INTERREG V A France (Channel) – England co-funded by the ERDF and involves 5 French and British partners.

LES OBJECTIFS

Le projet CobBauge s'inscrit dans le cadre des actions de l'Union Européenne visant à réduire de 20% les émissions de CO² de la zone FMA d'ici 2020 (2012/27/UE). L'énergie consommée pour le secteur du bâtiment représente actuellement 40% de l'énergie totale produite (UE2010) dont 60% est utilisé par les occupants pour chauffer les bâtiments.

Les maisons en bauge que l'on retrouve couramment dans les régions frontalières de la Manche en France et en Grande-Bretagne ne satisfont pas les réglementations thermiques actuelles. Le projet CobBauge a donc pour objectif de créer de nouveaux matériaux et procédés de bauge à la fois économiques et conformes aux normes du bâtiment tout en répondant également aux besoins de préservation du patrimoine historique local.

Le projet CobBauge a été sélectionné dans le cadre du Programme européen de coopération transfrontalière INTERREG V A France (Manche) / Angleterre cofinancé par le FEDER et rassemble 5 partenaires français et britanniques.

Why do we need training?

- To control quality
 - To deliver efficiency
 - To develop sector skills
- 

HEMP LIME CONSTRUCTION

A guide to building with hemp lime composites

Rachel Bevan and Tom Woolley

With contributions by Ian Pritchett, Ralph Carpenter, Peter Walker and Mike Duckett



bre press



Who do we need to train?





Training Contractors



Apprentices



Professionals



Planning & Building Standards



UK Construction Sector is Still Lacking Female Construction Workers

February 28, 2017

AXA Business Insurance has released a new report calling for more effort to go into recruiting female construction workers in the UK.

According to the firm, recruiting women into the building trades is just as important as encouraging them onto FTSE 100 boards.





How will training be delivered?





Earth Building UK and Ireland

- Trans-National organisation
 - Charity
 - Active in heritage, sustainability and training
 - Membership network
 - Who are we? Builders, designers, engineers, producers, academics, educators, artists, craftspeople, public
- 

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Clayfest! 2018

International Festival
of Earthen Architecture

24 - 29 September

Irish National Heritage Park
Ferryarrig, Co. Wexford, Ireland

Clayfest! Workshops

24th - 27th September 2018

Clayfest! Workshops

Artistry in Clay

Clay plasters can be applied to all types of buildings. Learn decorative techniques, including sculpting, carving and polishing with natural building legends, Bill and Athena Steen of the Canelo Project, U.S.A.

Monday 24th
Tuesday 25th
Wednesday 26th
Thursday 27th

Tickets: €85 per day



Mudwall Repair

Traditional earth-built homes are hidden all over Ireland. Learn about the most common causes of mudwall failure and how to fix them with Colin Ritchie and Féile Butler (conservation architect) of Mud and Wood, Sligo.

Tuesday 25th
Wednesday 26th
Thursday 27th

Tickets: €85 per day



Upcycled Cob Dome

Build a cob dome incorporating found objects. Combine contemporary cob construction techniques with waste crisis management, led by Louise Halestrap & Lizzie Wynn, the Centre for Alternative Technology, Wales.

Monday 24th
Tuesday 25th
Wednesday 26th
Thursday 27th

Tickets: €85 per day



Stone & Earth Mortar

Thousands of our traditional stone buildings were built with mud. Tried & tested for centuries, earth mortars are robust and enduring. Build a stone sculpture under the expert eye of local mason, Brian Tobin (Wexford)

Monday 24th
Tuesday 25th
Wednesday 26th
Thursday 27th

Tickets: €85 per day



Earth Block Towers

Why build with concrete blocks, when you can build with earth blocks instead? Join Tom Morton and Becky Little (RebEarth, Scotland) in building a series of round towers exploring a broad range of materials and natural building techniques.

Monday 24th
Tuesday 25th
Wednesday 26th

Tickets: €85 per day



Wattle and Daub

Learn how and when to harvest hazel and willow, how to prepare it, how to build a wattle wall, and how to mix and apply the daub, guided by Leitrim-based woodsmen, Niall Miller and Joe Gowran of Muinir na Coille.

Monday 24th
Tuesday 25th
Wednesday 26th
Thursday 27th

Tickets: €85 per day



Reed & Earth Plaster

This is an ancient Spanish tradition, being brought to Ireland for the first time by Anna Altemir of Base-A, Spain. Design and build a pavilion by sewing reeds together and applying a naturally waterproofed clay plaster.

Monday 24th
Tuesday 25th
Wednesday 26th
Thursday 27th

Tickets: €85 per day



Turf Walls & Roofs

Daniël Postma (ArchaeoBuild, The Netherlands) will look at variations in turf and how different types have distinct roles to play. Harvest your own turf with an array of specialised tools, build turf walls and a turf roof.

Monday 24th
Tuesday 25th
Wednesday 26th
Thursday 27th

Tickets: €85 per day



Clay-Hemp Walls

This cutting-edge technology combines clay's health benefits with hemp's insulating properties. Play with mixes and build experimental thermal walls with natural building expert, architect and author, Tom Woolley (Co. Down).

Monday 24th
Tuesday 25th
Wednesday 26th
Thursday 27th

Tickets: €85 per day





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European Training



Pirate Project - ECVET



ECVET Earth Building

From Raw Material to Mix

Unit M

Learning outcomes

Levels 3+4

KNOWLEDGE

- Sources of information about local raw materials: using a soil map, existing buildings, site investigation, reports, landscape observation, local knowledge
- Legal and environmental controls of earth extraction
- Constituents and properties of earth: cohesion, grain size distribution, plasticity, Optimum Moisture Content (OMC), colour
- Different clay minerals and their properties
- Field and/or Laboratory identification tests for earth
- Relation between mix composition (particle size distribution, cohesion) and finished wall or plaster technique, strength, durability, surface
- Principles of consolidation: physical and chemical
- Role of the fibres in earth structure
- Use of manufactured products
- Extraction process to ensure homogeneous uncontaminated mix
- Methods for ensuring mix proportions: samples, test wall
- Effect of order and timing on extraction, storage, mixing
- Effect of storage conditions on raw materials and mix: weather, moisture content, availability, flow degradation
- Tools, machinery and equipment
- Mixing techniques, manual and mechanical
- Relevant codes of practice and current standards for quality of work and materials
- Current legislative workplace requirements
- Health and safety regulations

SKILLS

- Raw material sourcing, testing and processing, recipe**
 - Take representative soil samples
 - Ensure a continuous control of extraction
 - Make field tests
 - Make samples, mortar samples, test walls or cubes to determine appropriate mix
 - Assess the strength of the samples
 - Calculate the materials quantities, volumes, proportions
 - Prepare raw materials (dry, grind, sieve, soften in water, store, transport...)
- Mix production**
 - Assess and choose the mixing techniques
 - Mix to achieve even distribution of all materials
 - Monitor and control moisture content of the mix
 - Avoid disaggregation during transport and mixing
 - Modify the composition of the mix, according to a required task, weather conditions and equipment
- Organisation**
 - Order the tasks involved in preparing the earth
 - Organise the earth extraction, preparation and protection site (protection, storage, access, facilities)
 - Select and use the correct tools and machines for extraction, transport, preparation and mixing of materials
 - Clean, maintain and store mixer and other equipment

ECVET Earth Building

Units of learning outcomes for eco-construction, renovation and decoration with unfired clay materials

Presentation of new units developed under the PIRATE project for load-bearing building systems, adding to existing units for clay plasters (units C-Clayplaster, D-Interior Design, O-Decorative techniques).

The new units of the ECVET Earth Building address competences from levels 3 to 6 of the European Qualification Framework. Up to EQF level 4, the learning outcomes in the building sector consider execution. From level 5 on, «make» becomes «design», «coordinate» and «control».



UNIT M

Prepare the earth
to make building materials

Produce earth building material for:

- tamped earth mix, CEB compressed earth blocks mix,
- cob mix,
- planning mix, moulded or extruded bricks mix, masonry mortar.

From extraction to mixing:

- cover the raw material (dry, grind, sieve, soak);
- select and add other earths, aggregates, fibres or organic materials;
- transport, store;
- control the water content depending on the material being produced.

UNIT P

Production of moulded,
compressed or extruded
earth bricks

On or off-site prefabrication, starting from the already prepared mix, **ensure the brick manufacturing steps** (manual or mechanical), drying, handling and storage.

UNIT F

Make formwork
for rammed earth

Choose materials and type of formwork, taking into account the pressure, the assembly, removal and rotation of the formwork.

Set up formwork to ensure complete stability.



UK National Occupation Standard

COSVR549

Erect, conserve or restore earthen structures



Overview

This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components and equipment
- 4 erecting and dismantling temporary support in order to prepare, conserve, repair, maintain or restore earthen structures on conservation and restoration projects

319/13

Erecting, Conserving or Restoring Earthen Structures in the Workplace

New and Existing Centres: 0344 994 4020
Candidates and Employers: 0344 994 4135

Qualification Unit

Cskills Awards L3 NVQ Diploma in Heritage Skills (Construction) - Earth Builder

QU2870

Unit Ref	QC7549
Title	Erecting, Conserving or Restoring Earthen Structures in the Workplace
Level	3
Credit Value	31
Learning outcomes <i>The learner will be able to:</i>	Assessment criteria <i>The learner can:</i>
1 Interpret the given information relating to the work and resources when erecting, conserving or restoring earthen structures	<div>1.1 Interpret and extract information from drawings, specifications, method statements, schedules and manufacturers' information.</div> <div>1.2 Comply with information and/or instructions derived from risk assessments and/or method statement.</div> <div>1.3 State the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented.</div> <div>1.4 Describe different types of information, their source and how they are interpreted in relation to:<ul style="list-style-type: none">– drawings, specifications, method statements, schedules, manufacturers' information, archaeological watching brief, historical conservation plans and charters, legislation and regulations governing buildings.</div>
2 Know how to comply with relevant legislation and official guidance when erecting, conserving or restoring earthen structures	<div>2.1 Describe their responsibilities under current legislation and official guidance whilst working:<ul style="list-style-type: none">– in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting.</div> <div>2.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative.</div> <div>2.3 State what the accident reporting procedures are and who is responsible for making reports.</div>
3 Maintain safe working practices when erecting, conserving or restoring earthen structures.	<div>3.1 Use personal protective equipment (PPE) and access equipment safely to carry out the activity in accordance with legislation and organisational requirements when erecting, conserving or restoring earthen structures</div>

National Training Standard: SVQ in Heritage Skills (Construction) (Earth Builder) at SCQF level 6

Mandatory Units: Candidates must complete all 8 Units from this group

SQA code	SSC code	Title	SCQF level	SCQF credits
F7A9 04	COSVR209v2	Confirm Work Activities and Resources for the Work	6	18
F7AA 01	COSVR210v3	Develop and Maintain Good Working Relationships	8	8
F7AB 04	COSVR211v2	Confirm the Occupational Method of Work	6	14
HG5R 04	COSVR546v1	Working on Conservation and Restoration Projects (Earthen Structure)	6	30
FN2J 04	COSVR641v2	Conform to General Workplace Health, Safety and Welfare	6	12
HG6N 04	COSVR547v1	Conserve or Restore Stonemasonry, Brickwork or Earthen Structures	6	27
H0WE 04	COSVR548v1	Prepare and Mix Lime Mortars	6	12
HG5P 04	COSVR549v2	Prepare and Erect or Conserve and Restore Earthen Structures	6	31

European Qualifications Framework

- Reference framework that acts as a translation device comparing qualifications and levels across Europe
- Eight levels, described in learning outcomes, from basic (level 1) to advanced (level 8)
- Applies to all types of education
- Promotes the validation of non-formal and in-formal learning










ECVET Earth Building Handbook

LearnWithClay




III








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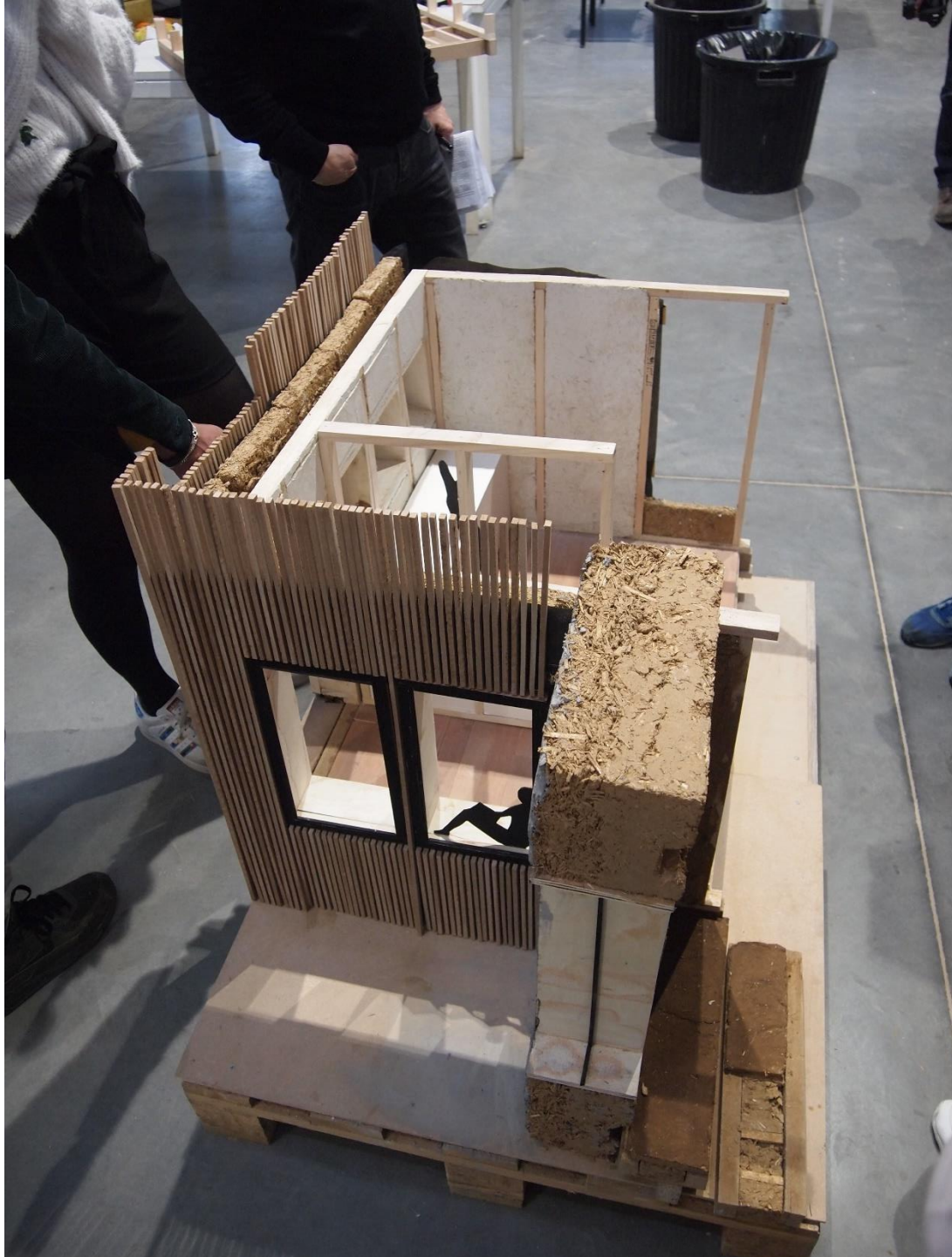
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Clayfest 2017, 12-17th June, Lincoln Castle, Lincoln, UK.

Hello Earth Building enthusiasts, and welcome to this year's EBUKI Festival and Conference in Lincoln. Our theme explores the relationships between Earth Building and other materials, construction and design and training, thinking about building bridges through knowledge, skills, research and training.

















Training for CobBauge

Tom Morton, RIBA, Earth Building UK & Ireland
Francois Streiff, Parc of Contentin & Bessin





