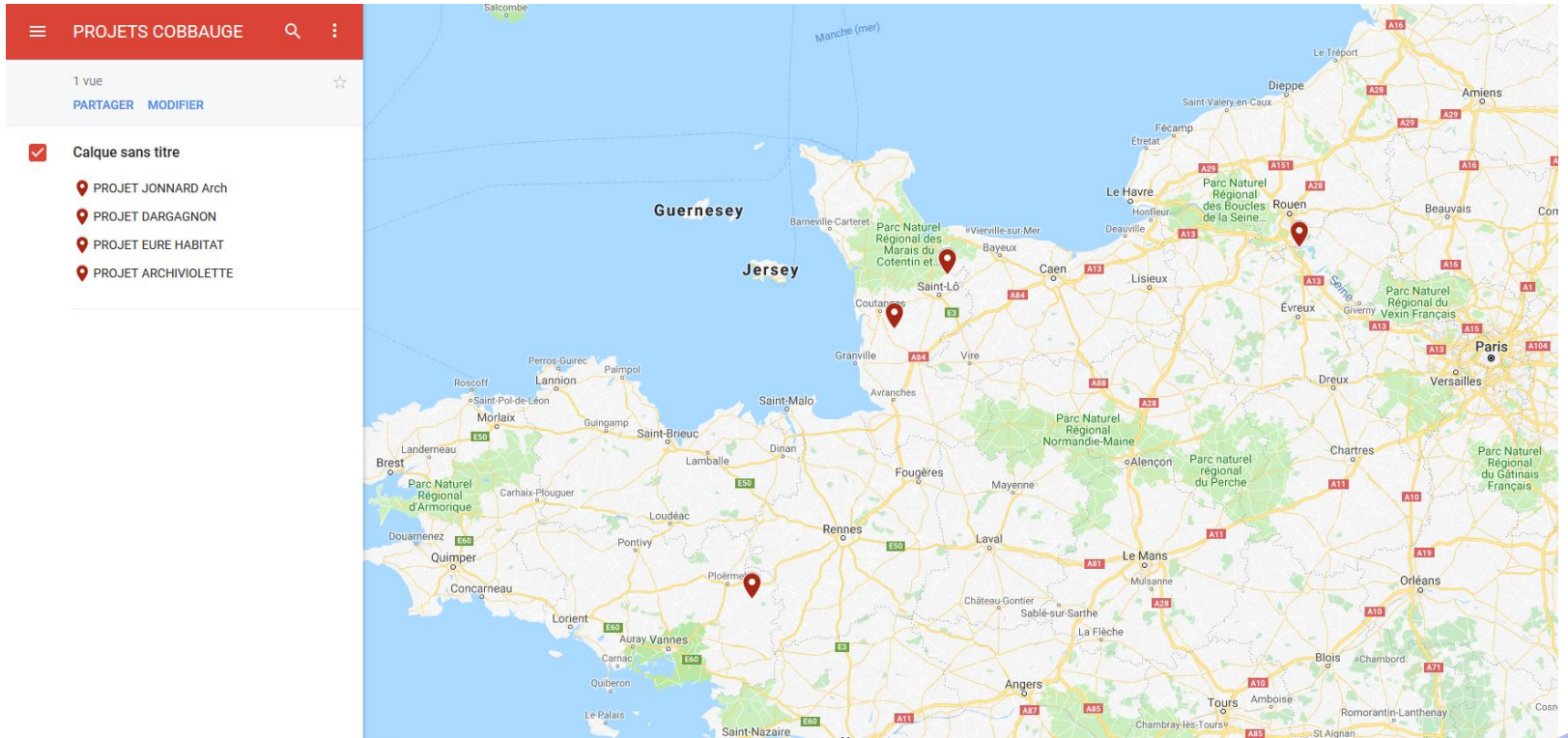
HUDSONArchitects

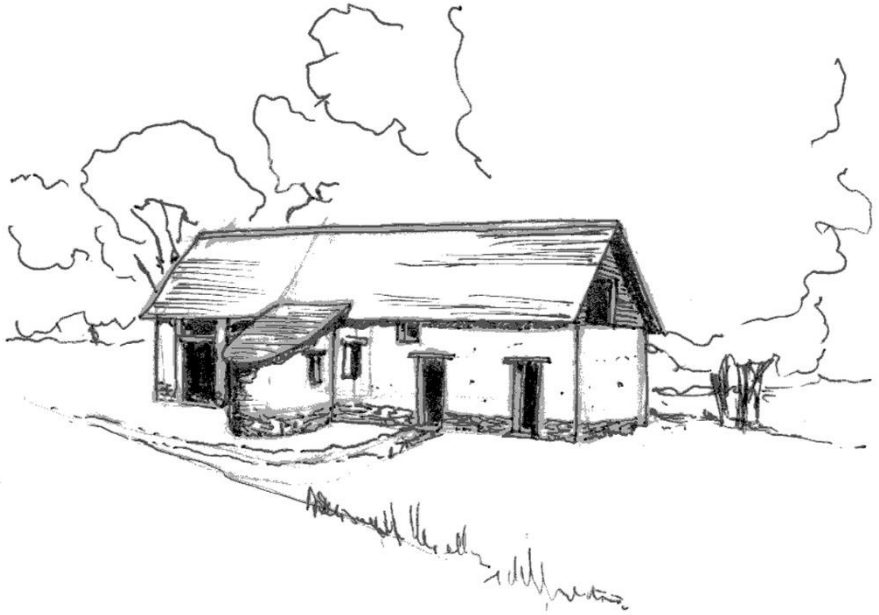
# François Streiff

# The Buildings

# In France

- 4 contacts
  - 2 social landlords in Normandy
  - 1 private client with an architect in Britany
  - 1 private client for a reconstruction of an old mill in Normandy

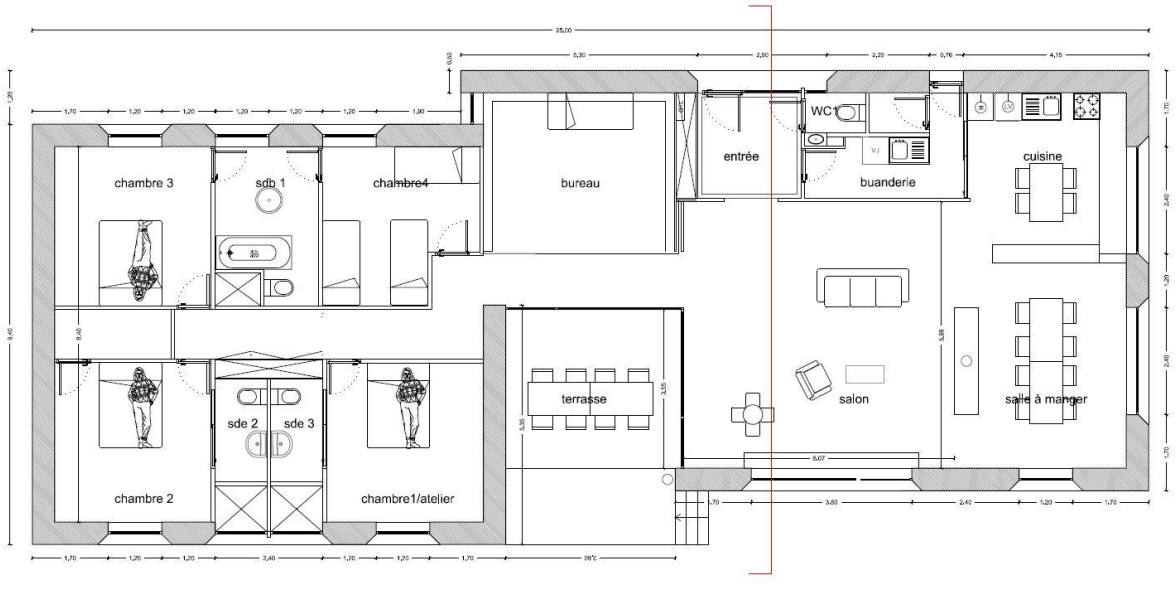


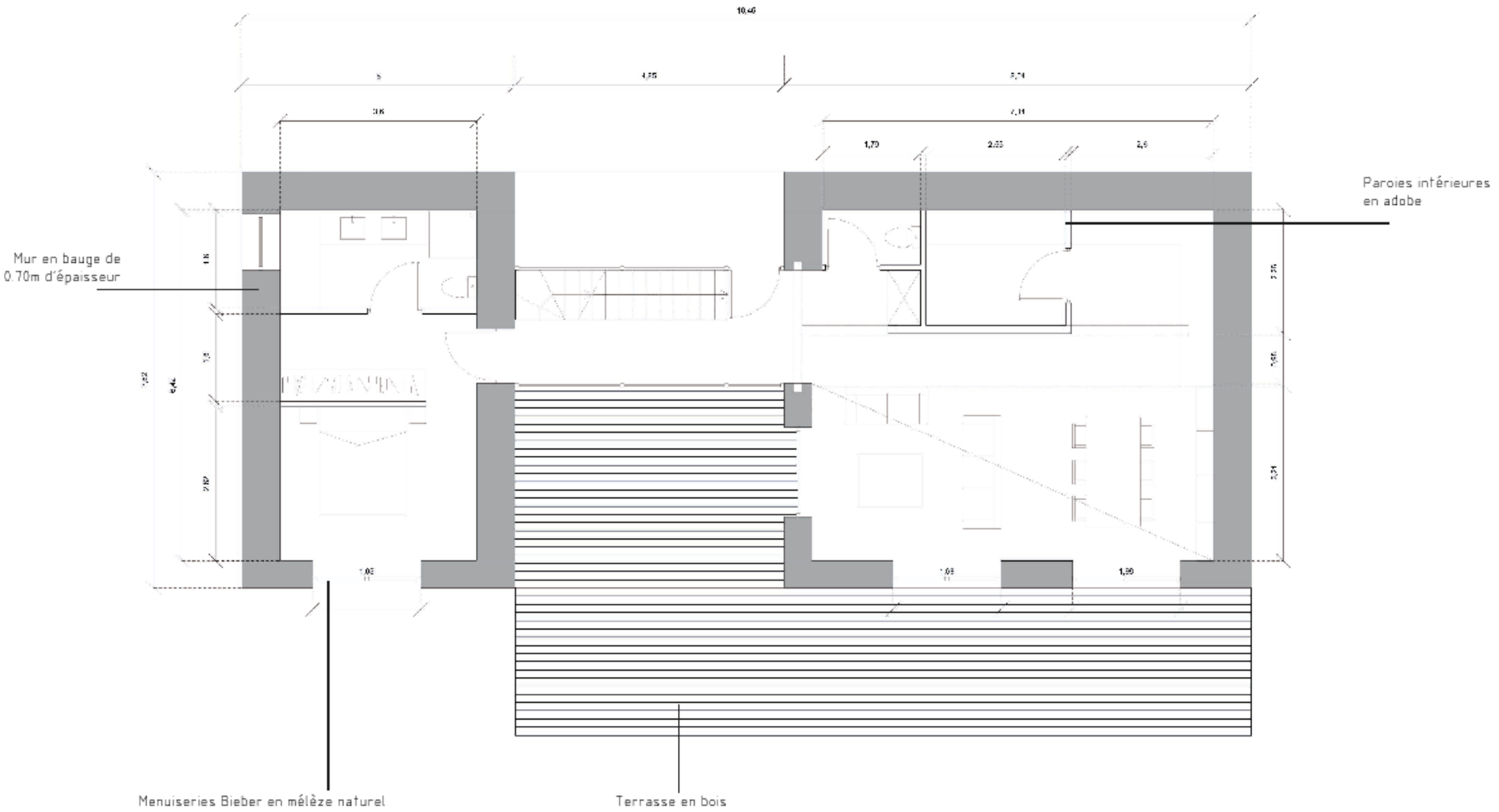


# Reconstruction project

- A way to test cobbauge in an another way:
  - cob outside to respect heritage specificities
  - Light earth on one existing traditional cob wall for thermal improvement

# Samples of a possible






Grand pavillon : Plan rez-de-chaussée 1/75 eme avec côtes

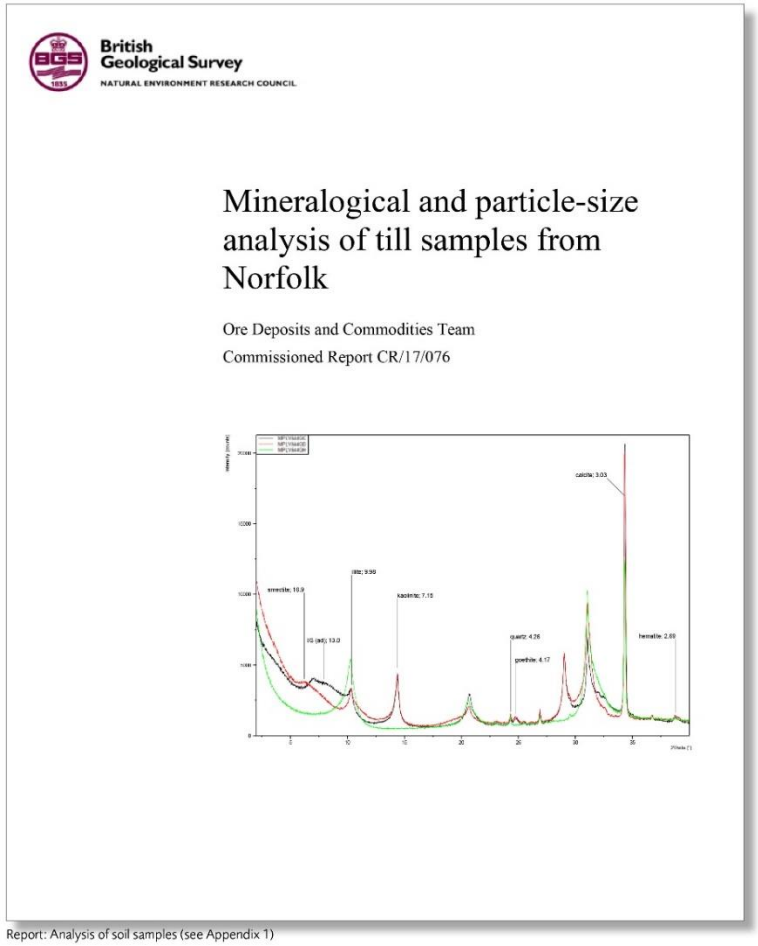
Petit pavillon : Plan rez-de-chaussée 1/75 eme avec côtes

# PROPOSAL - USING MATERIALS FROM SITE

We have now undertaken soil analysis of earth from the site in order to check it's suitability for construction and to inform our decisions on the best methods to be used.

A trench was dug and exposed two different bands of soil with differing composition. Analysis of the soil shows a high clay content (see Appendix 1 for report). This makes it ideal for either clay lump or cob wall construction but not for rammed earth (see detailed analysis from Colin Williams in Appendix 2). For either type of construction the soil requires modification with the addition of sand and straw in order to make it useable for building. This is normal for this type of construction.

Trial trench being dug on site to analyse the soil



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Mineralogical and particle-size analysis of till samples from Norfolk

Ore Deposits and Commodities Team
Commissioned Report CR/17/076

Report: Analysis of soil samples (see Appendix 1)

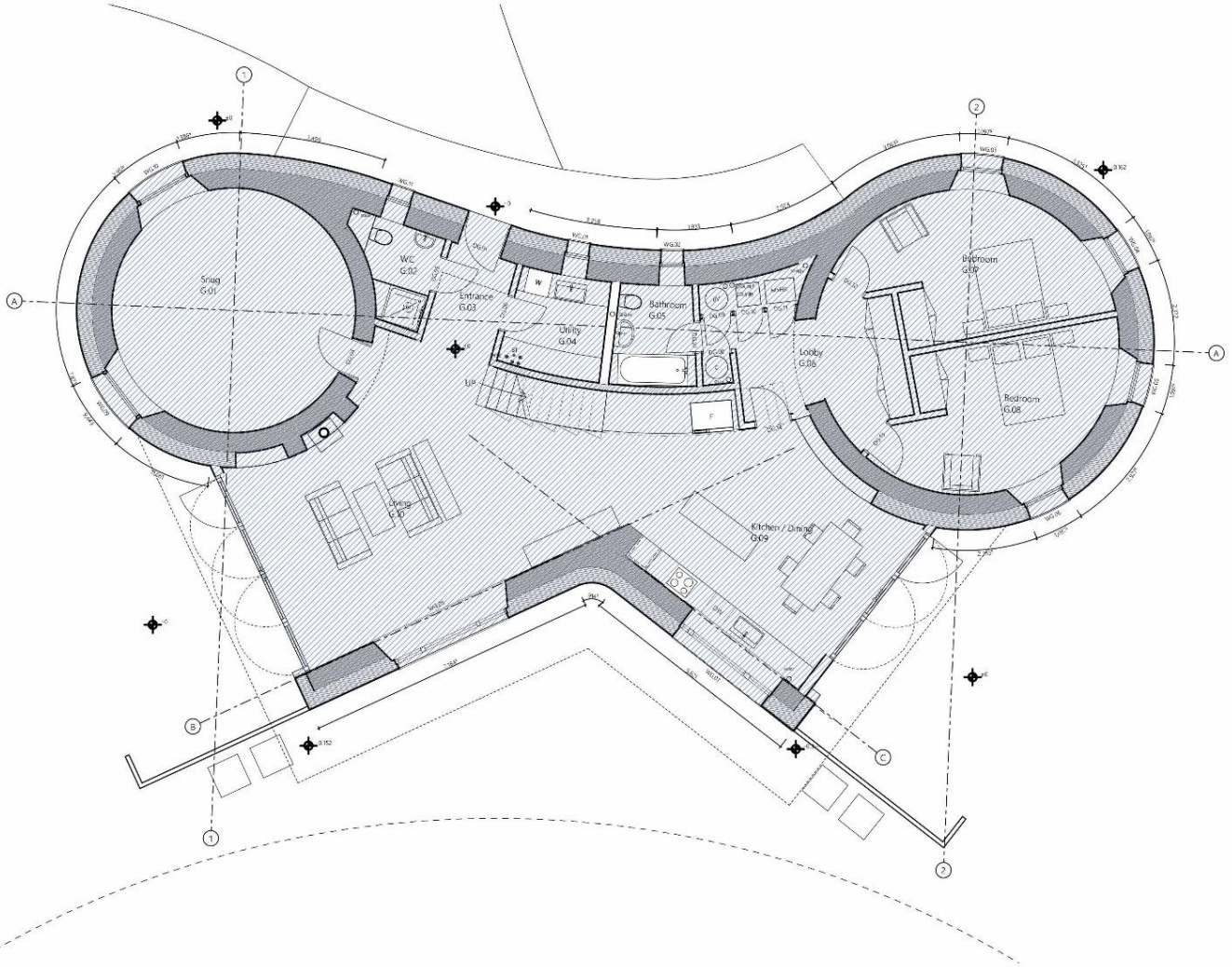
# Earth House – Before CobBauge

- Site in Norfolk
- High clay content
- Clay lump or cob?

# Earth House Foulsham

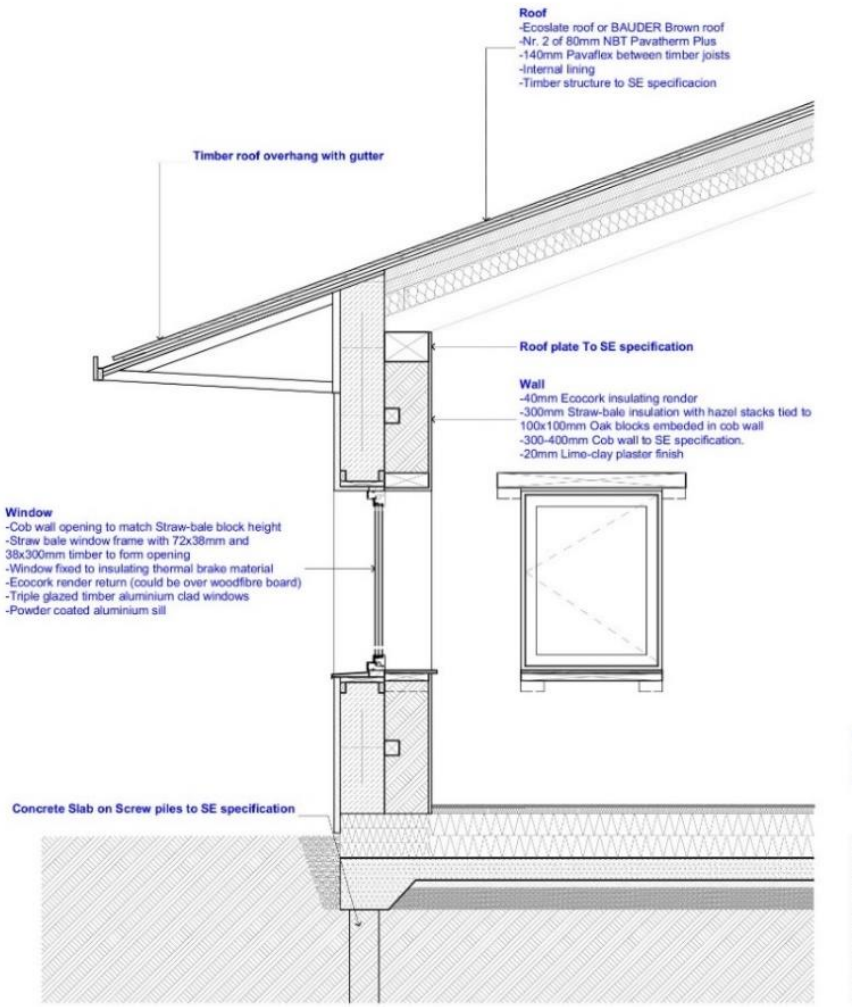
## Earth House – Before CobBauge

- Mixture of rectilinear forms and curves lends itself to cob




# Earth House – Before CobBauge

- Flowing plan
- Issue is how to insulate the cob – straw bales

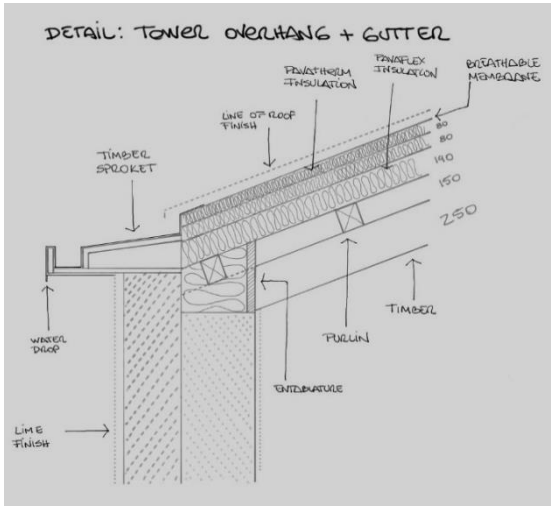


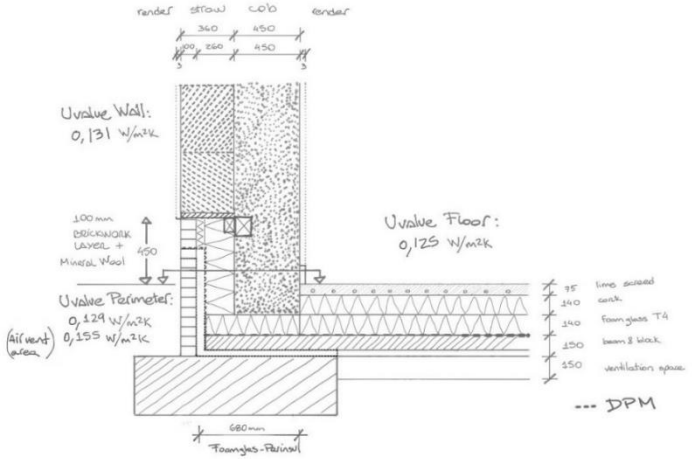

Section 1 through south wall

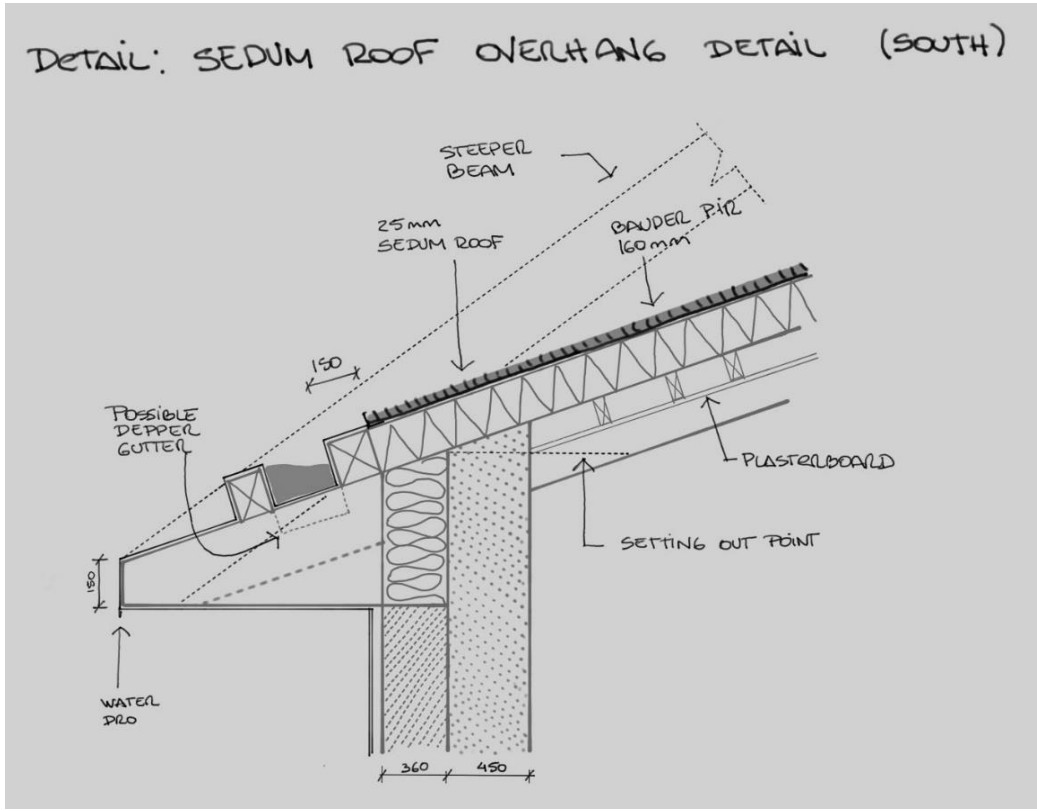
# Earth House Foulsham

## Earth House - Before CobBauge

- 300mm thick cob wall
- 300m straw bale insulation




# Earth House – Before CobBauge

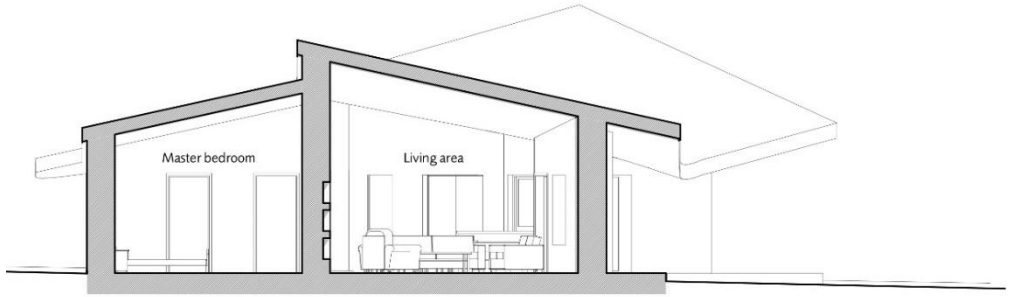
- Plinth
- Eaves

# CobBauge House

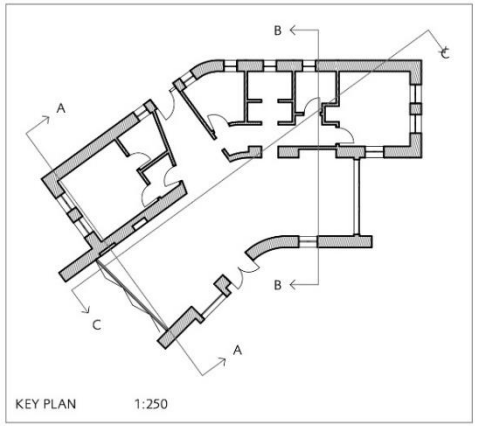
- House rethought applying CobBauge


# CobBauge House

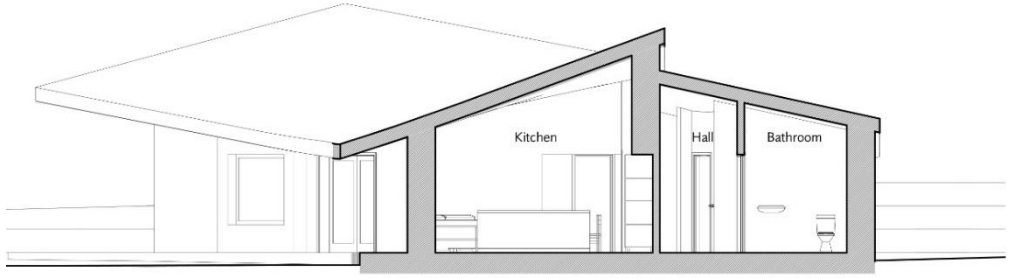
- Straight walls
- Externally insulated
- Cob spine wall enhances performance of house



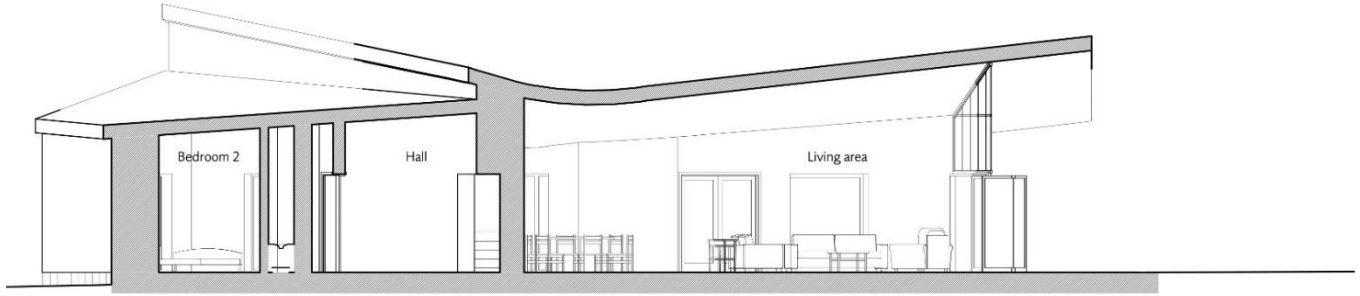

SECTION A-A 1:100




KEY PLAN 1:250




SECTION B-B 1:100

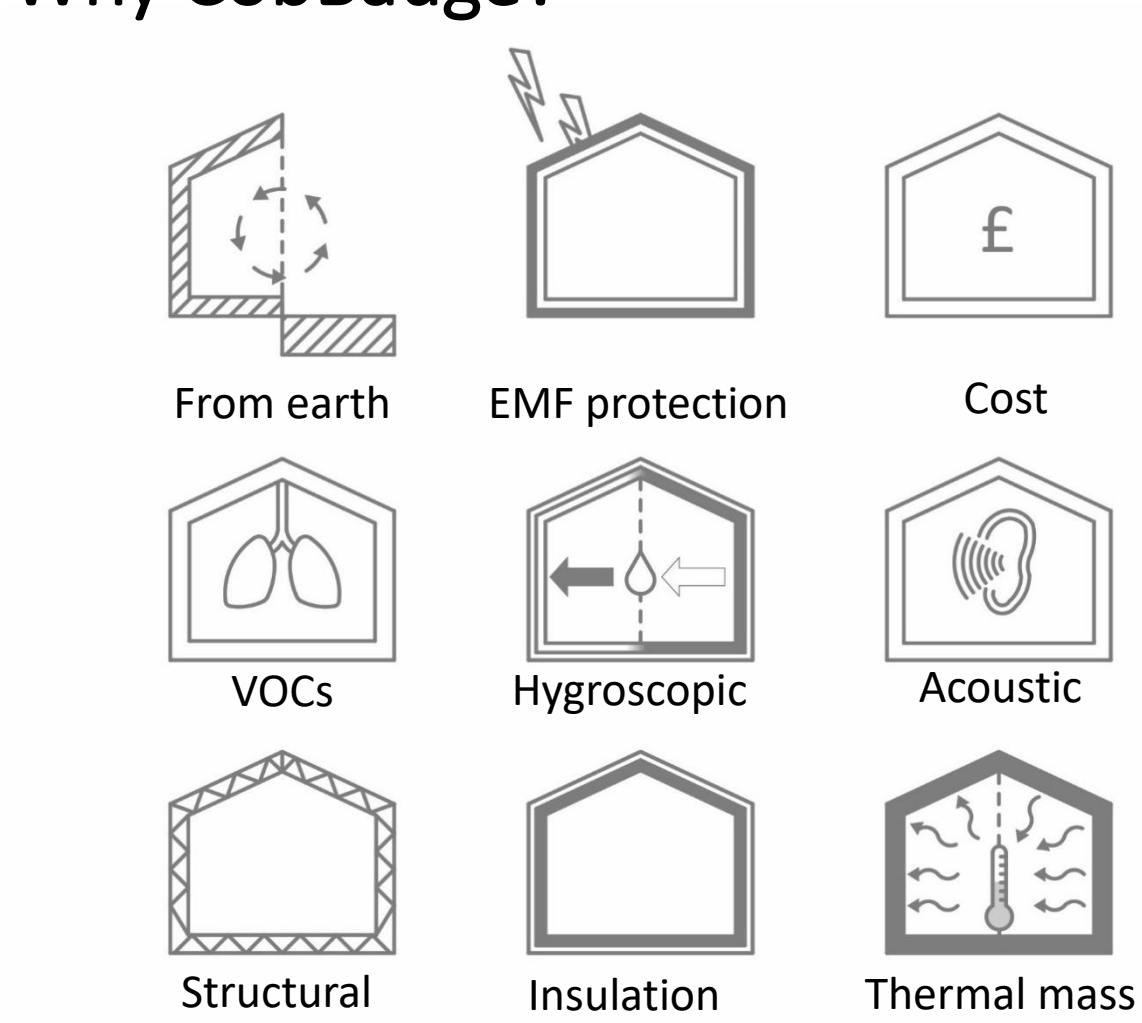



SECTION C-C 1:100

# CobBauge House

- Healthy interior spaces

# Why CobBauge?




## CobBauge

- CobBauge can bring a host of advantages that are inherent to the type of construction.
- CobBauge works effortlessly with Building Biology's approach to better buildings.


Building Biology

## CobBauge

Building biology is an approach that incorporates healthy design principles in the design from the outset.

- **Healthy**
- **Comfortable**
- **Energy efficient**

# CobBauge House

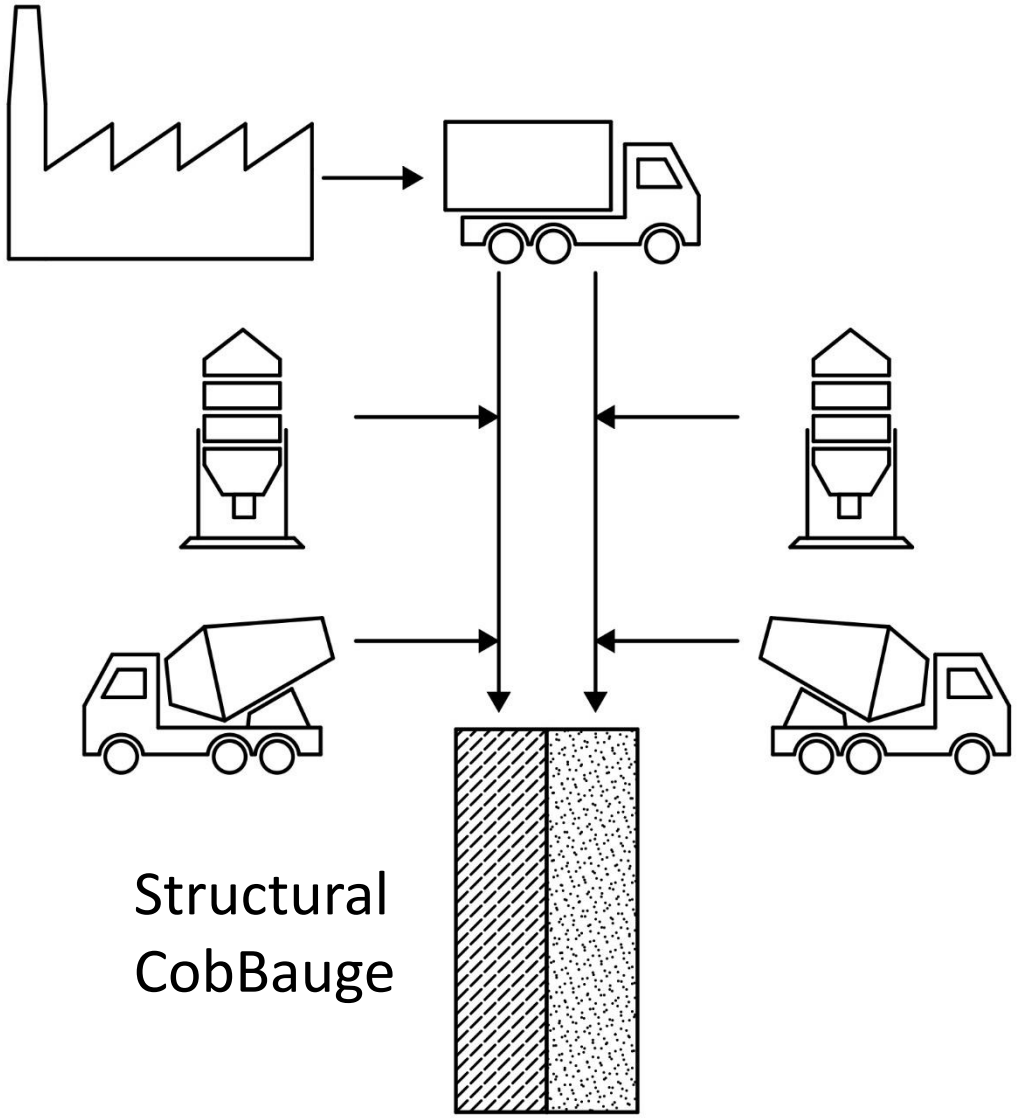
This home has high aspirations including:

- Low embodied energy
- High indoor air quality
- Stable temperatures due to high thermal mass
- Good thermal performance
- High levels of air tightness

CobBauge test sample

# CobBauge House

- CobBauge could be the innovation cob needs
- Could become mainstream bringing the low energy advantages of earth building to a bigger market.



Prefabrication?

Onsite mixing?

Off site mixing?

Structural CobBauge

# CobBauge House – Further thoughts

- Learning from others, for example the concrete industry
- CobBauge has the potential to be either or all of these construction methods
- Mainstream is the goal