

SHARE A ROOF

Vacancy and decline in the rural area on one side and urban growth on the other side ask for new forms of spatial use. Exploring adequate solutions to guaranty the livability in the whole region of Arnhem Nijmegen is a necessity. New forms of agriculture, biobased economy, optimized deploying of the natural occurred qualities, recognizing and taking advantage of the direction of the landscape are components of this challenge. We can't afford any spills anymore.

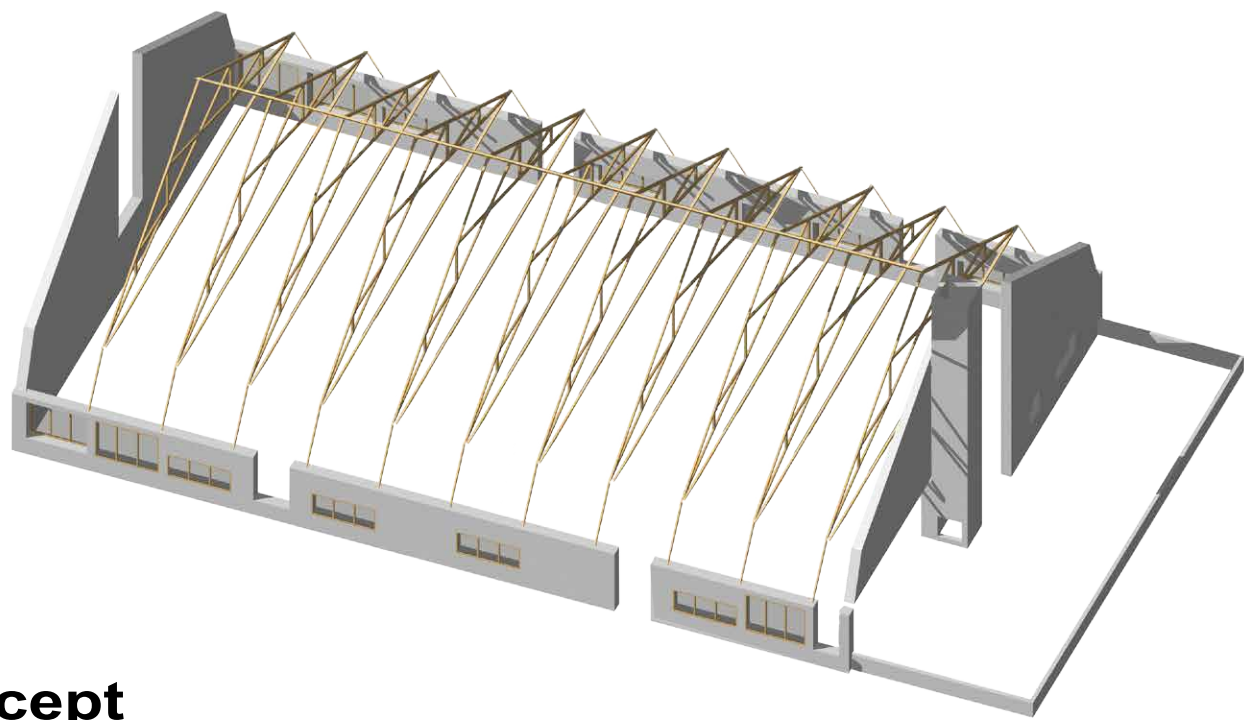
This new spatial interaction of the inhabited areas in combination with the rural landscapes offers not just a solution to outward moving families seeking for authenticity, but also rescues the small farmer businesses which are struggling to survive these days. The idea of a makeable world will be abandoned and the localized and seasonal qualities will become perceived again, respected and embedded in our daily life.

Due to shifts in land use the control has become very scattered and cluttering forms a huge threat to the outskirts. Therefore suitable locations for big scale agricultural activities and combined functions as nature management, housing and leisure must be rediscovered. A search for a new balance in functions and scales while retaining old landscape values and creating new ones.

Changing lifestyles and spatial tension result in smart combinations of housing and food production. This new form of collaboration acts like an economic driver for the cluttering boundary between urban and rural areas. Because of the restored balance between both, the needs for food, products and labor are locally available. The individual will find local solutions to problems and thus can identify again with the history of that place.

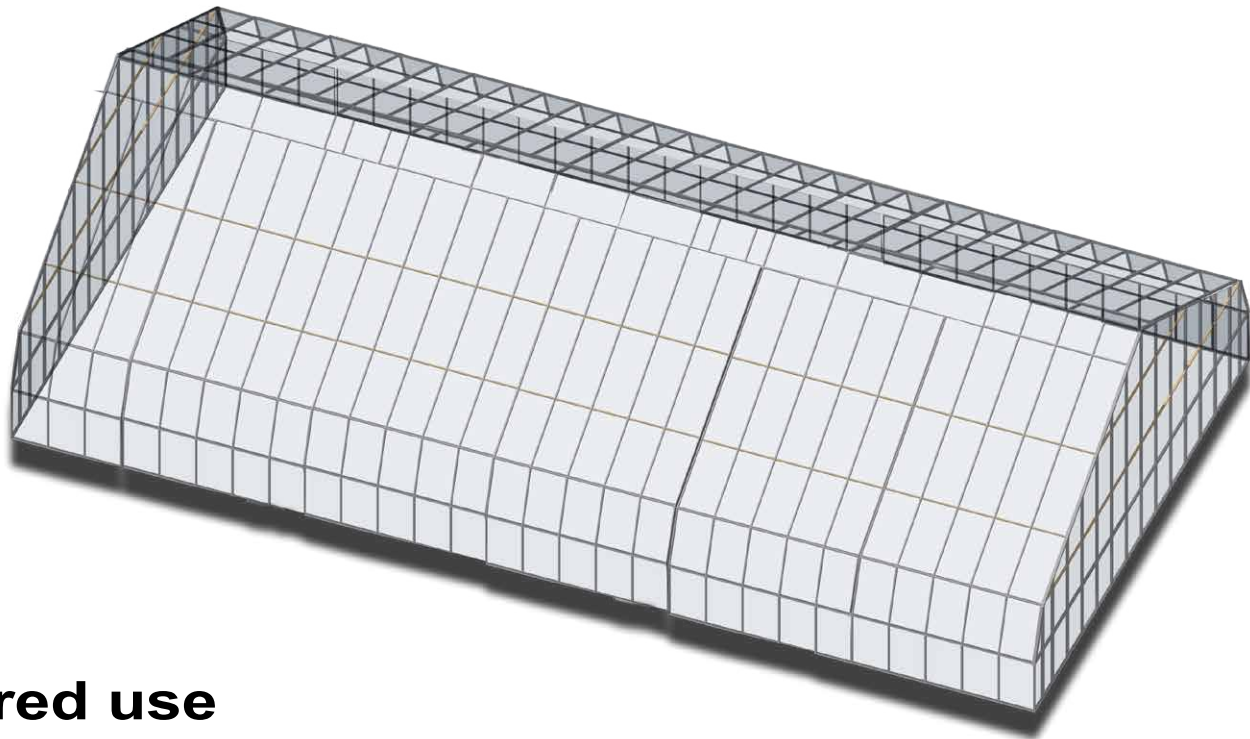
The proposal will give place to a generation which will deal different, more carefully with the natural occurred resources to avoid spills. The result contains a living and working arrangement, housing that new generation, providing a restored balance between production land and inhabited areas.

“An answer to the rising vacancy rate in rural areas in combination with local goods and new forms of settlement”



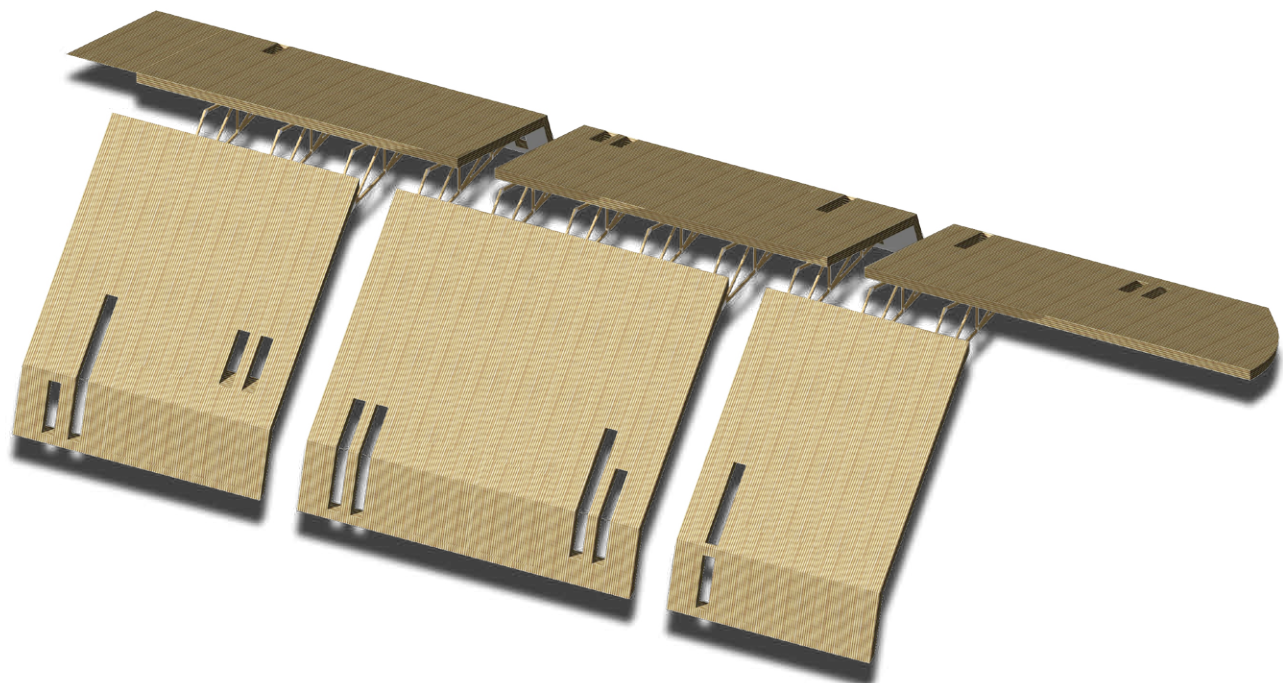
concept

On a solid base of hard work the lightness of living in the outskirts can occur. The soberness of the design is important to get the message of the uncertainty of the existence clear at the future users. Next to this, the awareness of our footprint in terms of daily food takes a great part in the proposal.



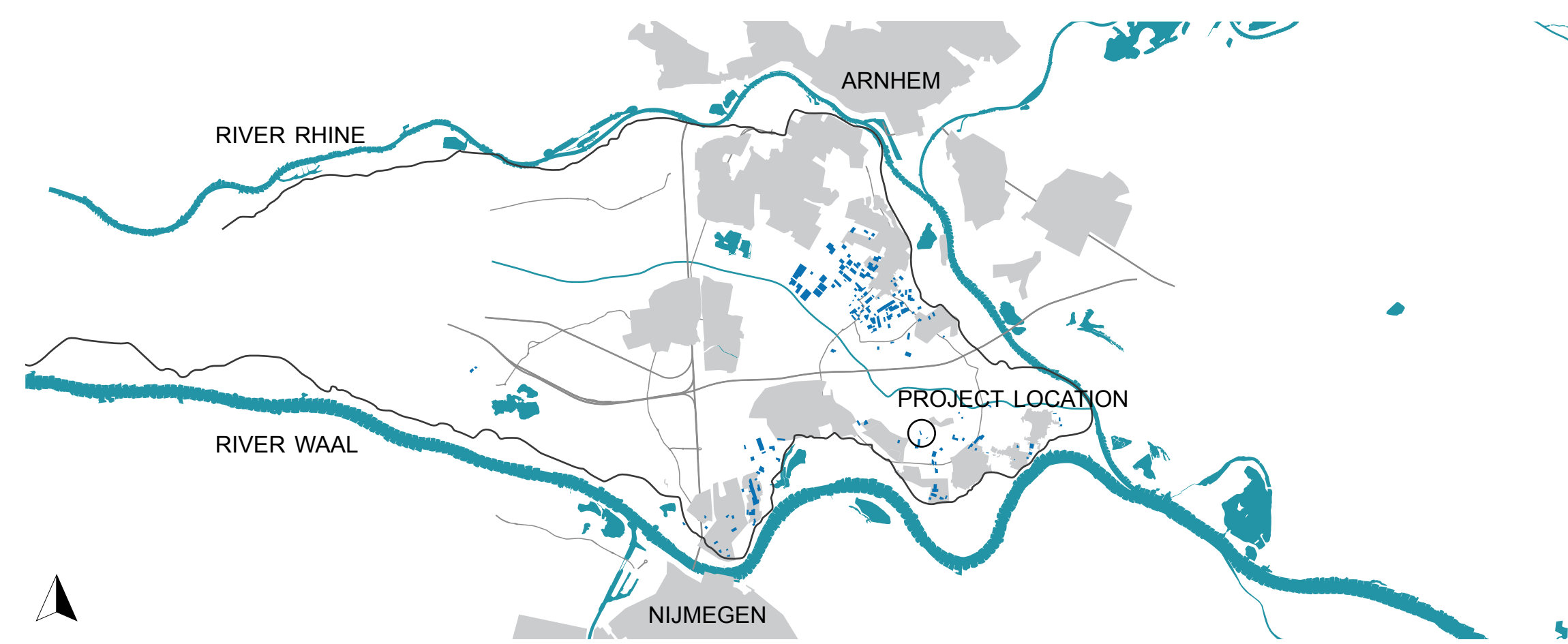
shared use

Nowadays we are busy. It is impossible to evolve our current lifestyle to the living in the outskirts. There will be shortage of space, time and awareness. The need to share certain functions, rooms, tasks and our knowledge is an urge in this new lifestyle. A more conscious and healthy life is one of the many benefits of sharing.

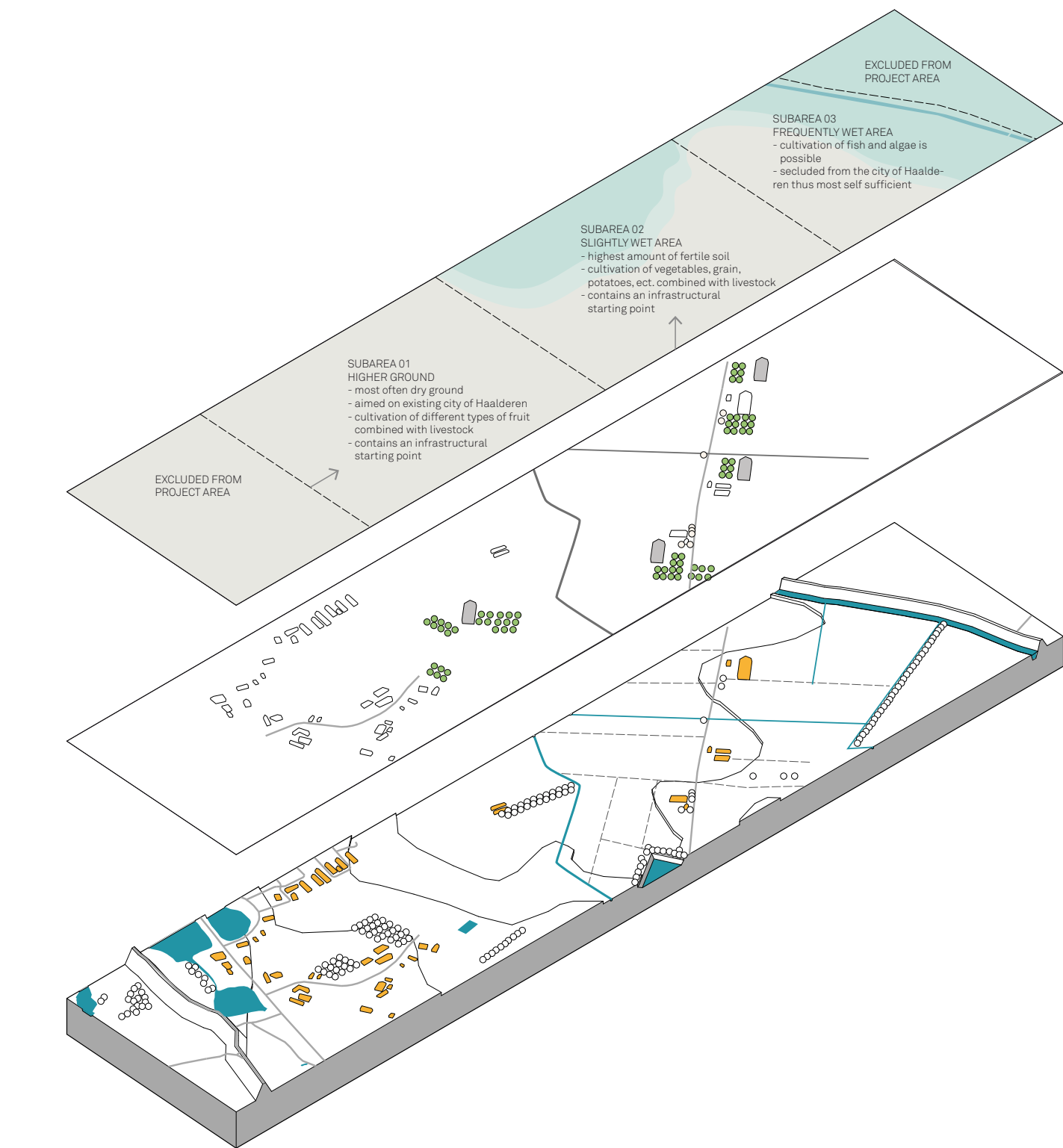


identity

The increasing need to individualize, localize and the search for identity will be satisfied in the proposal. There is created a framework in which the inhabitants are free to live in their own way. As an individual you can add variation and take matters into your own hands.

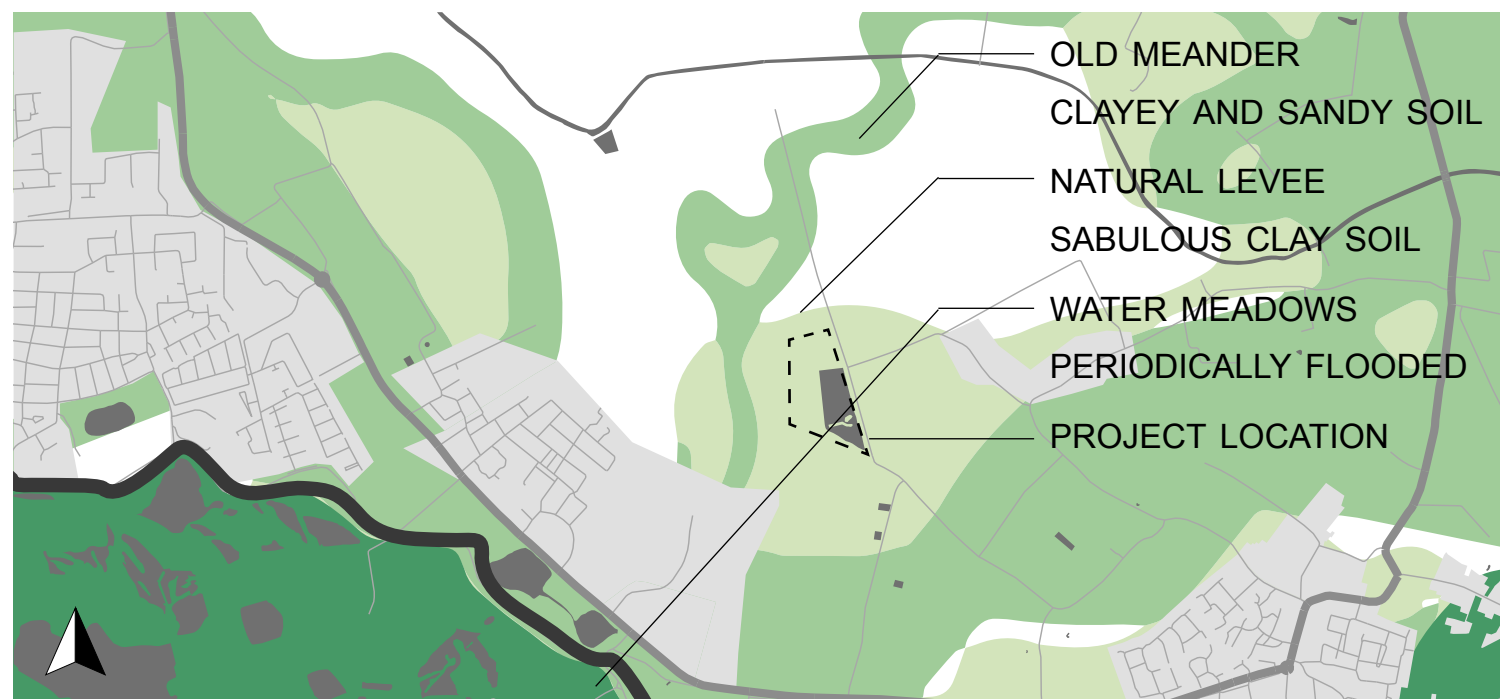


TENSION AREAS
INFRA (EG BETUWELIJN), URBAN GROWTH AND GLASSHOUSE INDUSTRIES



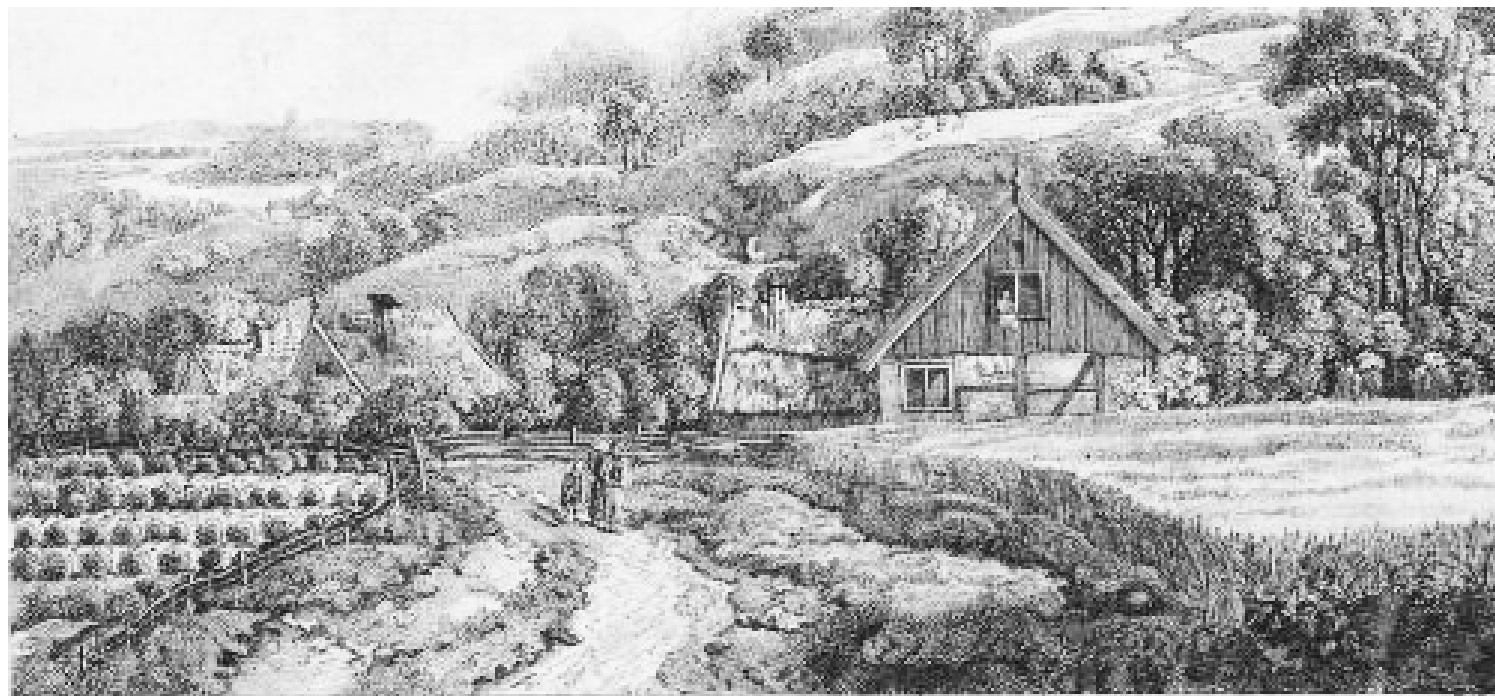
STRATEGY
ZONING FROM EXISTING FARMYARDS AND INFRA

“Repairing the connection with place and heritage and (re)valuation of local qualities”



local qualities

The Netherlands has its own to turn nature to his will. But this planned character comes at the cost of the qualities that can give *couleur locale*. The rivers in the project area have formed three different soils in the subsurface, all having their own quality. In this perspective the need to respect and embed the (sub)surface in planning exists.

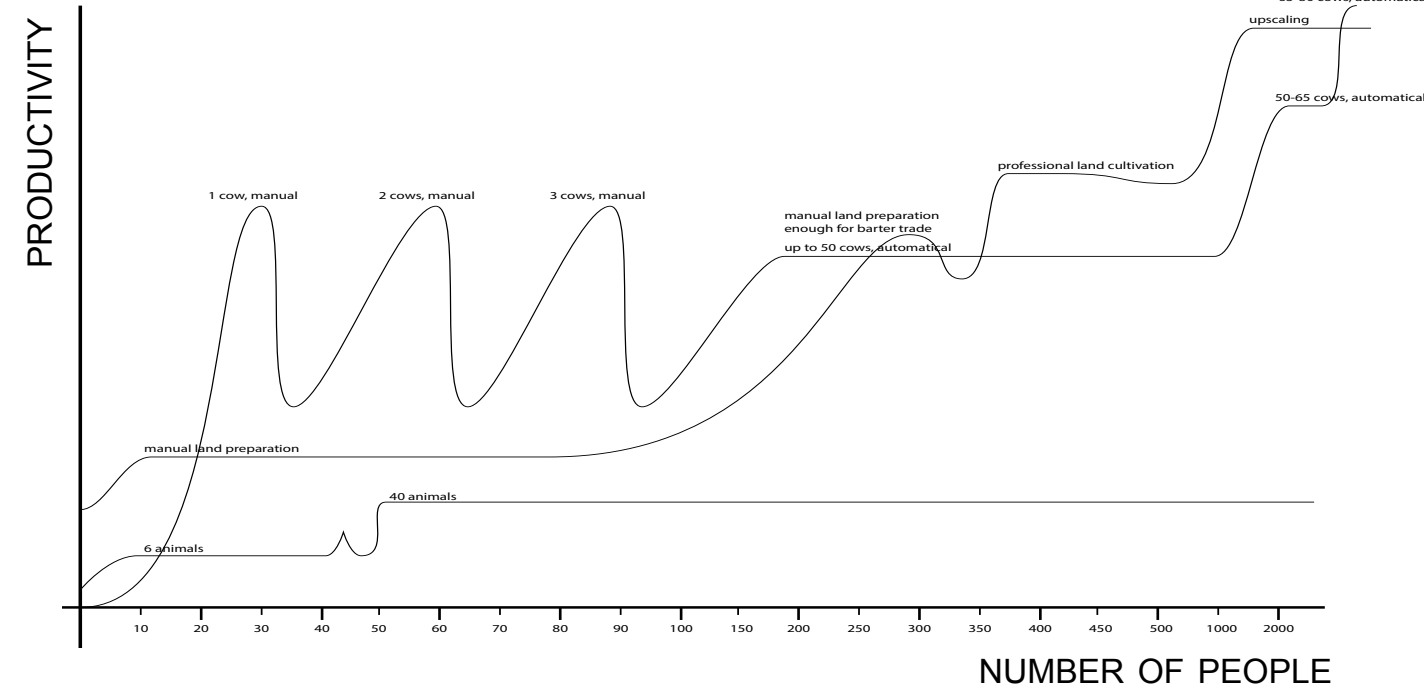


the farmers home

The cities in the region of Arnhem Nijmegen will continue to grow while the rural area is facing decline. This movement results in a large amount of undefined agricultural real estate farmer businesses forced to shut down. In the proposal the property of the farmer will take in a whole new meaning in its second life.

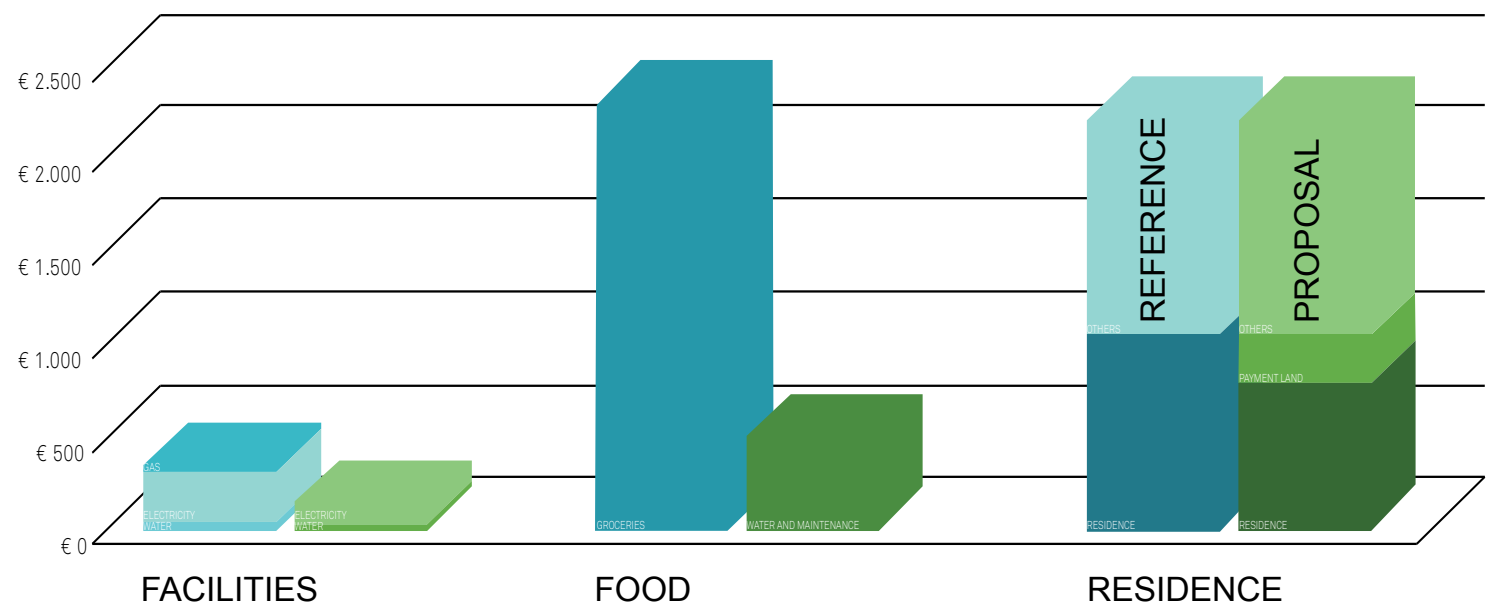


GROWING MODEL OF THE PROPOSAL IN 20 YEARS
REGIONAL SITE PLAN



scope of influence

Living within the plan means gaining insight in the own footprint. One realizes that moving food all over the world is absurd when the opportunities behind our homes are almost endlessly. The proposal not only challenges the aimed consumer, but tries also to influence the lives of surrounding inhabitants.



financial feasibility

Sharing a roof reduces the costs of a house with 25% because of the space saving. The property of the farmer is in use under a leasehold construction. The part of the land which is not in use during the startup, will be filled in with an economical temporary function such as short stay houses and fertilizing plants.



PROPOSAL ON EXISTING FARMLAND
SITE PLAN SCALE 1:500

0 5 10 25m



- 1- FARMLAND
- 2- EXISTING SHED, LIVESTOCK AND MACHINES
- 3- SHADED LOUNGE
- 4- PICNIC
- 5- EXISTING FARMHOUSE
- 6- VEGETABLE GARDEN
- 7- SMALL LIVESTOCK
- 8- ORCHARD
- 9- VISITORS PARKING
- 10- ENTRANCE ROAD



warm welcome

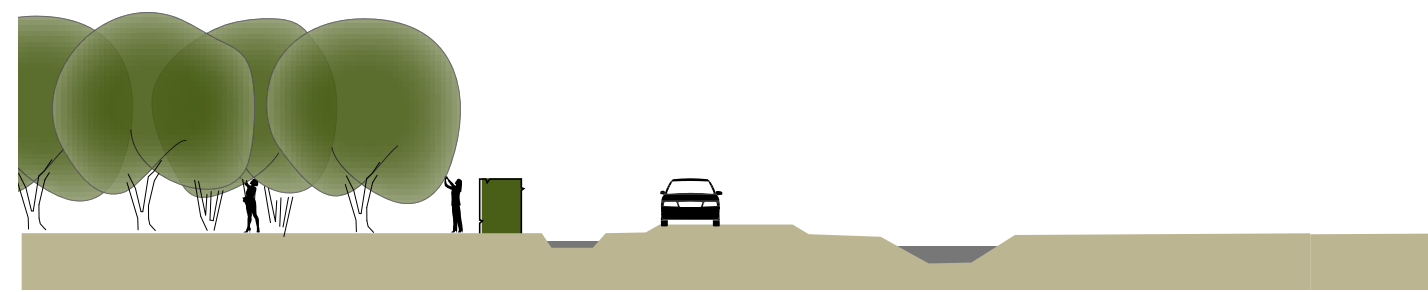
The arrival to the farmyard is characterized by the overview of the differentiated land use. When entering the guided path the high transparent winter gardens are revealed. The glass walls set a thin line between the outside and the business inside. There is a possibility to separate from the business and escape to the back entrance.



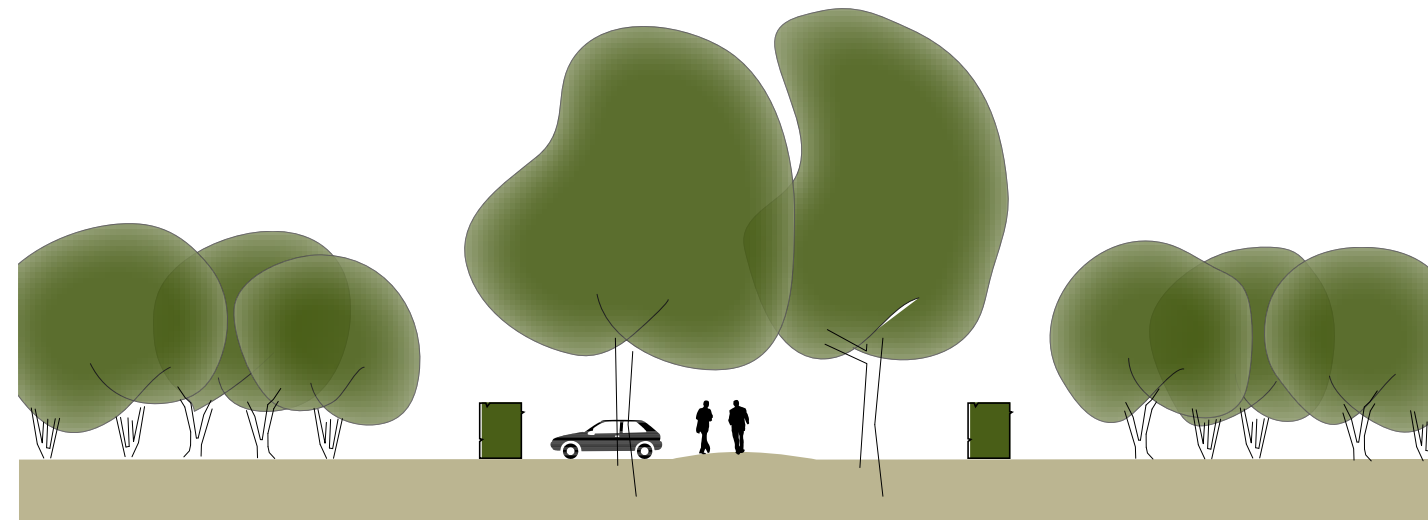
valuable landscape

Every beginning is hard. At the start of a newly grown community a substitute of external food supplies is taken in account. After a small period of learning, the residents will develop an efficient way of working. The group can become autarkic within 4 years. On the same amount of production land, more people will be able to live from the harvest.

“The court functions as a dividing point for all kind of activities. This is the pivot of the site”



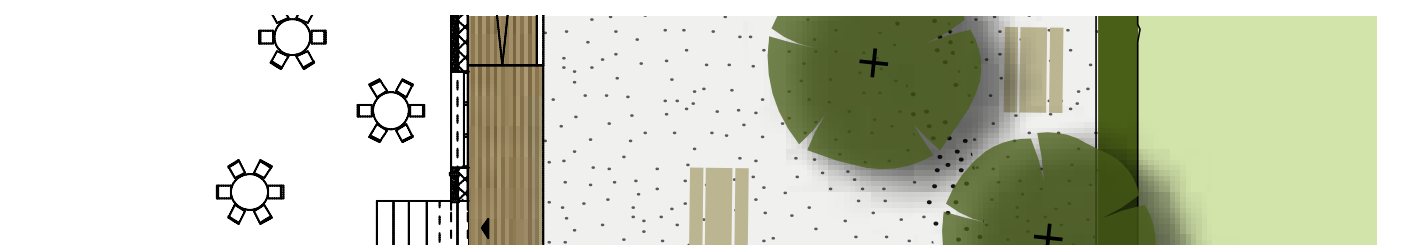
EXISTING ROAD
SECTION A-A SCALE 1:250



ENTRANCE ROAD
SECTION B-B SCALE 1:250



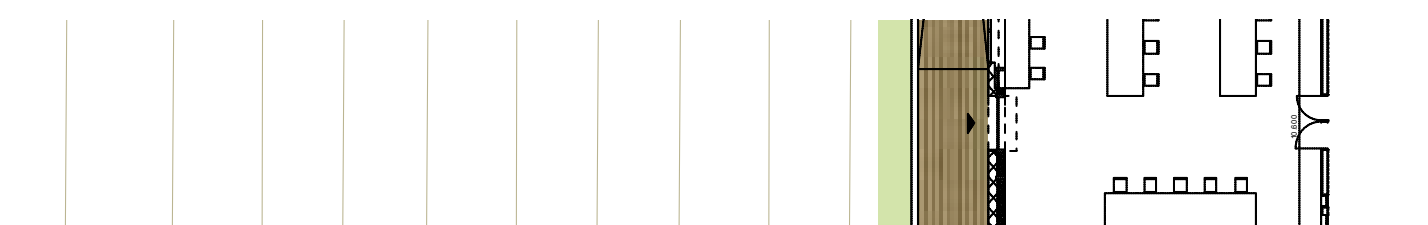
CONNECTION BETWEEN BUILDING AND GREEN ROOM
SECTION C-C SCALE 1:250

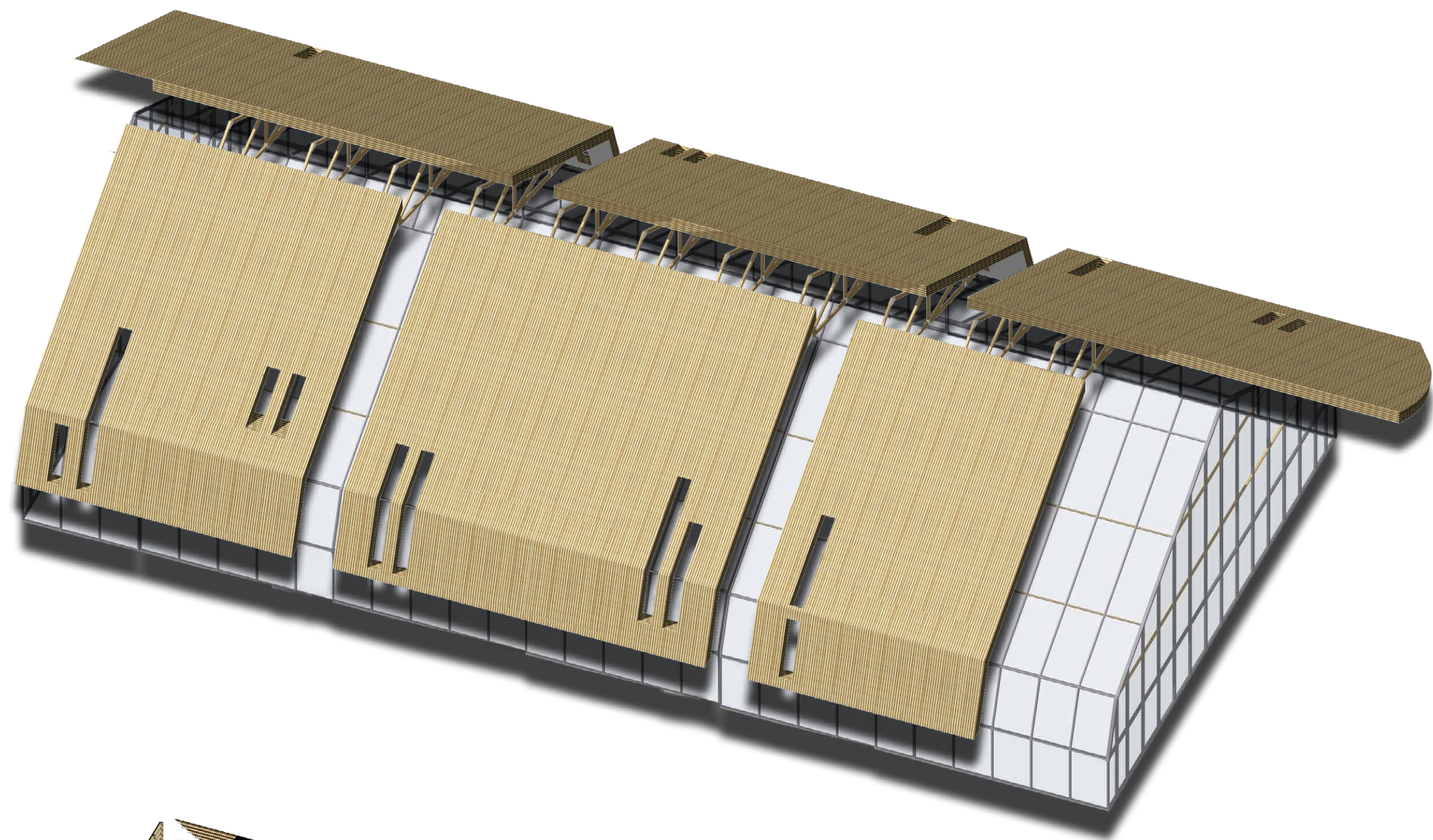


CONNECTION BETWEEN BUILDING AND FARMLAND
SECTION D-D SCALE 1:250



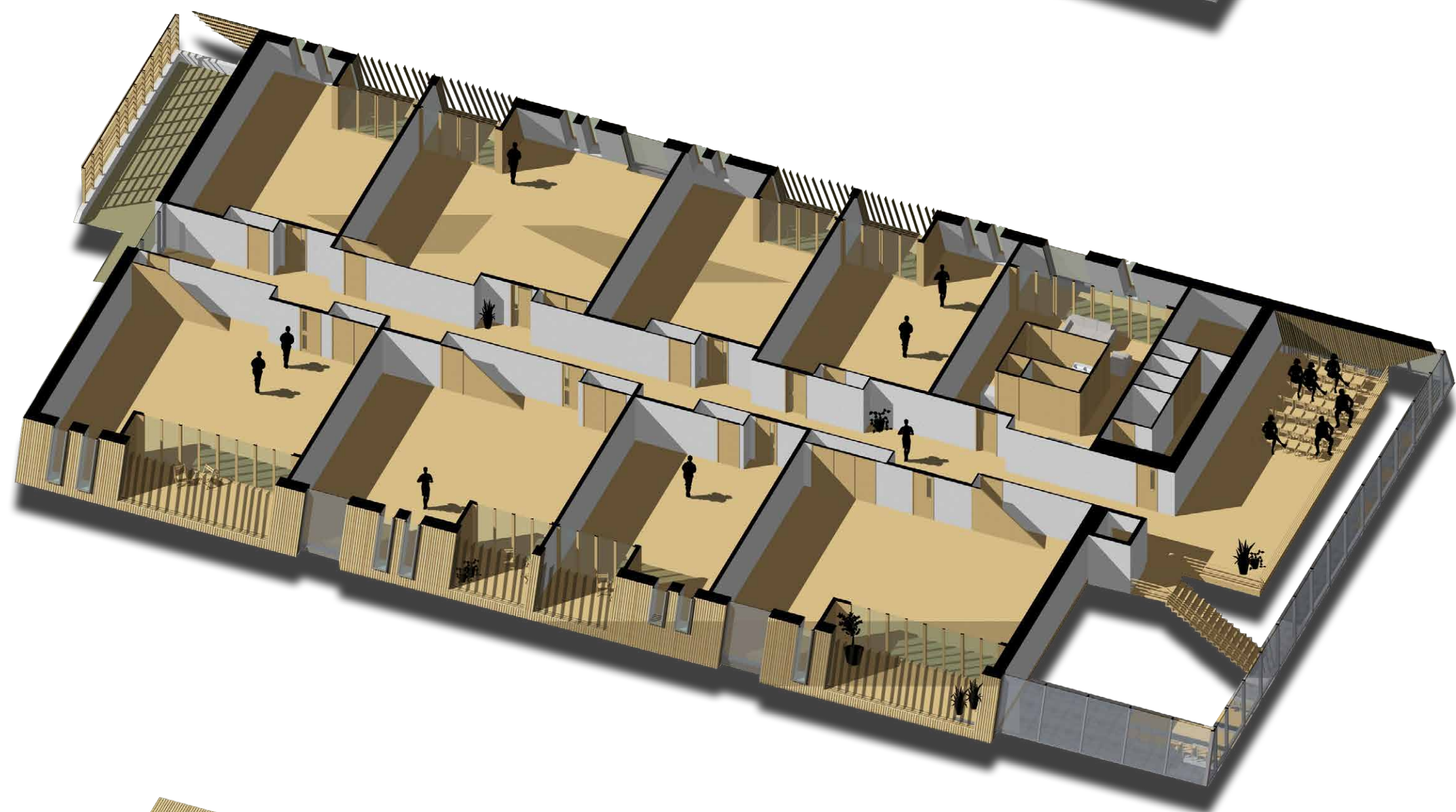
NEW PATH TO EXISTING SHED
SECTION E-E SCALE 1:250





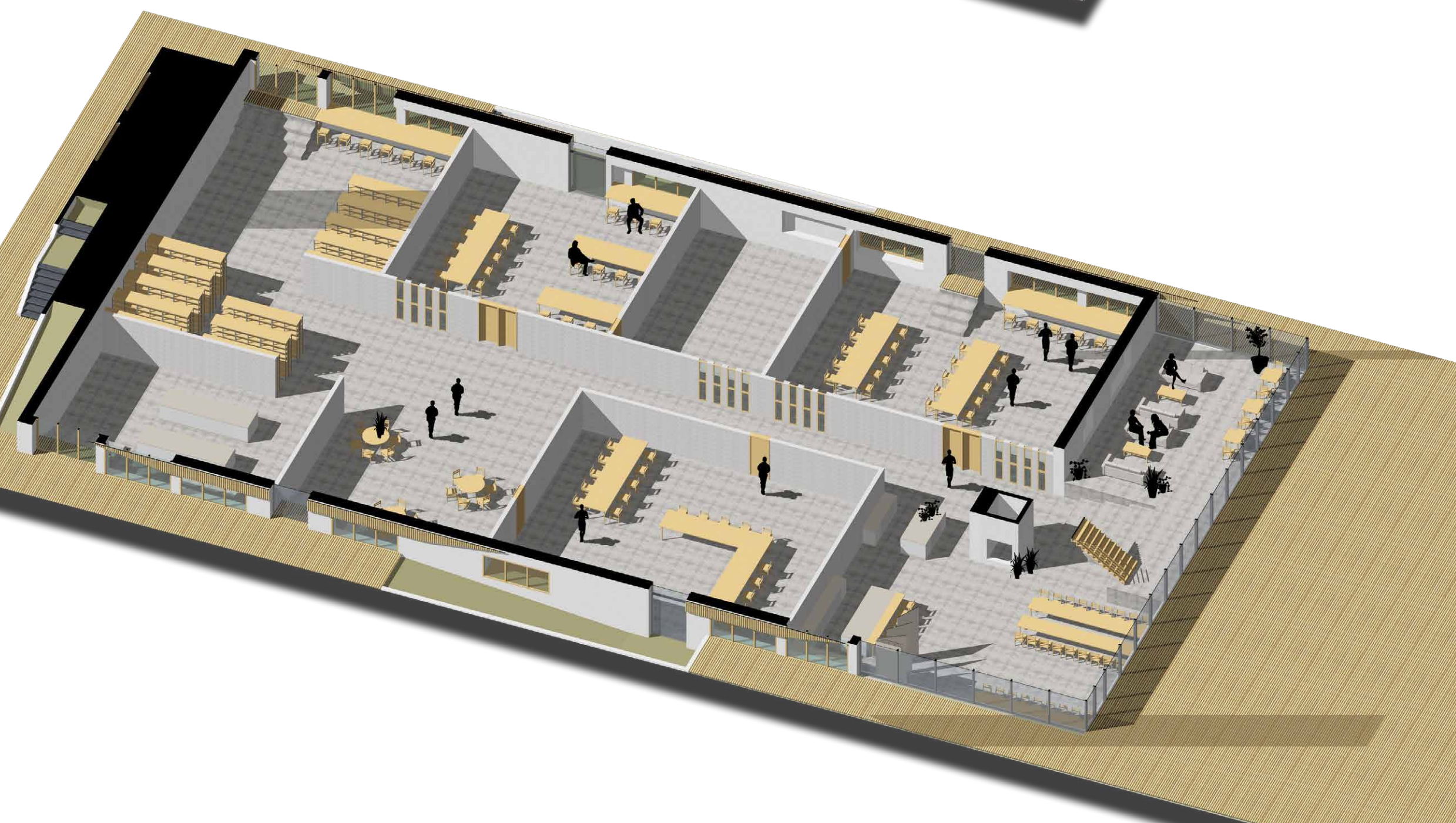
THE ROOF WEATHER PROTECTION, GENERATING WARMTH, TRANSMITTING DUCTS AND PIPES

At the housing level, functions are embedded in the wall and roof. This provides a solid boundary which at the same time is interfering private with public spaces. At the same time the roof is generating warmth through solar thermal collectors and collecting rainwater. Due to the thick package of the cavity walls the ducts and pipes can be transmitted imperceptibly.



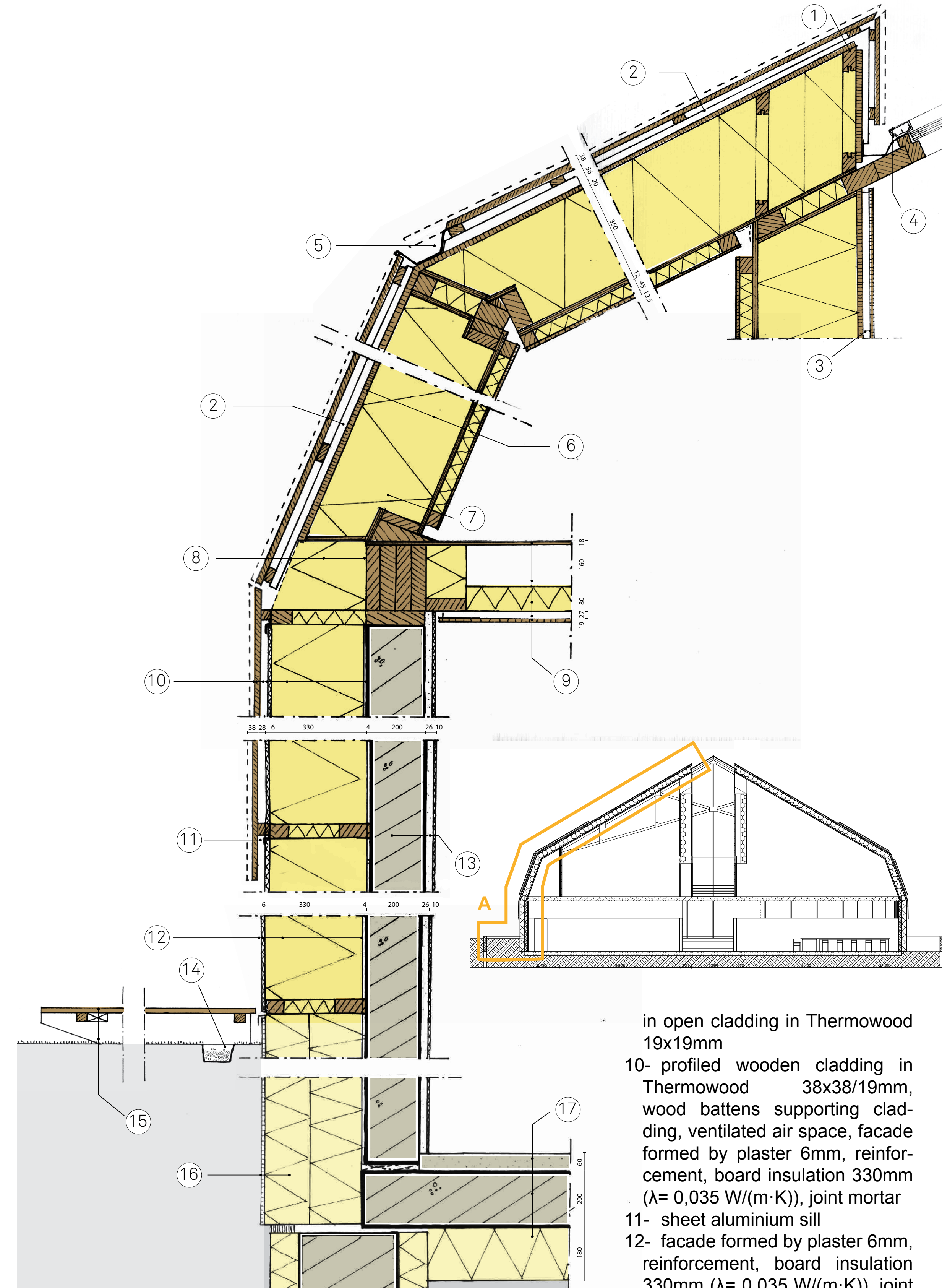
FIRST FLOOR LIVING, LEARNING

The plan contains two sizes of housing plans, but there exist as many layouts as there are houses. Every individual is free to create a layout which fits its lifestyle. They will make use of clt panels to create stairs, rooms, divisions and floors. The empty plan encourages a certain use though. The zone behind the narrow, high roof openings asks for the smaller functions as bed- and bathrooms and stacking functions. The zone behind the outdoor room invites a royal living room to take place.



GROUND FLOOR WORKING, MEETING, STORAGE

A safe and secure feeling is of great importance in the wide and open landscape in which the buildings are located. Therefore the buildings are partly recessed. The ground floor is sunken in the land slab so the user is surrounded by soil. Because of the opening towards outside this space makes a strong connection with the adjoining building. This is the place to meet your neighbors.

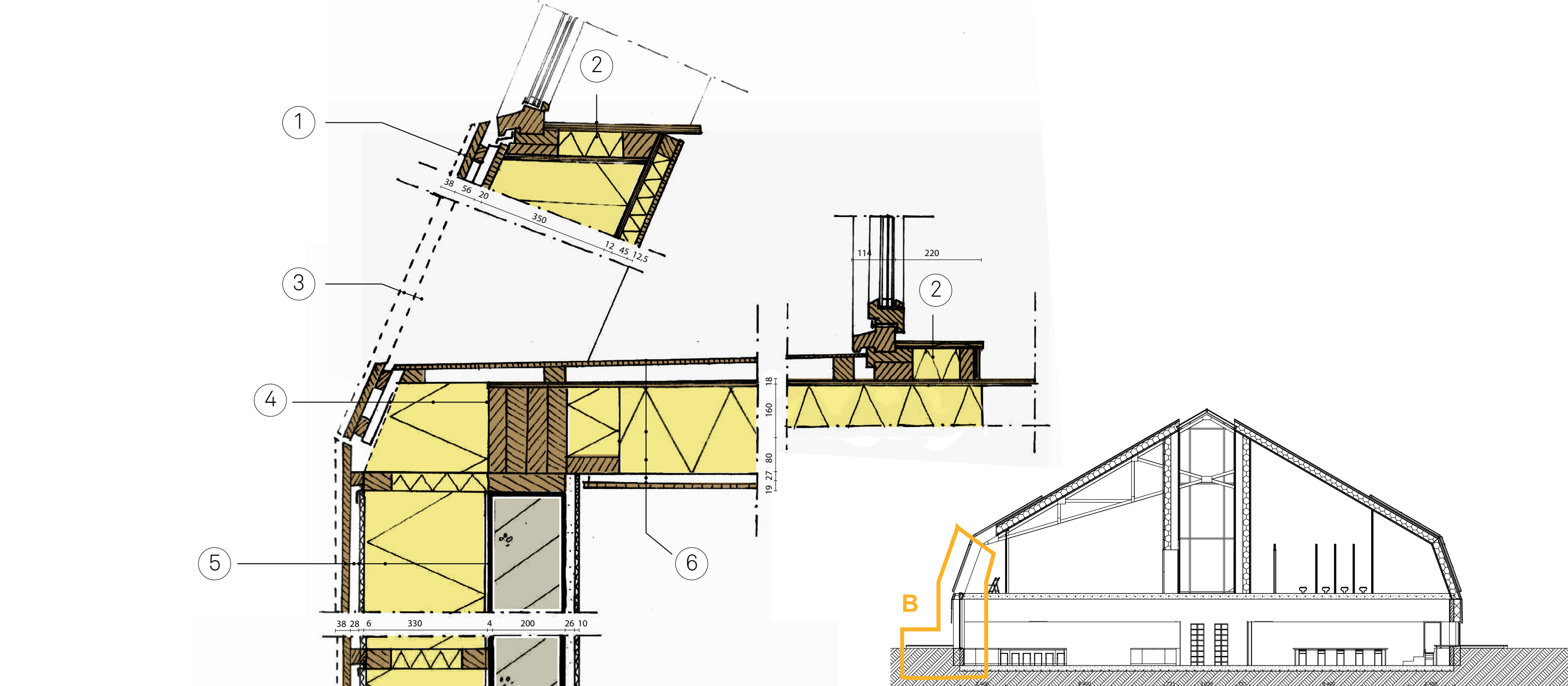


detail A: vertical section

- 1-I-beams with wood beams and board insulation
- 2-profiled wooden cladding in Thermowood 38x38/19mm, wood battens supporting cladding, ventilated air space
- 3-battens, interior finish in plywood panels 12,5mm
- 4-triple glazing, vertical and horizontal aluminium profiles, aluminium glazing assembly, wooden curtain wall (Twin) 67x114mm, rainwater gutter in aluminium, wooden frame alternating with insulation
- 5-rainwater gutter in aluminium

- 6-waterproofing wood fibre board 20mm, I-beams, board insulation 350mm ($\lambda = 0,035 \text{ W/(m}\cdot\text{K)}$), vapor barrier membrane, plywood panel 12mm, pipe space alternating with insulation ($\lambda = 0,035 \text{ W/(m}\cdot\text{K)}$), interior finish in plywood panels 12,5mm
- 7-no pipes in inner cavity wall
- 8-waterproofing membrane, board insulation 200mm, vapor barrier membrane
- 9-wood floorboards 18mm, wood beams 45x240mm, board insulation 80mm, recessed lighting, supporting battens, false ceiling

- 10- in open cladding in Thermowood 19x19mm
- 10- profiled wooden cladding in Thermowood 38x38/19mm, wood battens supporting cladding, ventilated air space, facade formed by plaster 6mm, reinforcement, board insulation 330mm ($\lambda = 0,035 \text{ W/(m}\cdot\text{K)}$), joint mortar
- 11- sheet aluminium sill
- 12- facade formed by plaster 6mm, reinforcement, board insulation 330mm ($\lambda = 0,035 \text{ W/(m}\cdot\text{K)}$), joint mortar
- 13- reinforced concrete 200mm (end facade 150mm), inwall heating Fonterra Side 12 Clip 26mm (16mm clip rails incl. polybutylene-tube 12x1,3 mm), plaster 10mm
- 14- recessed gutter formed by steel profiles with ballast
- 15- open flooring in Thermowood 38mm, recessed lighting, wood beams 45x150mm slanted at one side
- 16- waterproofing panel, board insulation 2x 100mm
- 17- concrete flooring with epoxy resin finish 60mm, reinforced concrete 200mm, board insulation



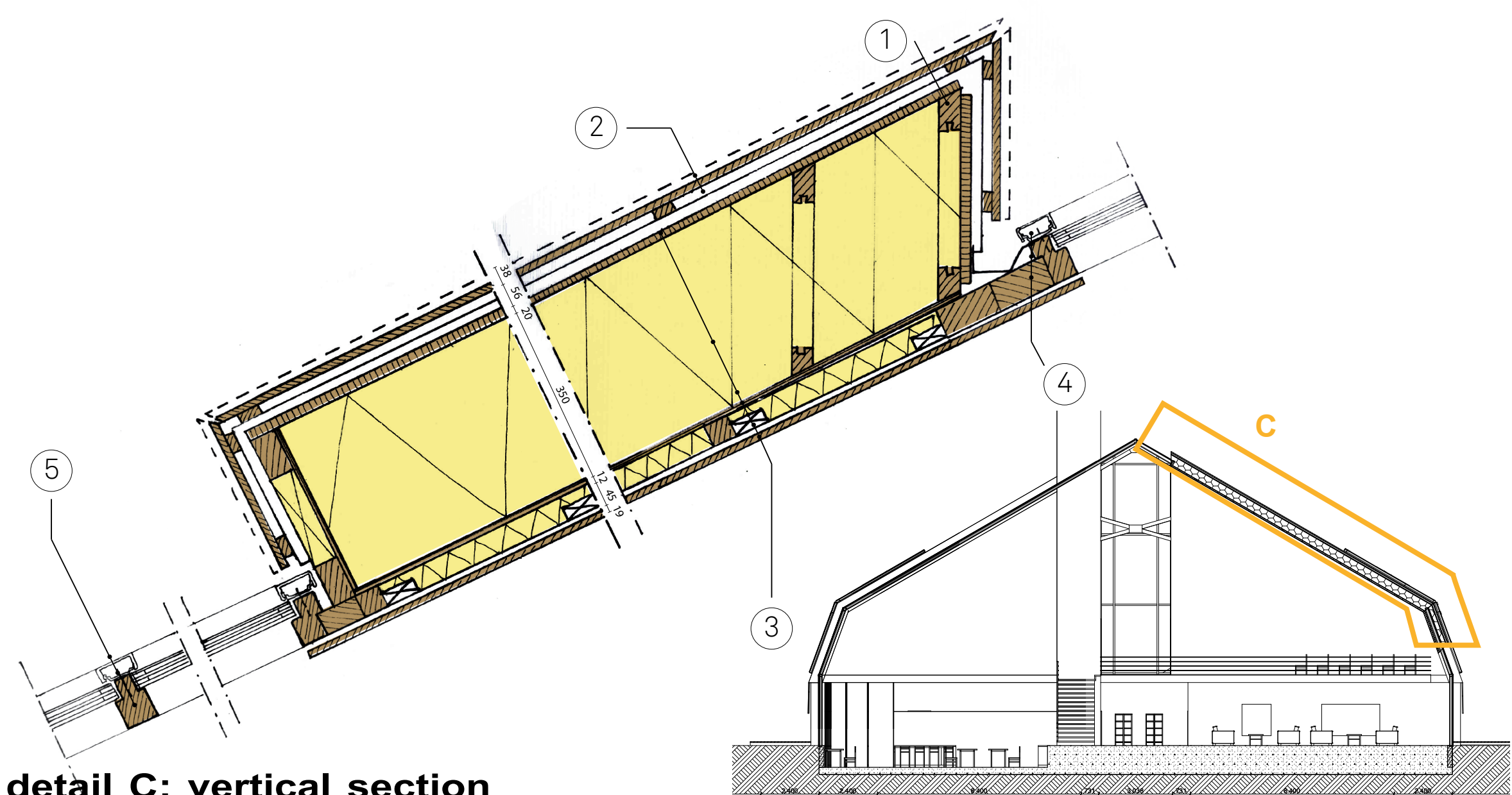
detail B: vertical section

1-profiled wooden cladding in Thermowood 38x38/19mm, wood battens supporting cladding, ventilated air space
2-triple glazing, interior finish in plywood panels 12,5mm, frame of timber alternating with insulation

3-open cladding in Thermowood 38x19mm, steel hinge on slidable hatch for roller mechanism, hand powered mechanism for sliding hatch on steel wheels supported by structure of bolted steel plates and angle steels

4-waterproofing membrane, board insulation 200mm, vapor barrier membrane
5-profiled wooden cladding in Thermowood 38x38/19mm, wood battens supporting cladding, ventilated air space, facade formed

by plaster 6mm, reinforcement, board insulation 330mm ($\lambda = 0,035 \text{ W/(m}\cdot\text{K)}$), joint mortar
6-waterproofing wood fibre board 20mm placed with a slope, ventilated air space, wood floor-boards 18mm, wood beams 45x240mm, board insulation 80mm, recessed lighting, supporting battens, false ceiling in open cladding in Thermowood 19x19mm
7-frame of timber alternating with insulation
8-recessed gutter formed by steel profiles with ballast
9-open flooring in Thermowood 38mm, recessed lighting, wood beams 45x150mm slanted at one side
10- waterproofing panel, board insulation 2x 100mm
11- interior finish in plywood panels 12,5mm, frame of timber alternating with insulation
12- concrete flooring with epoxy resin finish 60mm, reinforced concrete 200mm, board insulation, vapor barrier membrane continued
13- insulated door

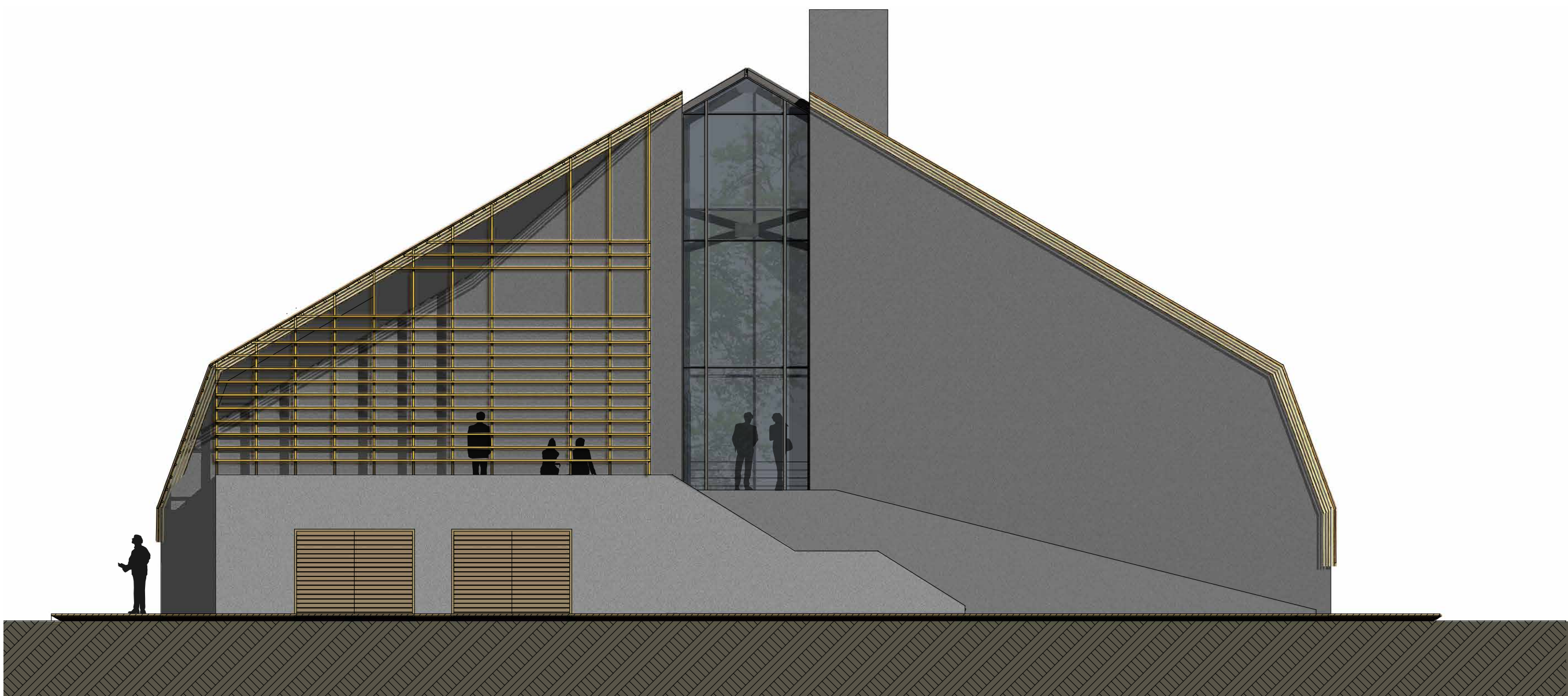


detail C: vertical section

1-I-beams with wood beams and board insulation
2-profiled wooden cladding in Thermowood 38x38/19mm, wood battens supporting cladding, ventilated air space
3-waterproofing wood fibre board 20mm, I-beams, board insulation

350mm ($\lambda = 0,035 \text{ W/(m}\cdot\text{K)}$), vapor barrier membrane, plywood panel 12mm, pipe space alternating with insulation ($\lambda = 0,035 \text{ W/(m}\cdot\text{K)}$), recessed lighting, open cladding in Thermowood 19x19mm
4-triple glazing, vertical and horizontal aluminium profiles, aluminium glazing assembly, wooden curtain wall (Twin) 67x114mm, rainwater gutter in aluminium, wooden frame alternating with insulation

5-vertical and horizontal aluminium profiles, aluminium glazing assembly, wooden curtain wall (Twin) 67x114mm



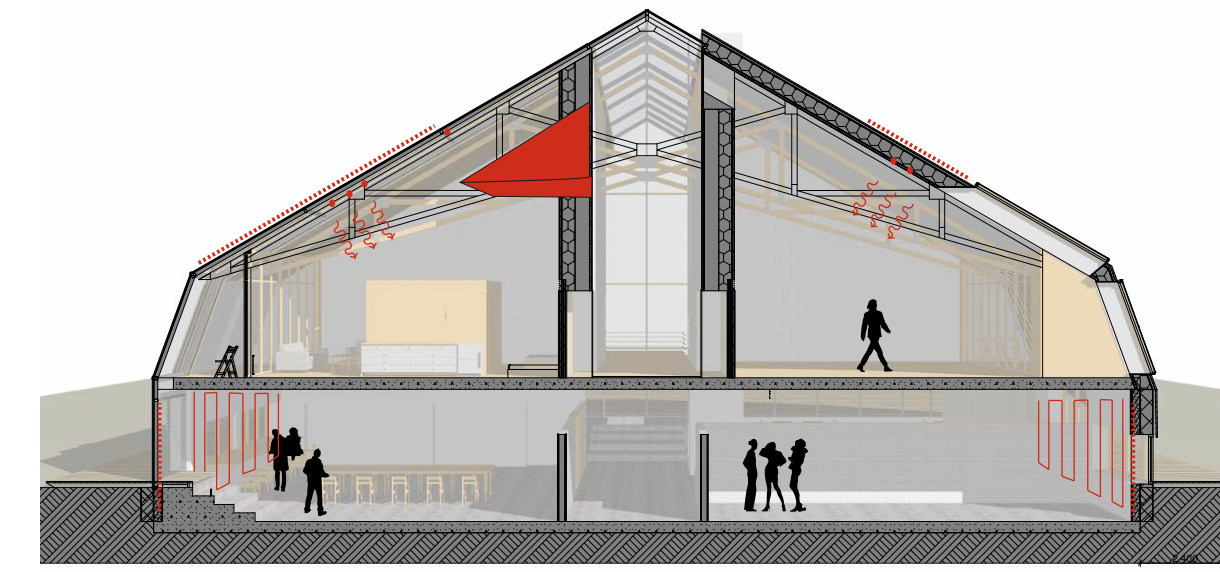
**BACK ENTRANCE AND SHELTERED TERRACE
ELEVATION SCALE 1:100**





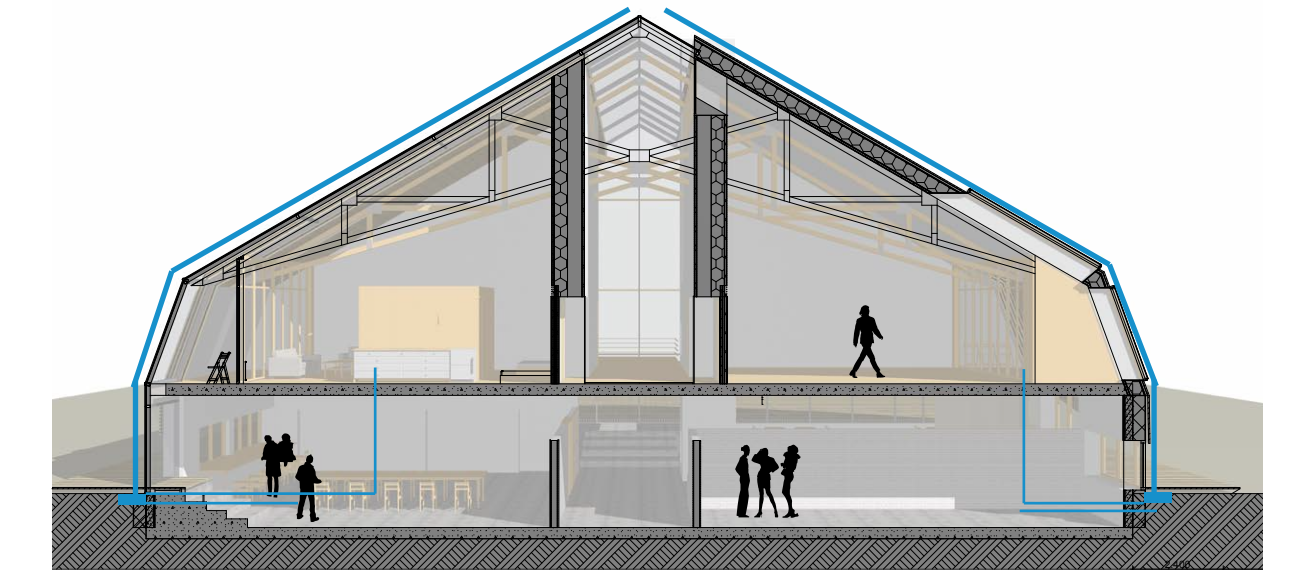
GROUND FLOOR
FLOOR PLAN SCALE 1:200

- 1-RELAX AREA
- 2-FIRE PLACE
- 3-WORKSHOP ROOM
- 4-STORAGE ROOM, HARVEST
- 5-LAUNDRY ROOM
- 6-INFORMAL KITCHEN
- 7-PACKAGING ROOM
- 8-PROFESSIONAL KITCHEN
- 9-STOVE
- 10- DINING AREA



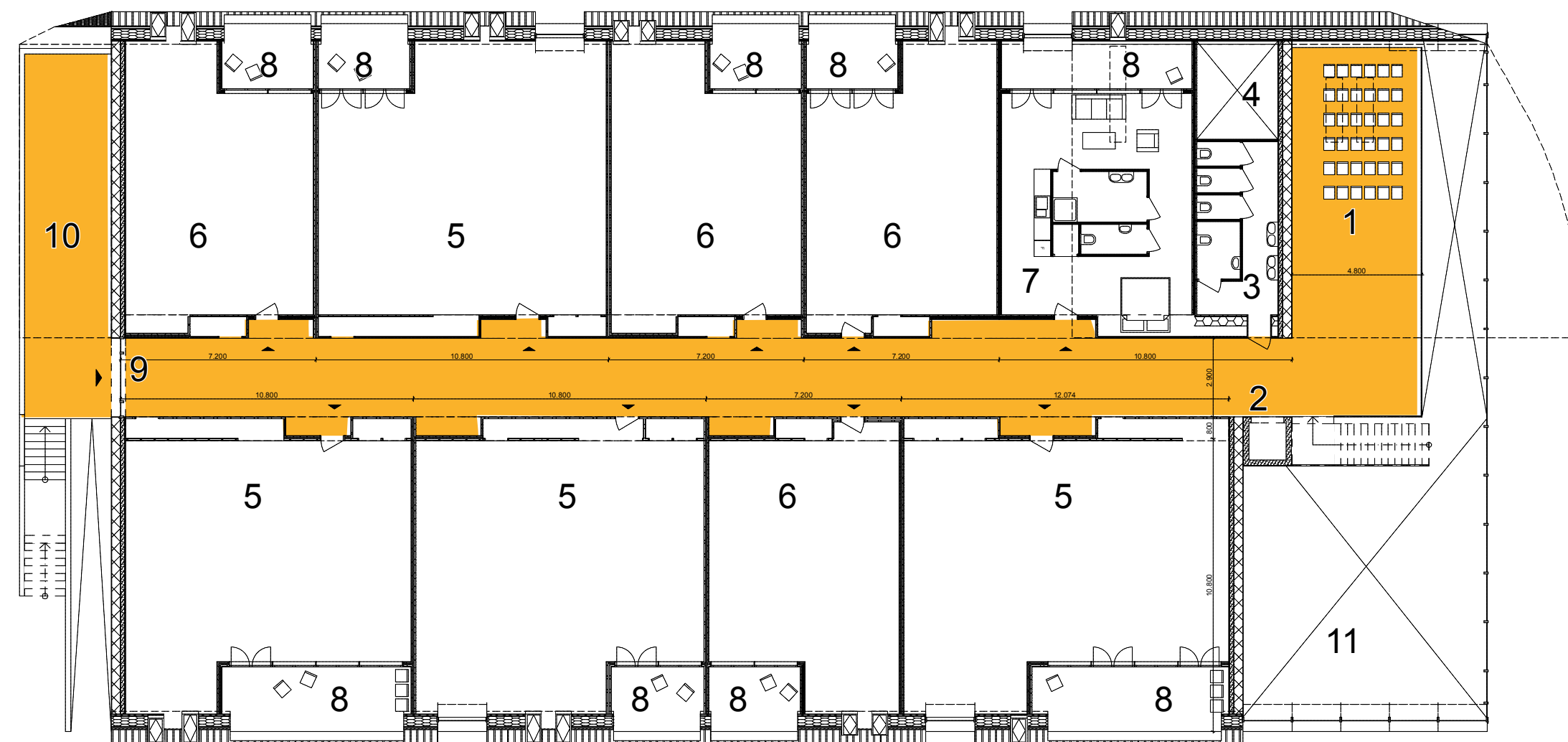
CLIMATE SYSTEM: HEATING
SECTION 1:200

- Collecting heat with solar thermal collectors
- reuse heat from fire place during winter
- losing heat from fire place during summer trough roof
- heating housing level with hot air
- heating ground floor with inwall heating



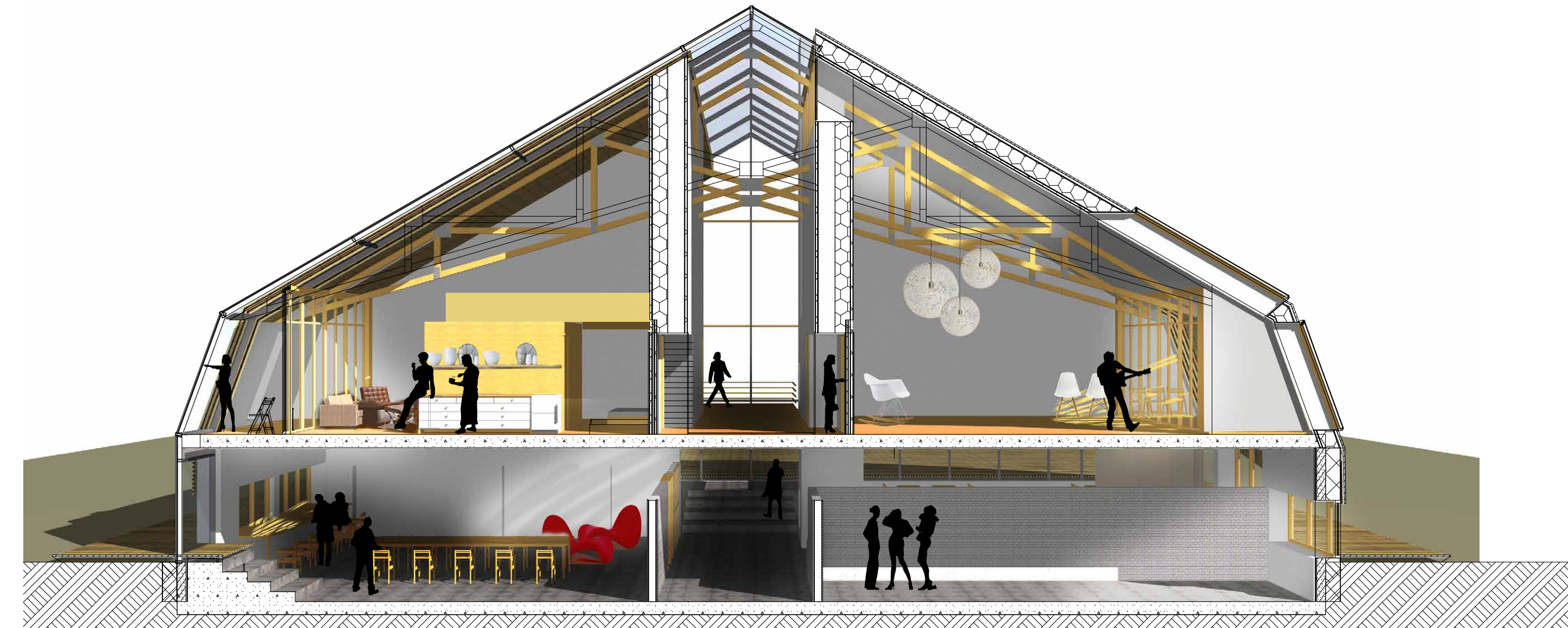
CLIMATE SYSTEM: WATER
SECTION 1:200

- collecting rainwater from roof
- direct reuse of rainwater for toilets
- direct reuse of rainwater for land watering
- use of cleaned rainwater for kitchen



FIRST FLOOR
FLOOR PLAN SCALE 1:200

- 1-CLASS ROOM
- 2-FIRE PLACE
- 3-PUBLIC TOILET
- 4-INSTALLATION ROOM, HEAT STORAGE TANK
- 5-FAMILY HOUSE 120 M2
- 6-LOFT 80 M2
- 7-GUEST ROOM 80 M2
- 8-OUTDOOR ROOM
- 9-BACK ENTRANCE
- 10- SHELTERED TERRACE
- 11- VIDE



SHARED USE UNDER ONE ROOF
SECTION SCALE 1:100

