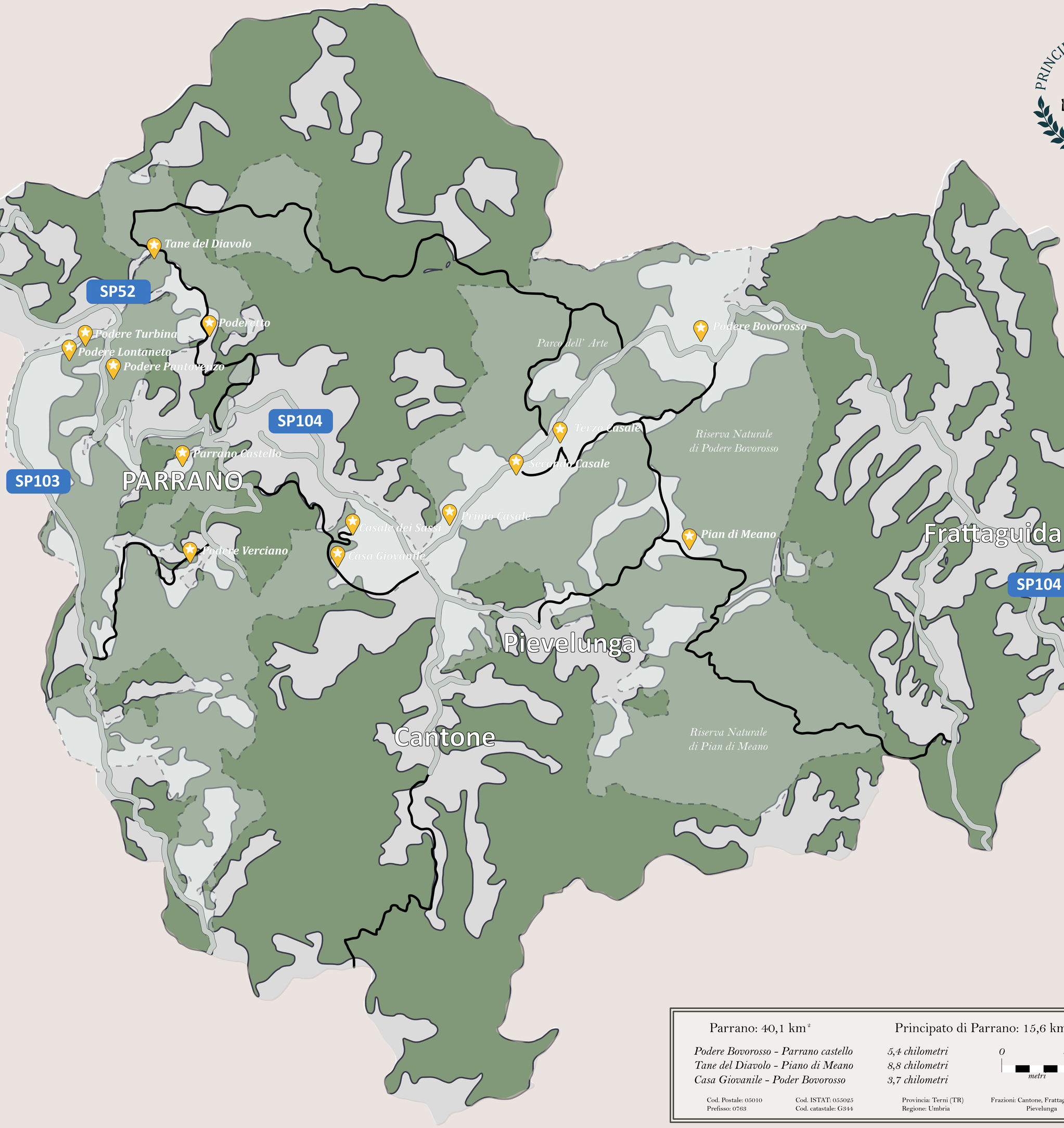
# Eco diversa



*Umbria region in Central Italy*

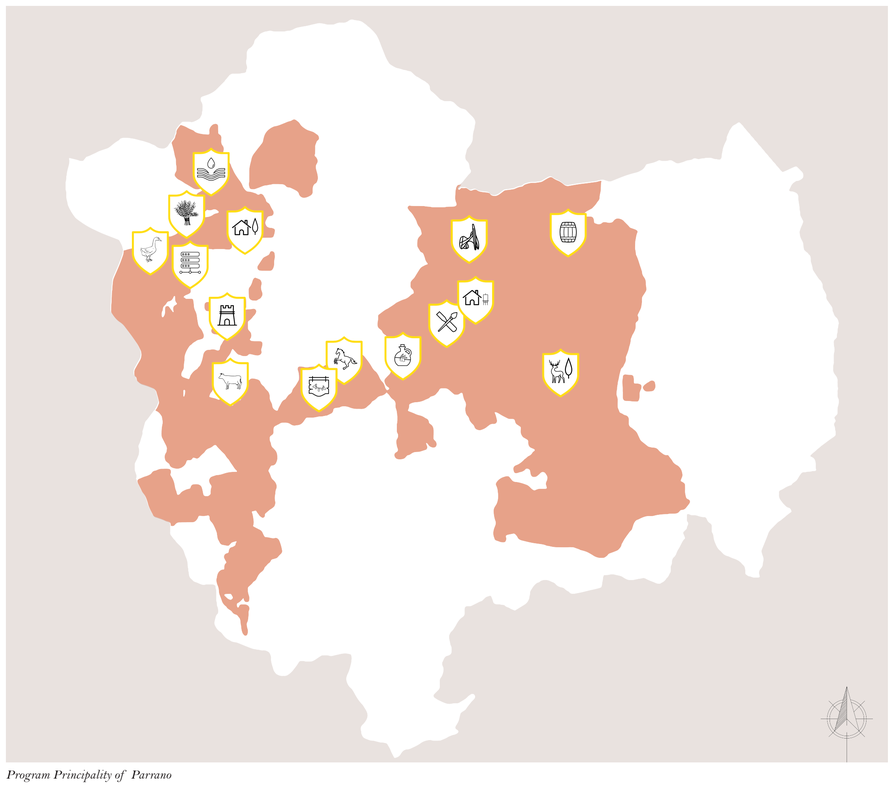


*Community of Parrano in the north of the Terni province*




*Masterplan Principality of Parrano*

## // Masterplan Principality of Parrano



*Program Principality of Parrano*

**Tane del Diavolo**
*Thermal Spa Resort*
- public swimming pool
- thermal spa
- spa resort
- cave excursions
- thermal water products

**Podere Turbina**
*Arable Farming*
- production of wheat
- example traditional farming

**Podere Lontaneto**
*Goose Farm*
- goose breeding
- meat
- feathers

**Podere Pantovenzo**
*ICT Farm*
- server farm
- ICT development

**Poderetto**
*Agritourismo*
- maintenance function
- tourist housing

**Parrano Castle**
*Museumhotel & Community Center*
- hotel
- museum
- Parrano community center
- storage local products

**Casale dei Sassi**
*Horse Farm*
- riding school
- equestrian sports
- horse breeding
- horse riding
- horse pension

**Parco dell'Arte**
*Art Parc*
- natural reserve
- art exhibitions
- outdoor art workshops

**Casa Giovanile***
*Youth Home*
- children daycare center
- activities
- playground
- self-organized

*former hunting trainingsground

**Podere Verciano**
*Chianina Farm*
- Chianina breeding
- example traditional farming

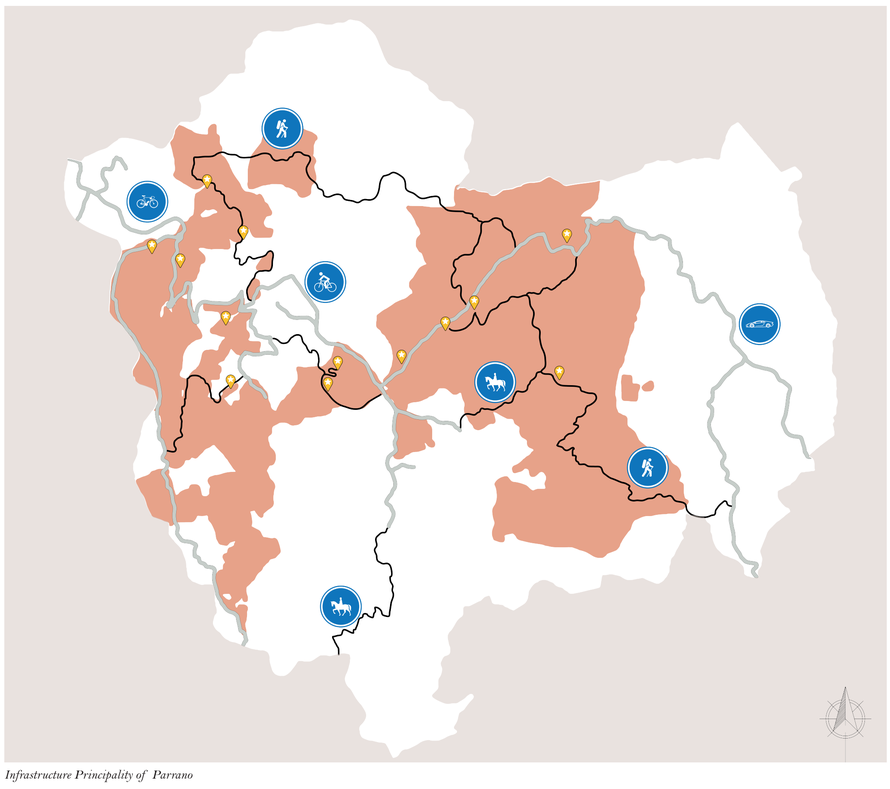
**Primo Casale**
*Olive Farm*
- olive grove
- oil production
- cooperative production

**Secondo Casale**
*Art Community Center*
- workshop
- artist residences
- outdoor museum
- art parc

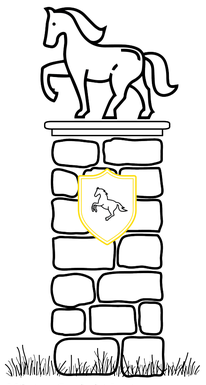
**Terzo Casale**
*Agritourismo & Artist Residence*
- artist residence
- tourist housing
- art parc

**Podere Bovorosso**
*Vinyard Estate & Solar Farm*
- wine
- solar energy
- olive
- agritourism

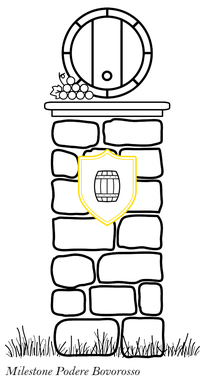
**Pian di Meano**
*Parrano Natural Reserve*
- hunting & truffle lodge
- hotel
- restaurant



*Infrastructure Principality of Parrano*



*Milestone Casale dei Sassi*

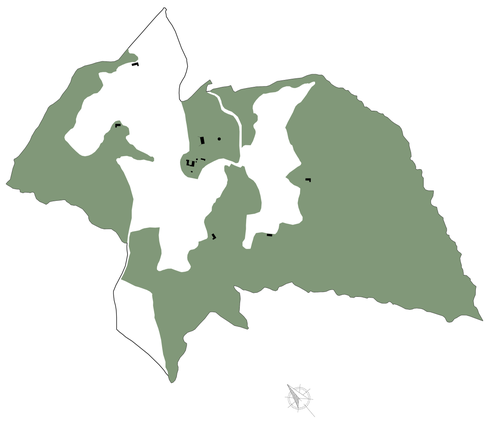


*Milestone Podere Bovorosso*

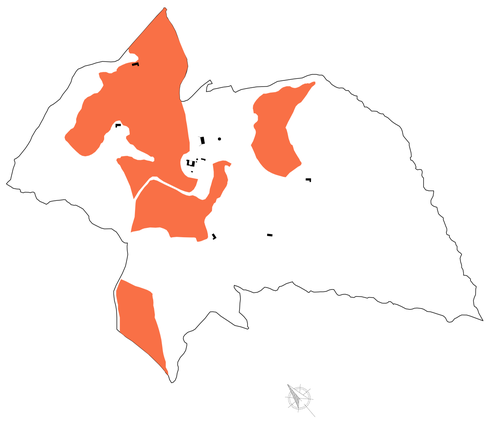
# BOVO ROSSO



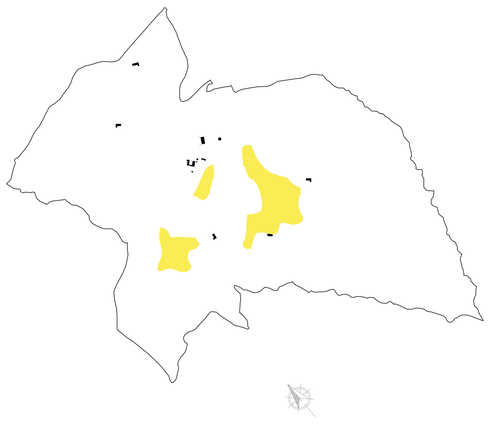
*Podere Bovorosso in Parrano territory*



*Forests at Podere Bovorosso*



*Vineyards of Podere Bovorosso*



*Parco Fotovoltaico of Podere Bovorosso*



*Tarns and wells at Podere Bovorosso*



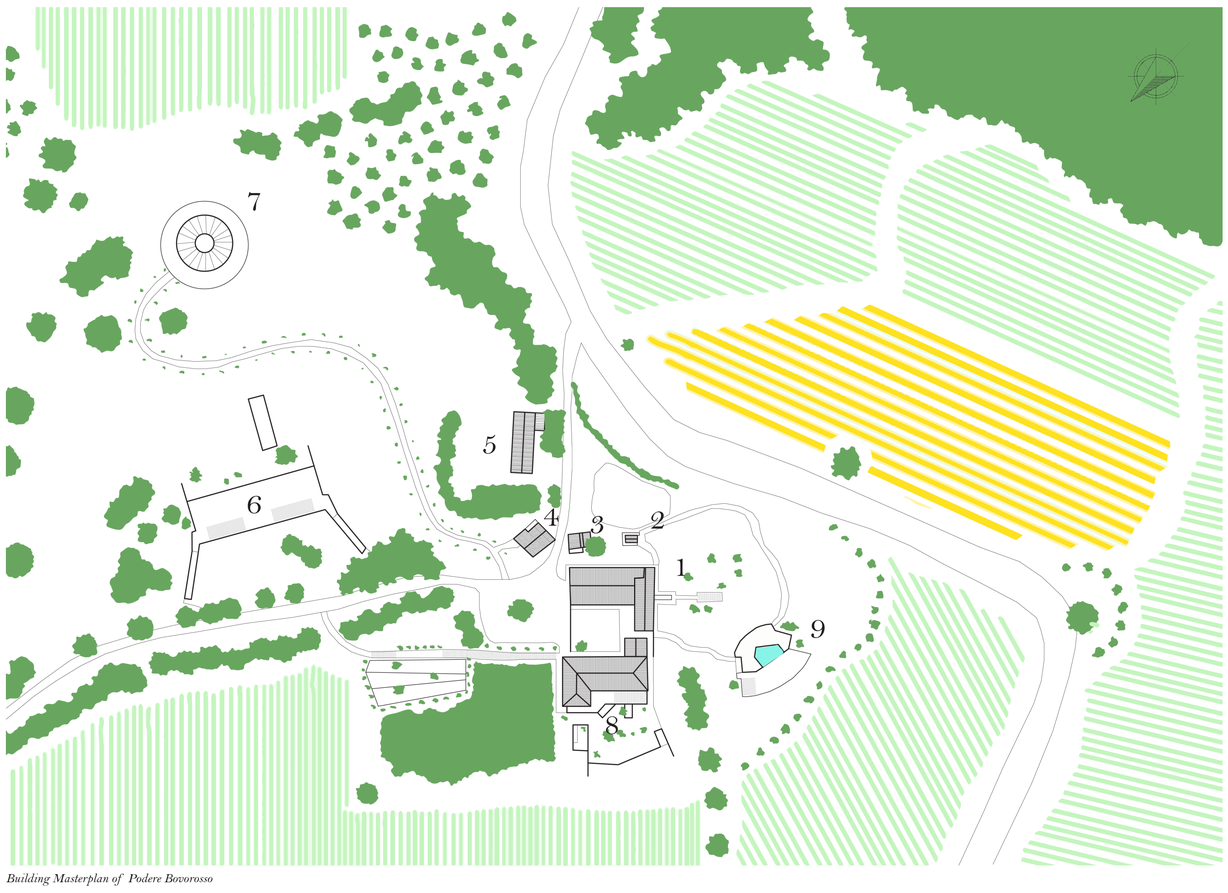
*Primary infrastructure of Podere Bovorosso*

## // Masterplan Podere Bovorosso



*Masterplan of Podere Bovorosso (scale 1:500)*

## // Building Ensemble




*Building Masterplan of Podere Bovorosso*



*1. Farmhouse and residence of the owner of Podere Bovorosso (renovated)*



*2. Water trough shed (restored)*



*3. Reception building and Bakery (renovated)*



*4. Store and Office Building (renovated)*



*5. Dwellings (new on foundation dog kennel)*



*5. Winery & Distillery (new)*



*7. Panorama Well (new)*



*8. Cantina and Production Facility (new on foundations stables)*

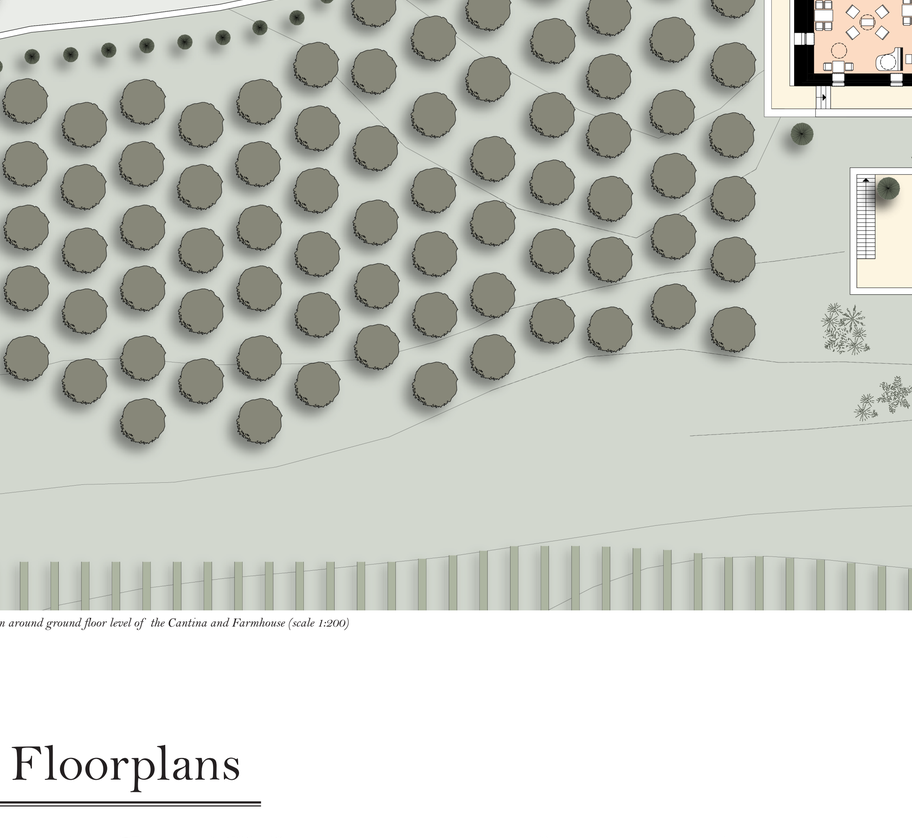


*9. Swimmingpool and Poolhouse (new)*

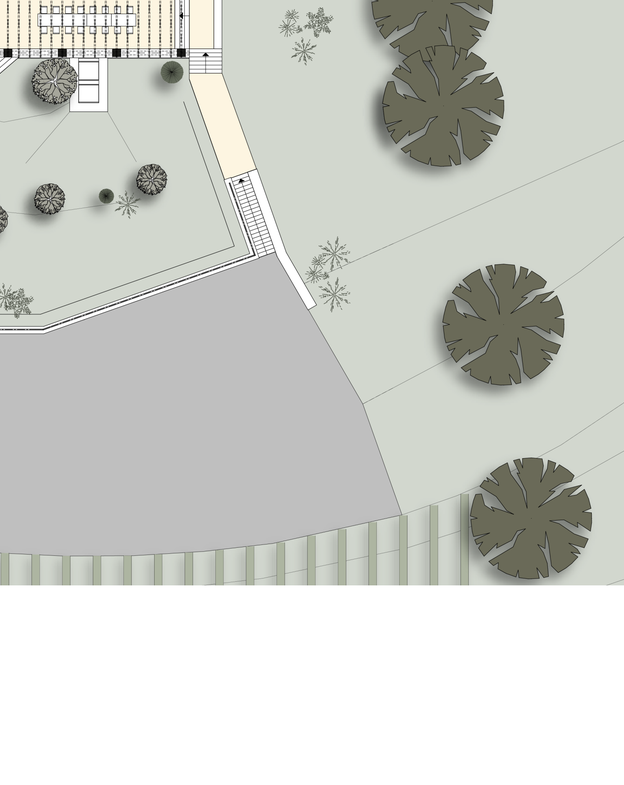
*Ensemble at Bovorosso*

*Masterplan around ground floor level of the Cantina and Farmhouse (scale 1:200)*

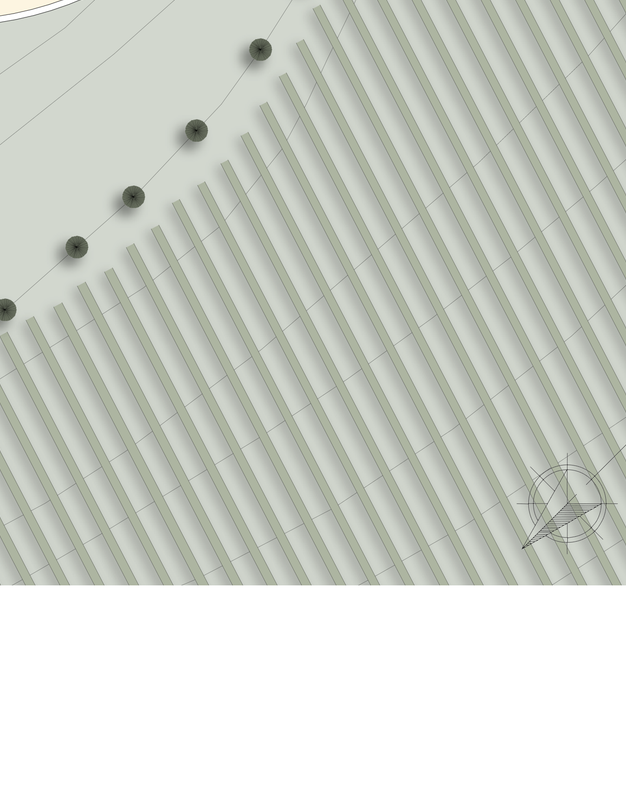
## // Floorplans



*First floor level of the Cantina and Farmhouse (scale 1:200)*



*Cellar -1 of the Cantina (scale 1:200)*



*Basement -2 of the Cantina (scale 1:200)*

# Design Themes

### Facade openings
Characteristics of the existing, dark, empty and hollow wall openings have become a theme for the newly designed windows and doors as well as the framing of the wall openings.

### Cittaslow
Parrano is part of the International Cittaslow network. The values and qualities that Cittaslow includes and represents are a theme for the redevelopment of the Principality of Parrano.

### Greenery
Because of the importance of greenery, it has become a specific theme. Traditional vegetation is maintained and cared for while new plants, trees and flowers are introduced to improve the greenery status of the principality.

### Society
The social aspect of the mezzadria, as well as the importance of social coherence in developments, has mede this theme of great importance to implement the project succesfully in the existing community, to involve the population with the plan and to attract new people to Parrano.

### Culture
Parrano has many cultural assets that can be cultivated to make them of greater value. Some investment or some improvements can make them even more valuable. Culture is one of the keys for Parrano's succesful future.

### Sustainability
Re-use, reducing waste material and operating self-sufficient are some of the main elements from this theme that will be implemented in the new development plan.

### Climate
Climatological conditions are location specific. Some conditions are positive and can be used, others are less desirable and need control. Specifically the regulation of internal climates inside buildings is of great importance within this theme.

### Colors
Colors of Parrano are related to the soil and the landscape. They characterize the place and are in some ways part of the cultural heritage. New colors, used in accents, can add value in all kinds of ways and is worth attention.

### Organization
*Mezzadria* was an hierarchical structure to organize agriculture in Italy. This structure stopped working in the twentieth century and a new organization is needed to redevelop the Principality of Parrano.

### Economy
Like the economic situation of the principality was of great importance in the past, also the future economic activity is a crucial element for a succesful redevelopment of the principality to make it flourish again.

### Self-sufficiency
Farms were operating self-sufficient as much as possible within the *mezzadria*. Farmers and their families grew multiple crops to provide both themselves as well as their landlord. Spreading risks and economic profit is the basis of this theme to make the principality self-sufficient.

### Roofings & Pergolas
Both roofings and pergolas are important tools in characterizing architecture to place and culture. Italian characteristics of both elements are authenticized and modernized in this design to represent the culture of these elements and to improve them.

### Landscape
Existing characteristics of the Parrano landscape like: terraces, greenery, pavements, '*muro a secco*', sightlines, hills and panorama's are all part of the landscape theme. Their influence on the climate make these elements of great value for the location.

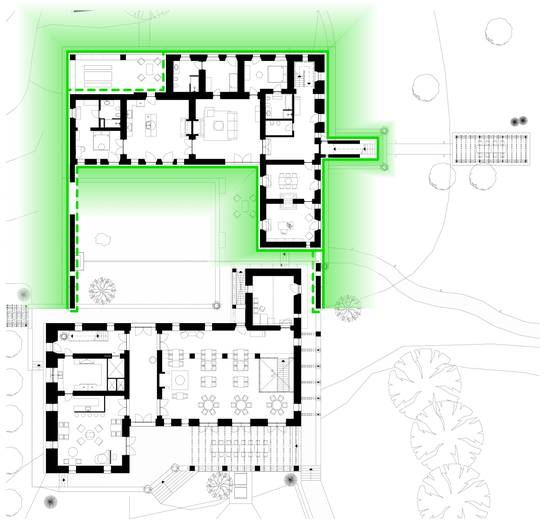
### Building Materials & Techniques
Local building materials and traditional building techniques are important elements for designing new buildings and renovating or restoring existing buildings.

### Program
The new program is based on functions from the past, valuable assets that can be exploited, existing program qualities that need refurbishment and ideas that will be implemented because they upgrade the present values.

### Environment
Environment and Sustainability are linked. Taking care and improving the environment asks for sustainable methods of using it. Both natural and built environment are considered, within this theme, as important elements for a succesful development.

### Pavements
Like greenery and building materials, the pavements became a specific theme within the redevelopment. Floorings, paths and pavements represent history as well as function, use and esthetics and therefore influence behaviour and appearance.

### Upstairs - Downstairs
The traditional 'upstairs-downstairs' organization of the Italian farmhouse can not be maintained but because of the cultural and architectonic importance, this theme stimulates new solutions based on this characteristic structure.

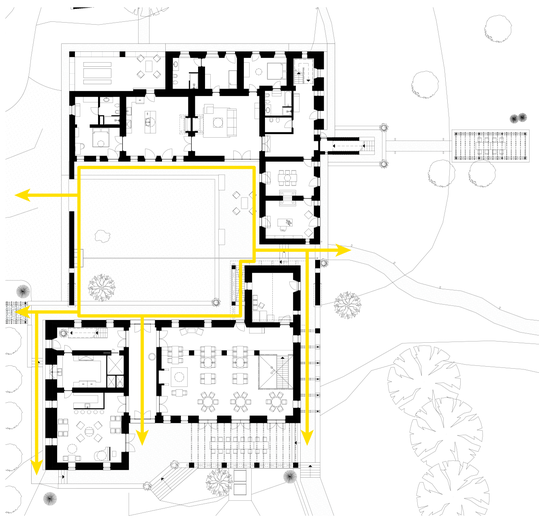


*Facades and characteristic stairway of Podere Bovorosso in the 'vincolo ambientale'*

The local '*vincolo ambientale*', which is an environmental constraint, protects the valuable exterior of the farmhouse because of its materials that make the architecture merge with its surroundings. Both the mortar and the natural stones are from local soil and create the characteristic yellowish appearance of most buildings in Parrano.

The stairs are another valuable item from the past that remain as well. As visible in the image is the exterior retained and has improvements been executed from the interior. To strenghten the appearance of the old buildings has been decided to place the new cantina at a little distance.

hough the environmental constraint focusses on the exterior facades of the building ensemble also the facades at the courtyard are retained intact as most as possible.

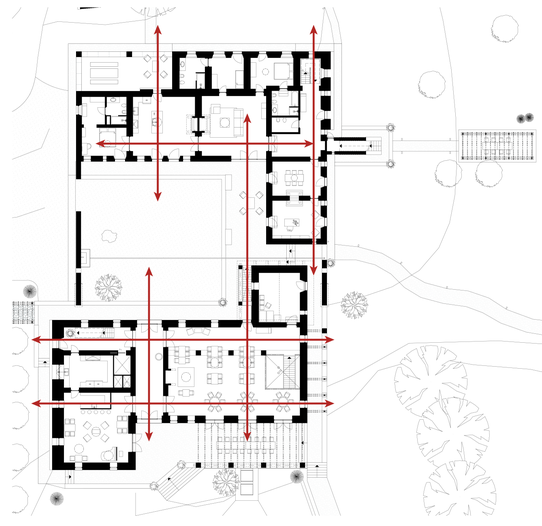


*Sightlines, routing and arrangement of original (Farmhouse) and new (Cantina) volumes*

The new cantina is placed seperated from the old farm building with purpose to accentuate the two different buildings and create exciting corners and a larger courtyard. One of the valuable results from the positioning of the cantina are the new sightlines that connect the courtyard with the surrounding landscape of vineyards, forests and gardens.

Most powerful and iconic for the new design is the corridor through the cantina which is accentuated in a wine red stucco (visible in the image rendering below). It functions as pathway and sightline between the courtyard and the terrace west of the building.

Sightlines continue mostly by following the pavements through the landscape around the building ensemble, which connect the different buildings and places with another.



*System of enfilade through the Farmhouse and Cantina of Podere Bovorosso*

A system of enfilades is used in the design, based on the few that were already there, to strengthen the connection between rooms and create interior sightlines.

The lines are mostly positioned alongside the facades to have bright and clear walking path through the building and the opportunity to have a view on the landscape outside. To avoid any monotony in the enfilade system, does some of the lines end in mirrors or in an alcove with sculpture. This result in an interesting variety of sightlines making every enfilade different.

Some enfilades continue in the landscape, like the one behind the iconic stairs of the farmhouse that continue outside following the pavement underneath the pergola alongside the cantina. The one that connects the living room with the cantina does even change over the different floors, as visible in section L3.

# Interior Impressions



*Image rendering of the renewed piano nobile in the farmer's residence*



*Image rendering of the exhibition tunnel between the Winery and the Panorama Well*



*Image rendering of the xxhibition corridor on the first floor of the Cantina*



*Image rendering ot the restaurant on ground floor level of the Cantina*



*Image rendering of the view from the stairs between the production facility and the cellar of the Cantina*



*Image rendering of the private dinning space in the cellar of the Cantina*

# Exterior Impressions



*Image rendering of the view from the living quarters of the owner at the 'piano nobile' towards the pool and territory in the south*

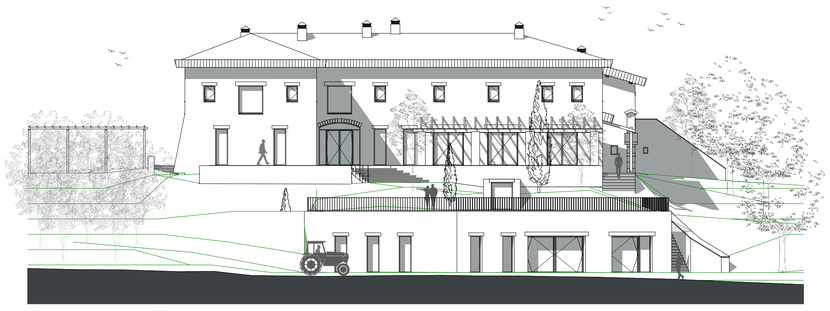


*Image rendering of the renewed farmhouse and restored staircase to the 'piano nobile'*

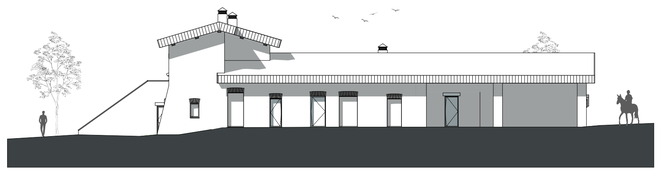


*Image rendering of the new courtyard at Podere Bovorosso with the newly built Cantina on the other side*

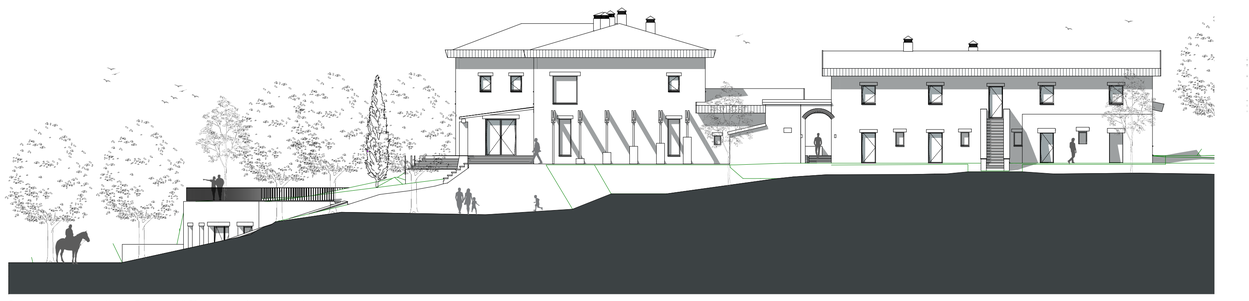
# Elevations & Sections



*North-west facade of the Cantina (scale 1:200)*



*South-east facade of the Farmhouse (scale 1:200)*



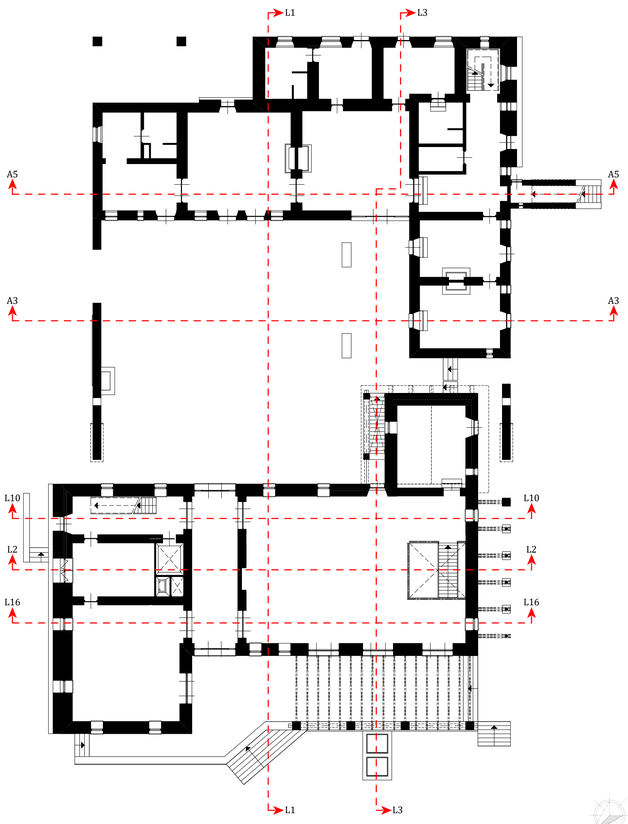
*South-west facade of the Cantina & Farmhouse (scale 1:200)*



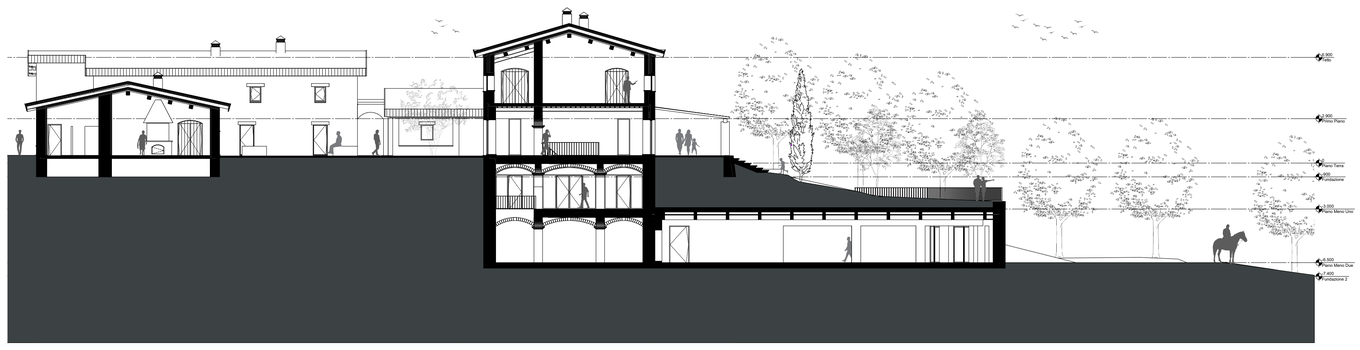

*North-east facade of the Cantina & Farmhouse (scale 1:200)*

Original farmhouses are renovated from the interior perspective with reespect for the valuable exterior facade of the buildings which is protected within the '*vincolo ambientale*' - an environmental constraint for Parrano. New constructed floors and roof improve the living comfort of the farmhouse with extra insulation and beautiful traditional materials. The cantina is built completely new on the location of the former horse stables from the 1960's (constructed by Vittorio Valletta). Its exterior is a continuation of the local building tradition while the interior is modernized to contemporary comfort with recognizable cultural style elements.

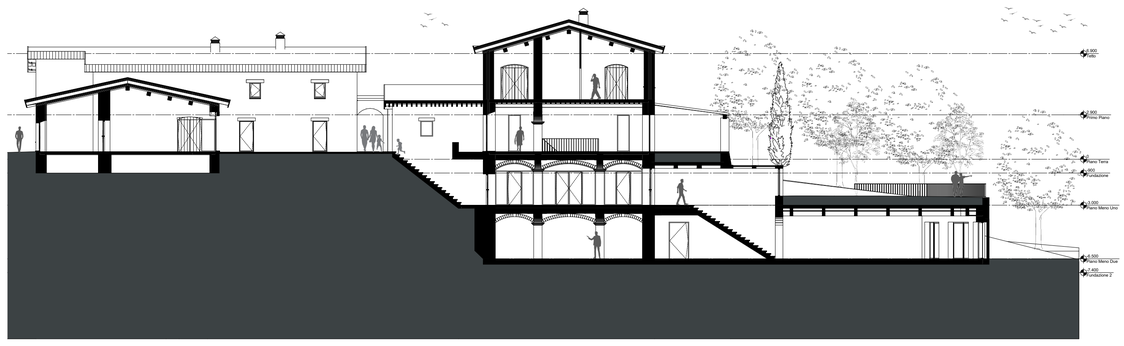
New designed wall openings and their frameworks have been thematized from the hollow and dark openings in the original building structures. A slender powdercoated steel framework with solar resisting glazing improves the interior climate, protects the interior from overheating and makes it possible to continue the current building characteristics of the exterior. The variety of small and vertical windows is related to the cultural tradition of '*piano terra*' and '*piano nobile*' with the exception of larger glass windows at places with important or beautiful viewpoints.



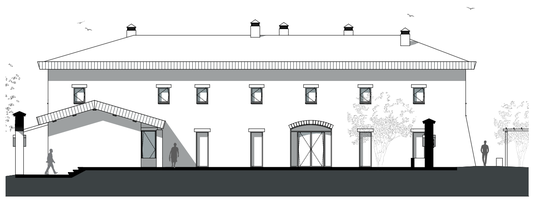

*Floorplan Farmhouse & Cantina with location cross-sections (scale 1:200)*



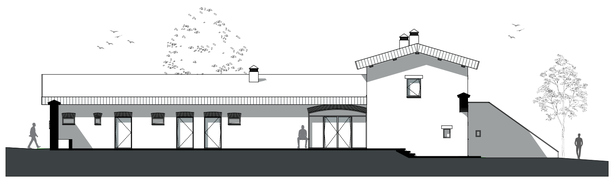
*Section L1 through the renovated Farmhouse and new constructed Cantina (scale 1:200)*



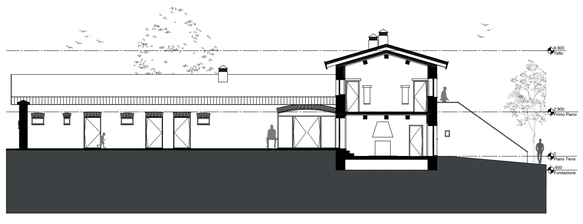
*Section L3 through the renovated Farmhouse and new constructed Cantina (scale 1:200)*



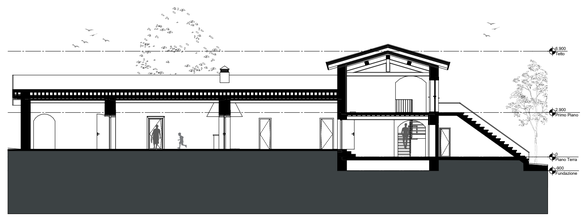
*South-east facade of the Cantina (scale 1:200)*



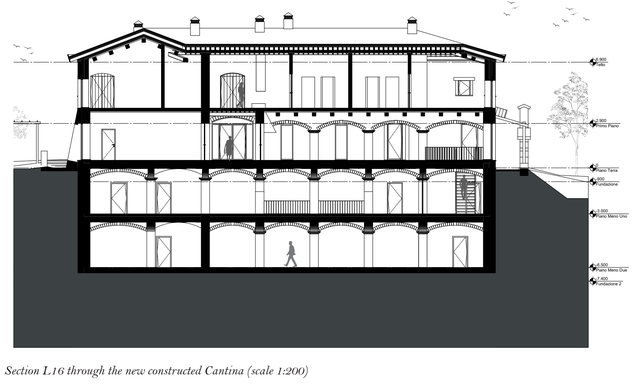
*North-west facade of the Farmhouse (scale 1:200)*



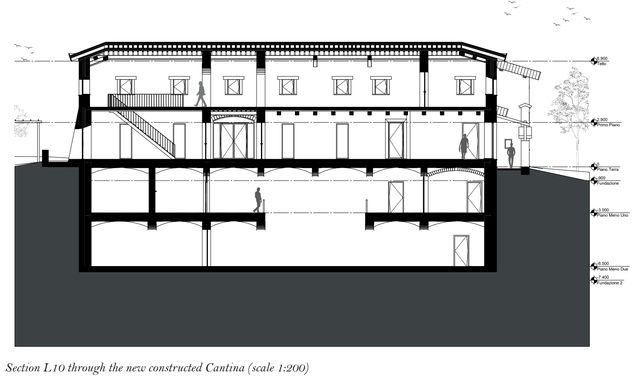
*Section A3 through the renovated Farmhouse (scale 1:200)*



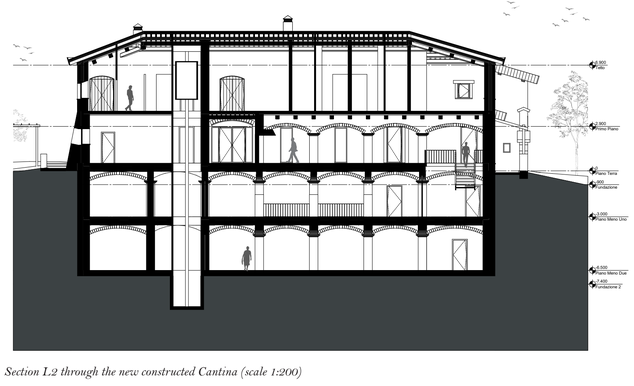
*Section A5 through the renovated Farmhouse (scale 1:200)*



*Section L16 through the new constructed Cantina (scale 1:200)*

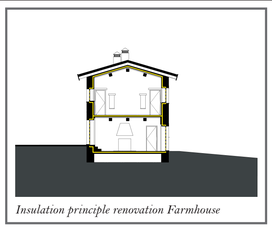


*Section L10 through the new constructed Cantina (scale 1:200)*

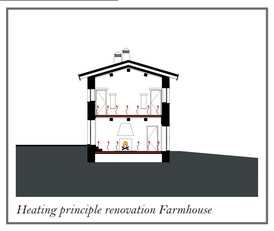


*Section L2 through the new constructed Cantina (scale 1:200)*

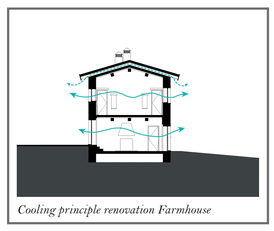
# Climate Principles



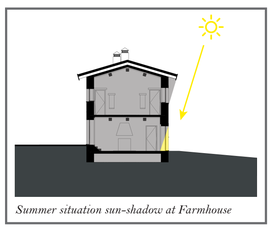
*Insulation principle renovation Farmhouse*



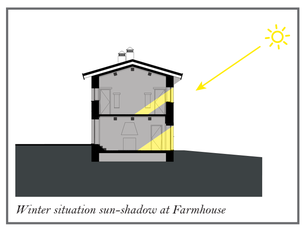
*Heating principle renovation Farmhouse*



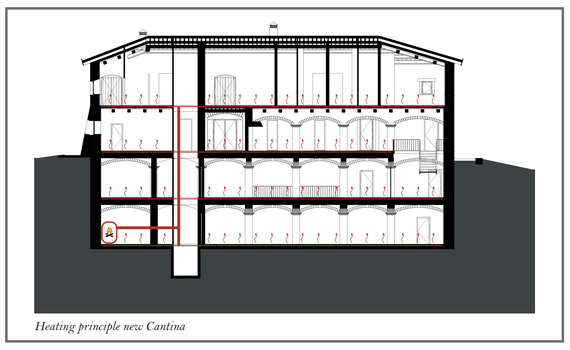
*Cooling principle renovation Farmhouse*



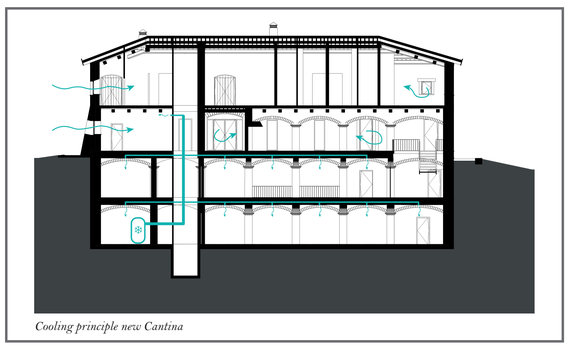
*Summer situation sun-shadow at Farmhouse*



*Winter situation sun-shadow at Farmhouse*

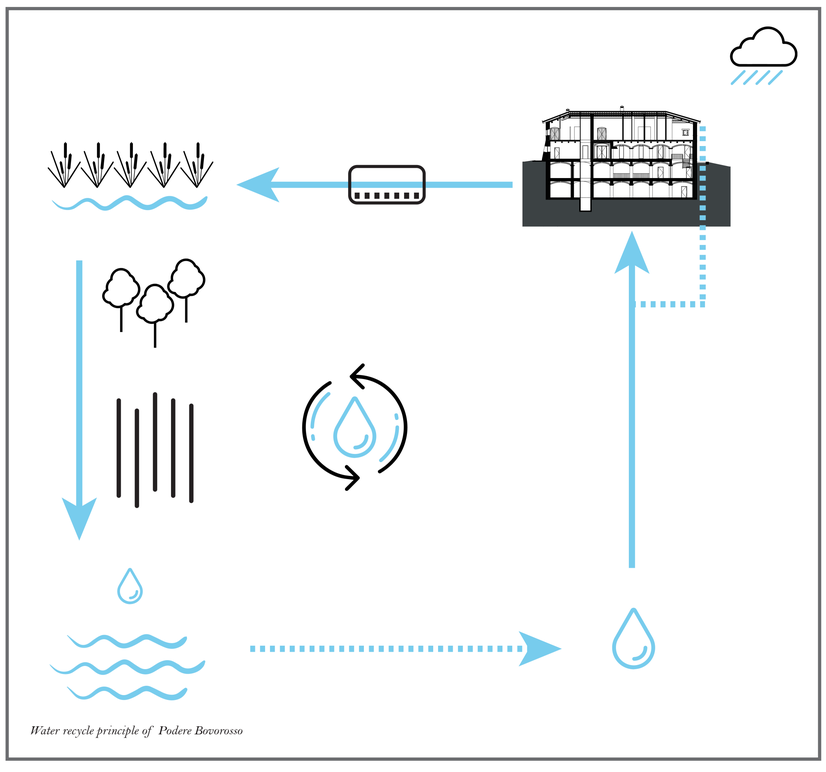


*Heating principle new Cantina*



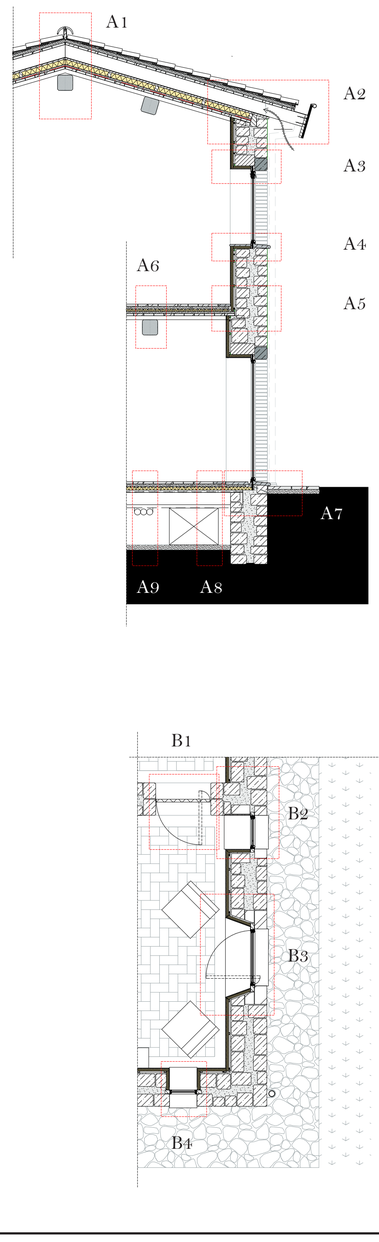
*Cooling principle new Cantina*

The original farmhouses at Podere Bovorosso are insulated on the interior facade, as these diagrams show for the renovated dwelling of the owner. Heating is controlled and regulated by an integrated floor heating system and is assisted by fireplaces in several rooms. Warmth for floor heating and water consumption is generated by a biomass heater in the technical space of the cantina. Cooling and ventilation is regulated naturally by opening windows and air vents on the floors above surface and is mechanically supported in underground spaces by machines in the basement of the cantina.



*Water recycle principle of Podere Bovorosso*

# Detailing Renovation 1:10




The roof of the original farmhouse is renewed with respect to and in tradition of the building culture of agricultural Italy. This is best visible in thefinishing of the layers showing an authentic finishing in both the interior and the exterior. However, inbetween have been integrated new layers to improve the building construction, interior climate and interior comfort.

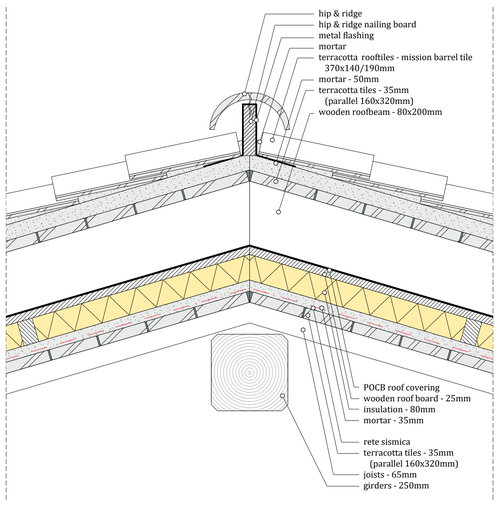
Originally, the roof is constructed of two layers of wooden beams, covered with two layers of terracotta tiles with mortar in between and mission barrel terracotta roof tiles on top. The two layers of terracotta tiles of the traditional layering have been diverted to make place for new layers as an air cavity, insulation and a seismic net. The seismic net is to make the construction flexibel and cohesive for future seismic activity. In this part of Umbria the seismic activity is not frequent and fiercely as in the south of the region but any preventive measures in building renovations is recommended. The air cavity is an open space between the constructed two roof layers that functions as extra ventilation of the building construction during warm summers.



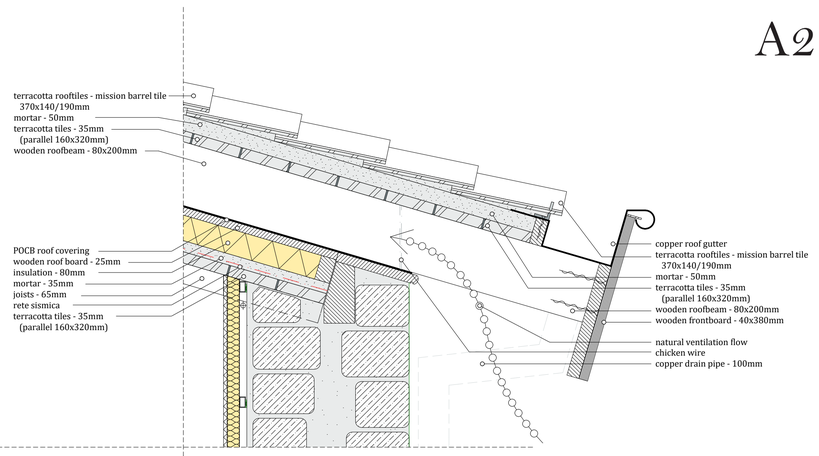
*Image rendering of the renewed farmhouse facade*

The original limestone facade, made of the typical yellow stone from Parrano that is quarried in this area, is remained intact as much as possible. Only cleaning and some repointing effect the exterior facade that has become more beautiful. Where the exterior facade is mosty intact in respect to the '*vincolo ambientale*' - the local environment constraint - and because of the iconic value of the facades, the interior has been changed. In front of the interior facade has been built a front wall including a small installation and ventilation cavity and a vapor permeable layer of insulation and stucco. This improves the interior climate and aesthetics, since the original interior facade was covered with a layer of grey mortar.

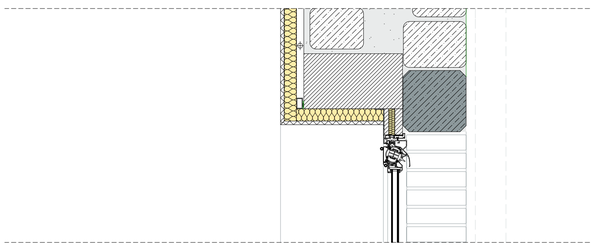
Original wall openings have been maintained and filled with a slender, powdercoated steel framework and pivot point turning doors and windows with sun resistant HR+++ glazing. The original stone construction framework in the facade, made of bricks and natural stone, is maintained.



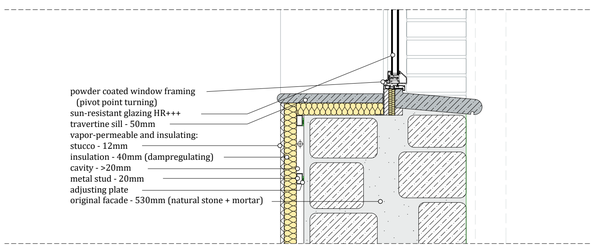

A1



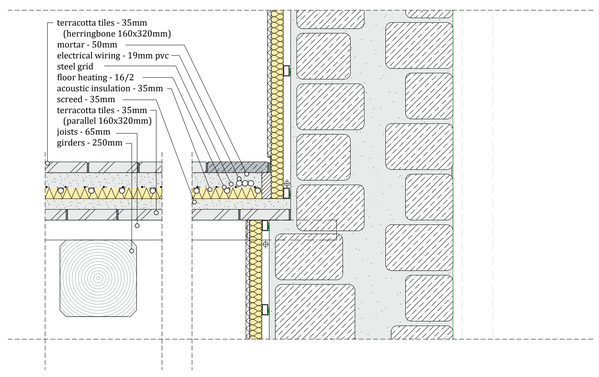

A2



A3

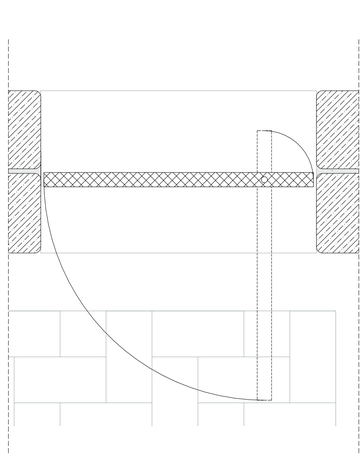



A4

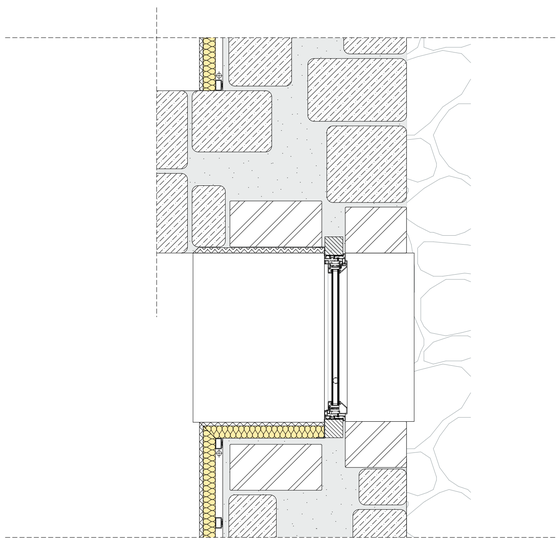



A5

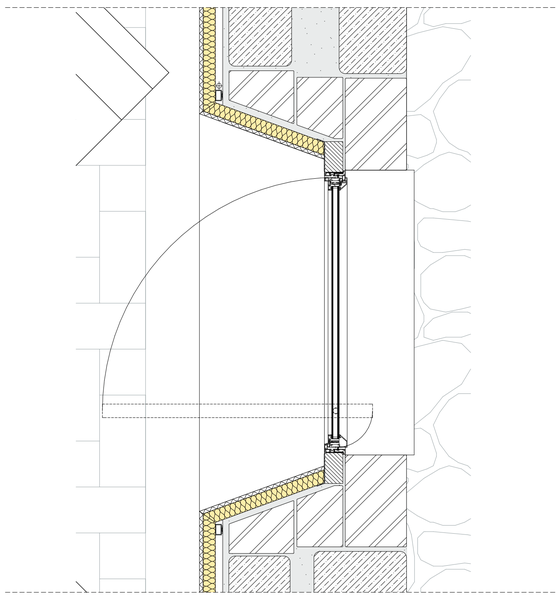
A6



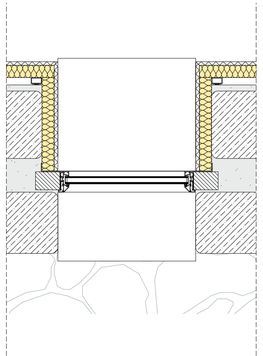
B1



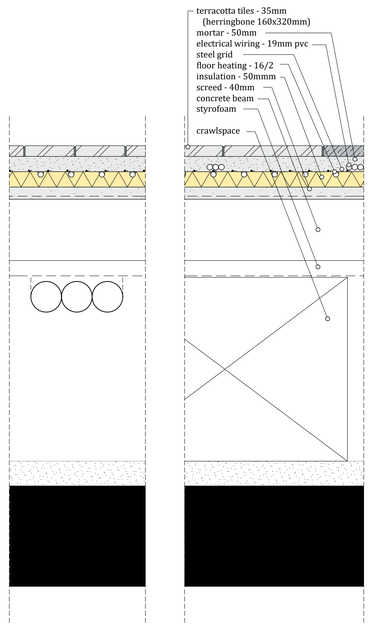
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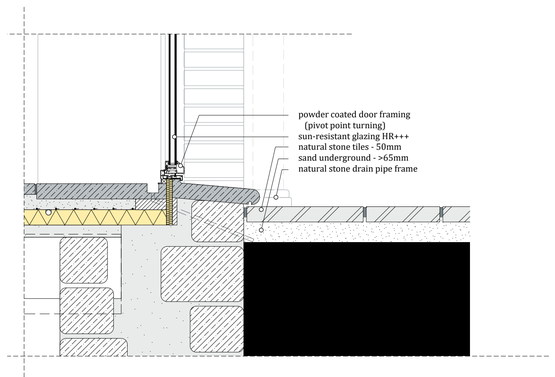
B3



B4




A9 A8



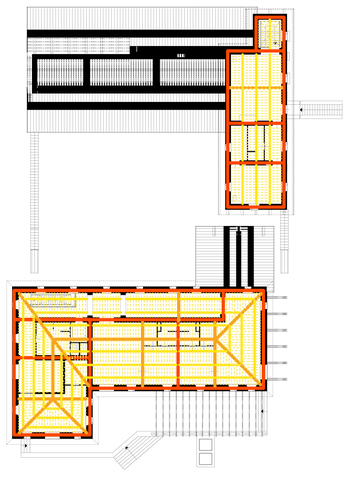

A7

In the crowling space uderneath the farmhouse are all pipes of water supply, sewage system, drainage, electricity and heating system attached to the insulated floor construction. Most pipes are connected with the technical system of the newly built cantina, in which the biomass heater and water pump are located in the technical space of the basement.

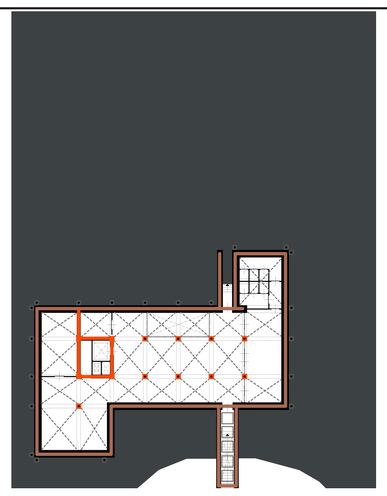
# Construction Diagrams



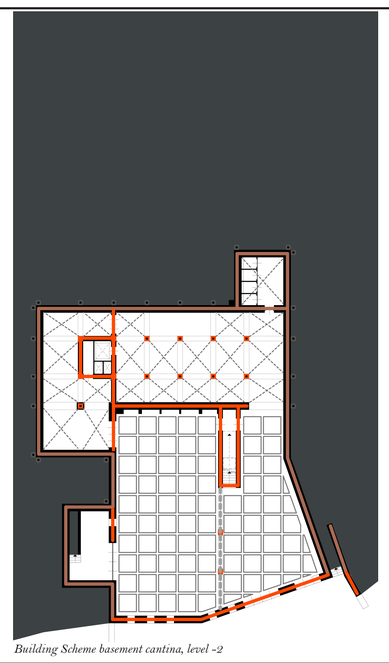
*Building Scheme ground floor level cantina and farmhouse*



*Building Scheme first floor level cantina and farmhouse*



*Building Scheme cellar cantina, level -1*

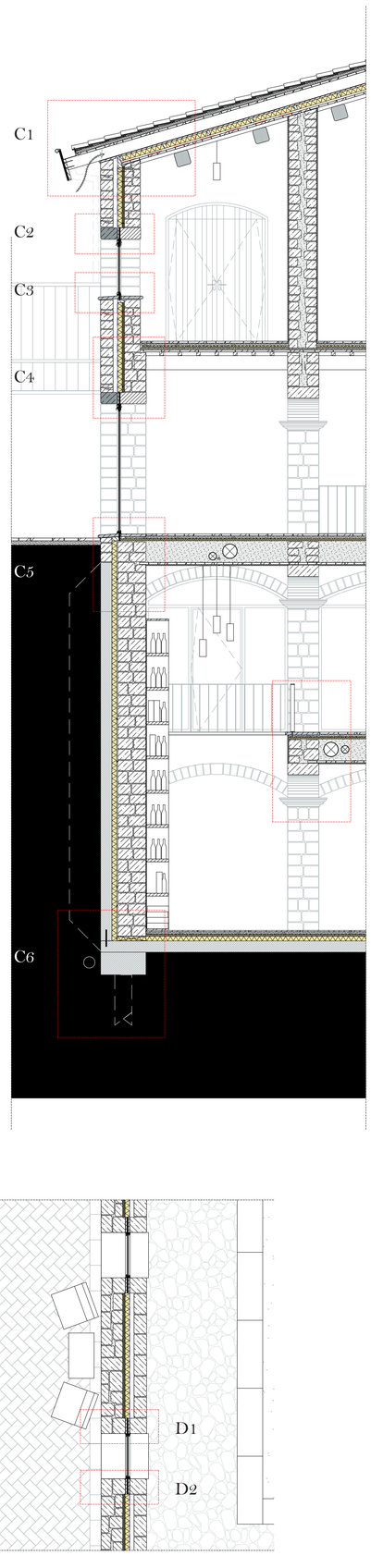


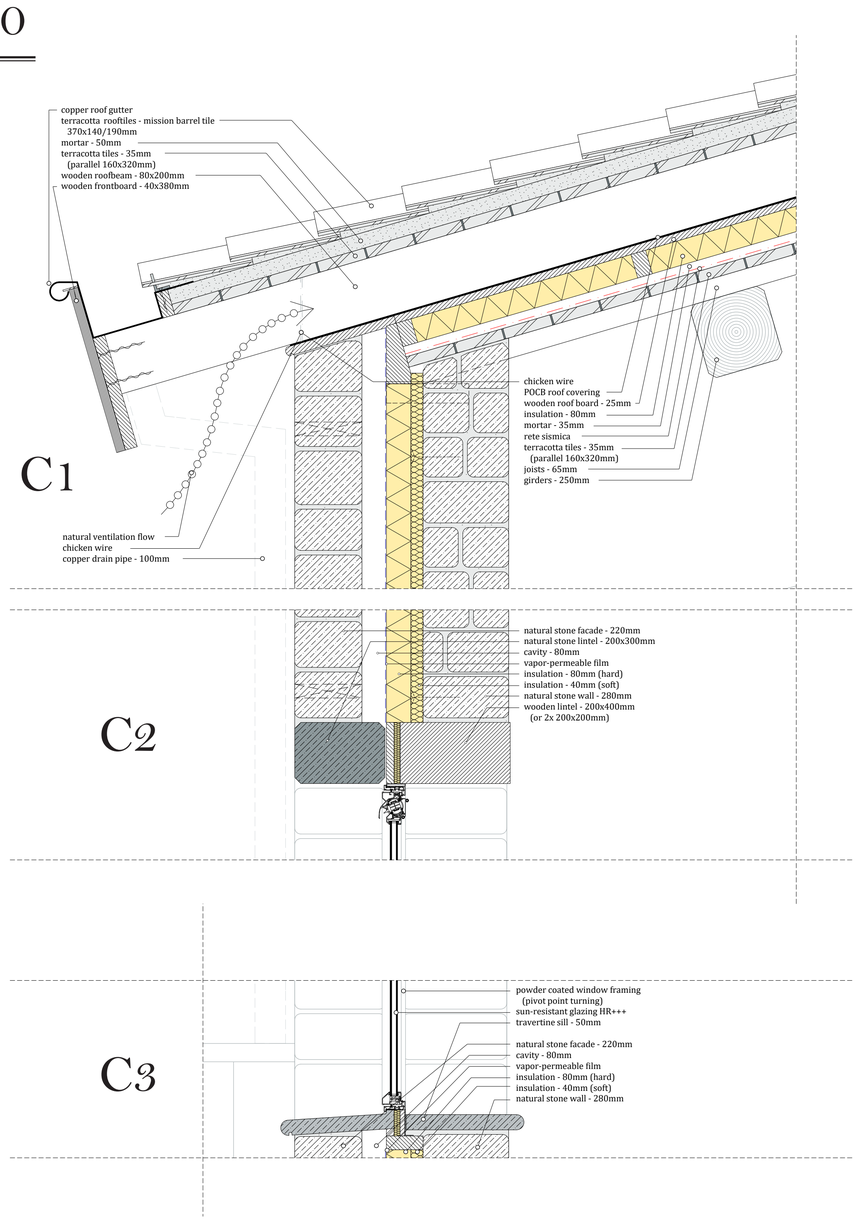
*Building Scheme basement cantina, level -2*

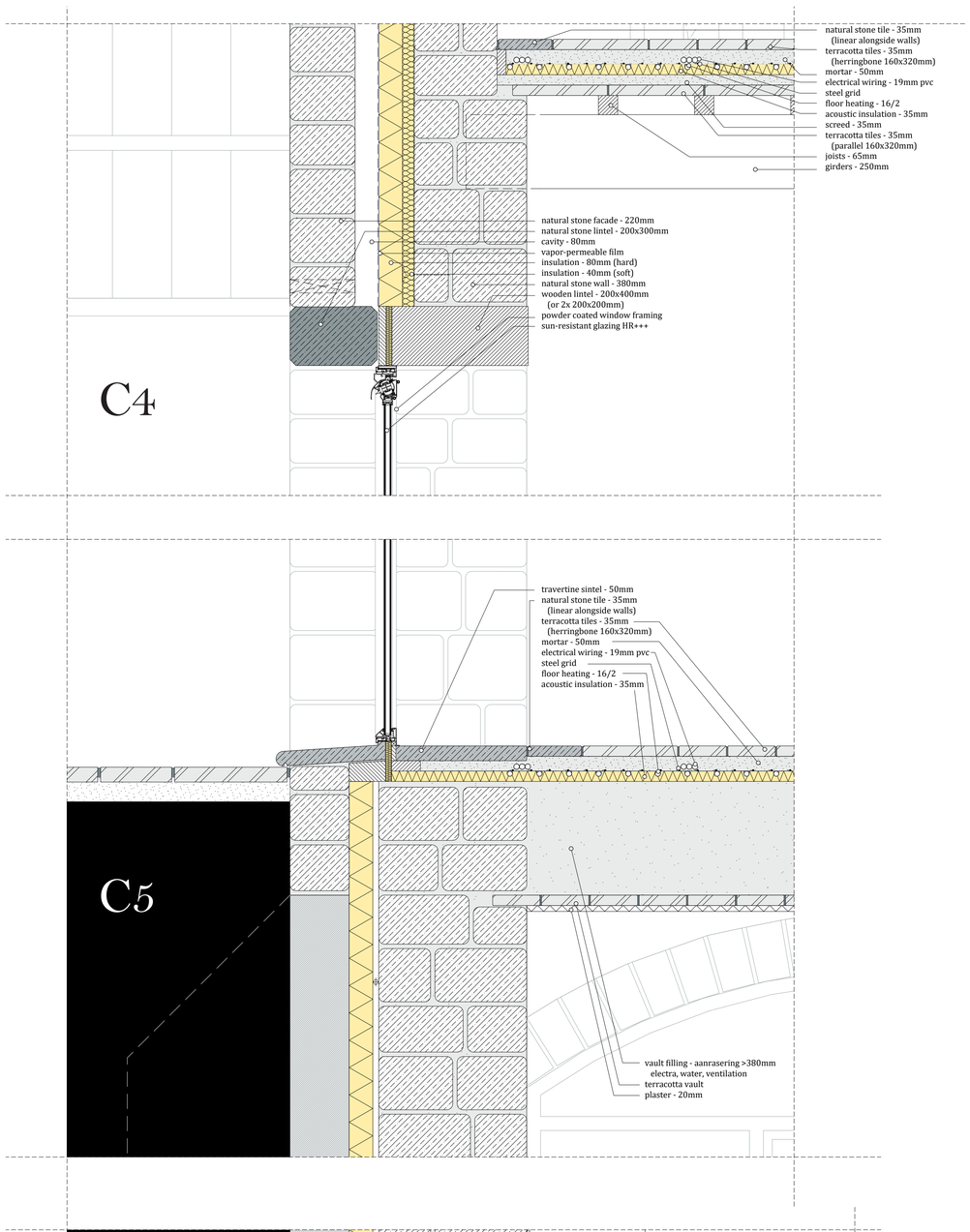
LEGENDA

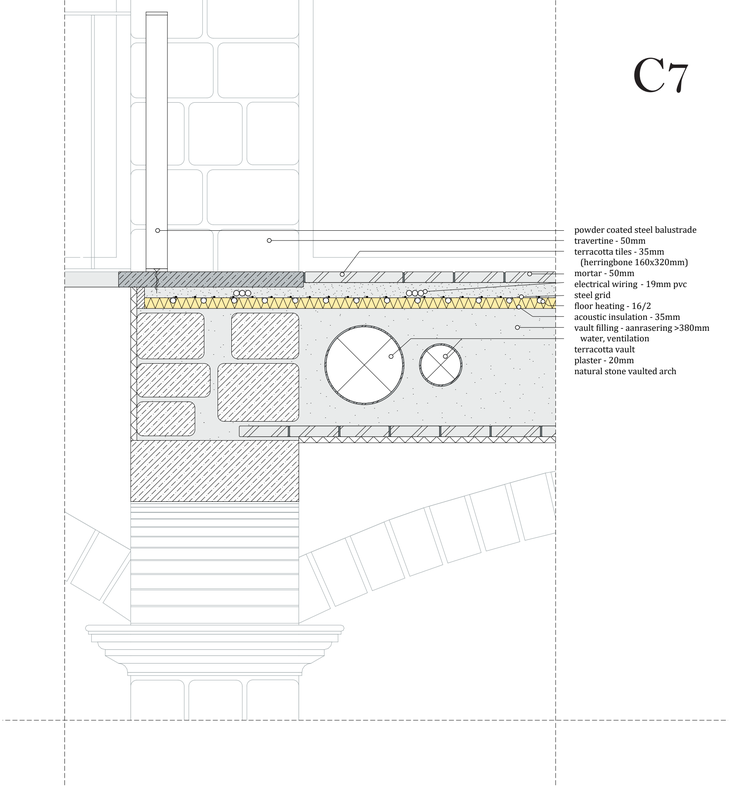
- Wooden Roof Truss
- Wooden Girders
- Wooden Joists
- Natural Stone Wall
- Natural Stone Column
- Concrete Buttress
- Concrete + Natural Stone Wall
- Terracotta Vault
- Natural Stone Arch
- Concrete Cassette
- Concrete Beam

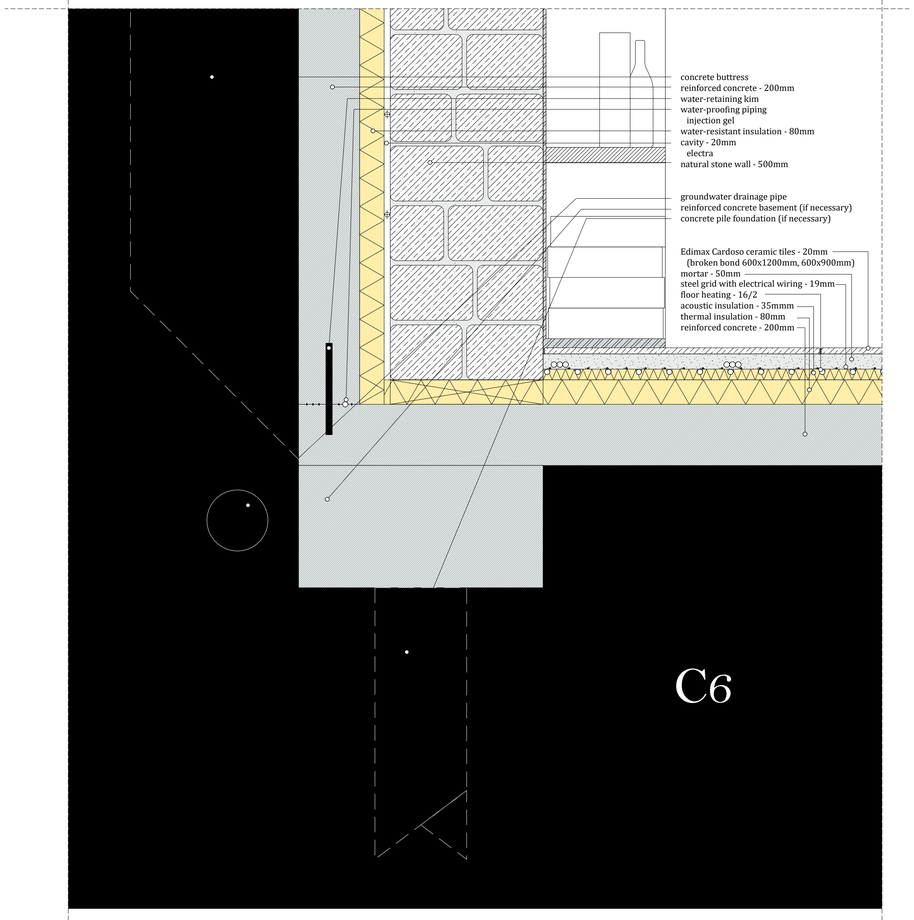
# Detailing New Construction 1:10



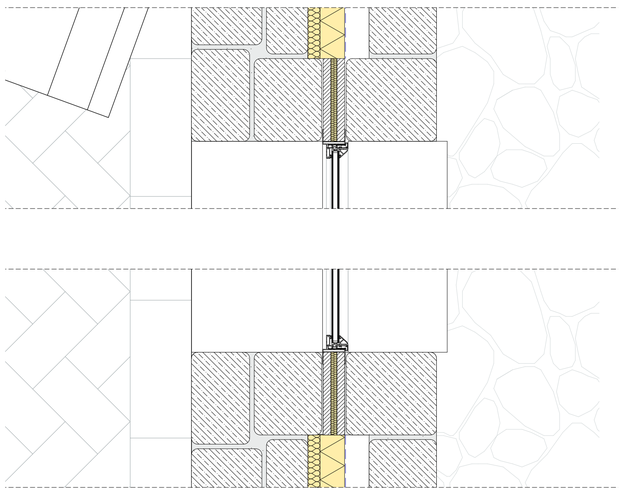






*Image rendering of the new cantina facade*

The detail principles of the new built cantina show similarities with the detailing of the renovated farmhouse. Both the exterior and interior finishing are made of local limestone with insulation and ventilation cavity in between. As for the new roof of the farmhouses have been chosen for a dubbel-structure roof with ventilation cavity for the cantina.

Wall openings in the cantina are shaped in the same way as in the original farmhouse. Smaller openings characterize the first floor as '*piano nobile*' while the vertical orientated openings of the ground floor gives the volume a more open structure in which inside and outside pavements seems to continue. These openings are based on the original stables in which most openings on ground level were doorways for the animals to enter. Now, most openings are glazed and the entrance have been marked by a large, arched doorway of powdercoated steel and glass that create a corridor through the cantina connecting the courtyard on one side with the terrace and vineyards on the other side.

Concerning the underground construction has been chosen to use concrete for the exterior layer of the walls. Based on the actual structure and strength of the surrounding ground - most likely to be stone and rocks - will be added concrete butresses and foundation is necessary. Any openness to water is avoided using a water-retaining kim in the concrete construction. The layer of insulation that is placed against the concrete outer layer is water-resistant.

The internal layer of limestone is the actual construction layer of the building, carrying the four level building. As visible in details C5 and C7 has been taken use of an arched construction with terracotta vaults to bring the load of the construction to the columns and exterior wall. This construction method has been used for the two underground floors, while the two floors above surface make use of a wooden construction with terracotta flooring (detail C4). Reason for this difference in construction methods is the required dimensioning of the construction as well as the appearance of constructions in the interior.