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MAARTEN DELBEKE | BENJAMIN DILLENBURGER

ROOTING IN THE GROUND

MASTER THESIS
FS23

NOSTALGIA
ECOLOGY N°II

TU LAN

REFLECTING THE POWER OF GROUND

When I was at Plantahof, I was amazed by the power of the ground. Plantahof is located in a flat area with some low mountains in the distance. The buildings at Plantahof are mostly two stories high, and when there are no obstructions around, the earth quietly reveals itself. We stand on the earth, draw nourishment from it to cultivate crops, cut down trees on the land and excavate stones from the earth to build houses. Finally, when we leave, we return to the ground.

- Learning from traditional structures: The two-story buildings covered by a wooden roof strive to stay close to the ground as much as possible. In order to protect the environment, the structures avoid using laminated wood and instead learn from traditional wood constructions, using natural materials to complete the building's span.

- Learning from the ecological environment: The presence of a highway on the east side of the site affects the ecological environment of the courtyard. The linear layout of the buildings isolates the impact of the highway on the courtyard and creates a street facade. The courtyard will transform turf grass into a more natural setting with natural grass and bushes.

- Learning from the architectural program: Since Plantahof offers over 70 short-term courses and experiences a significant flow of people on campus, with many guests staying for short periods, and long-term students staying on campus for one

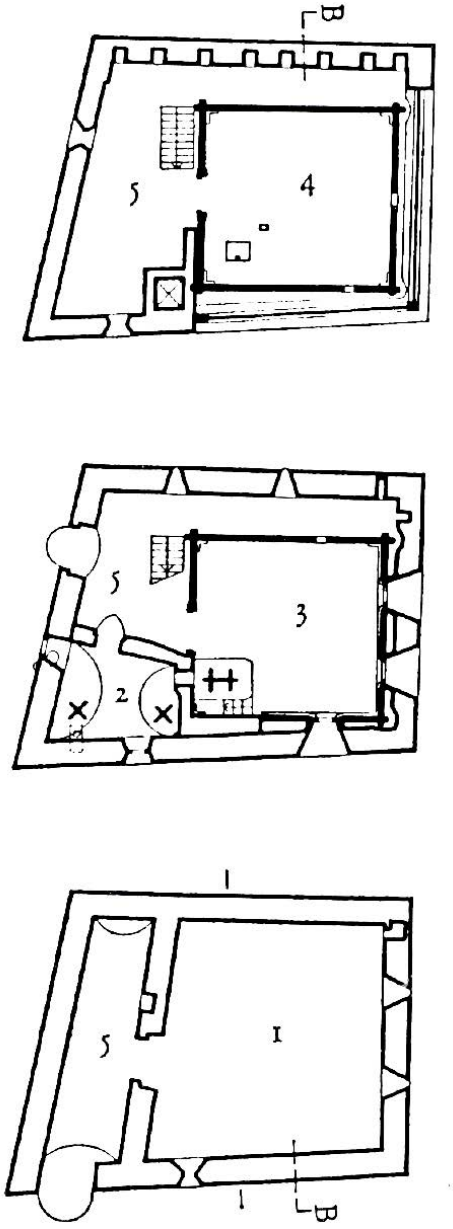
to two days a week, with significant differences between winter and summer. This project creates a flexible program that meets the needs of student accommodation during different time periods. The restaurant is located on one side of the newly created square, close to the main building and lecture hall. The kitchen connects to the restaurant, and a “sulèr” connects the dining and kitchen area to the storage area. The “sulèr” is an open, covered, semi-public area, and during the summer, it also serves as a cooking studio. The “sulèr” connects the vertical circulation to the second-floor dormitories.

Living in the earth, thriving within the earth. This project seeks to integrate into Plantahof Agricultural School, humbly answering and reflecting the power of the earth.

DAS BÜRGERHAUS

S. 7 – 21 FS23

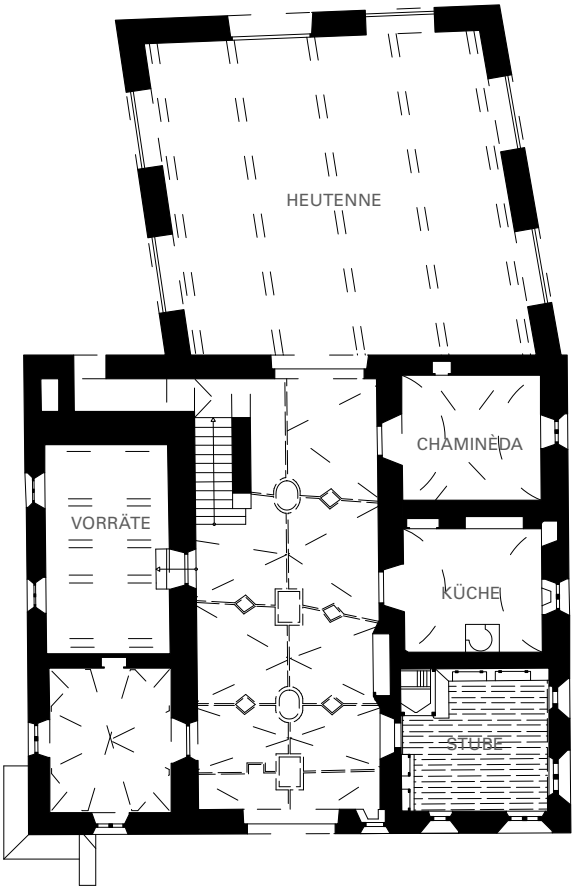
Chasté Sur En, Zuoz



Grundrisse

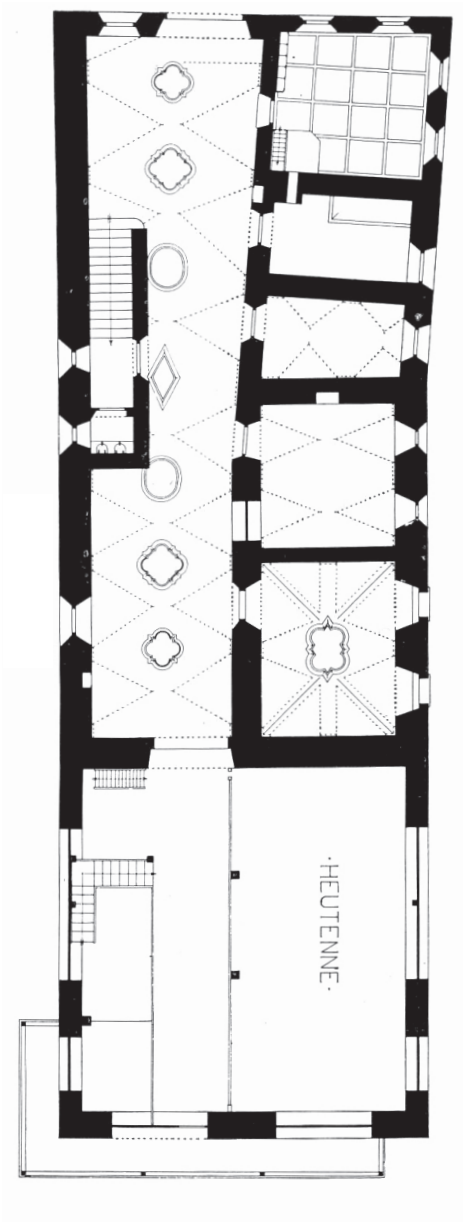
1:Keller, 2: Küche, 3: Stube, 4: Kammer, 5: Gang
x: Herd, ≠: Ofen

Haus Juvalta, S-chanf

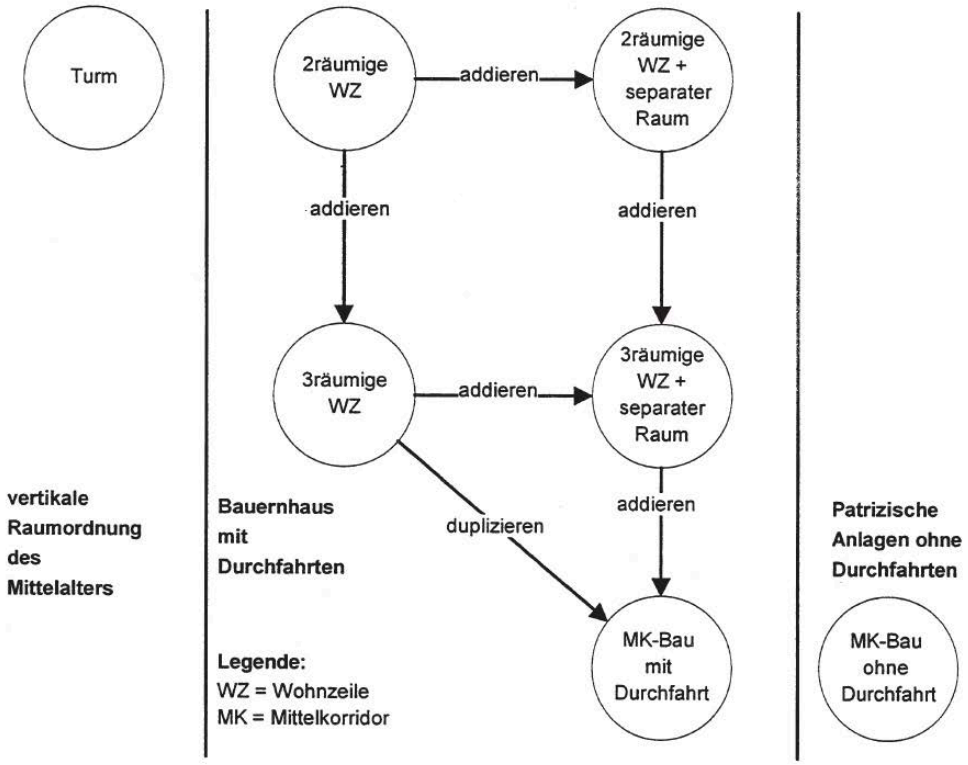


Grundriss EG

Haus Sandri-Turtach, S-chanf

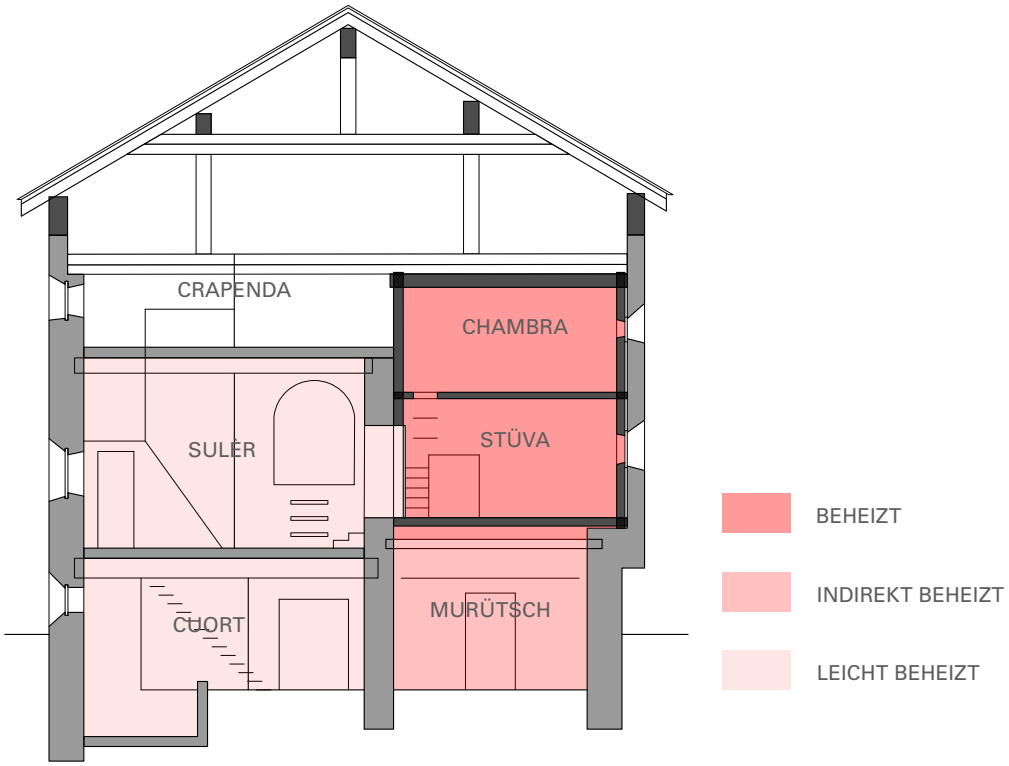


Grundriss, EG

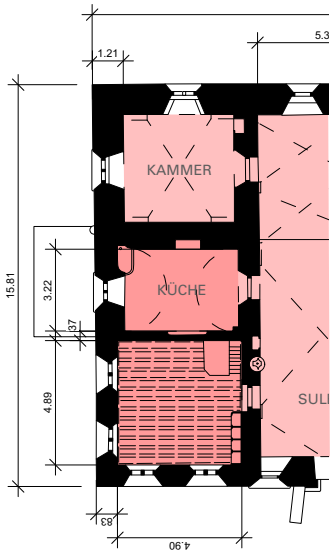


Schematische Darstellung der Zusammenhänge unter den einzelnen Bautypen

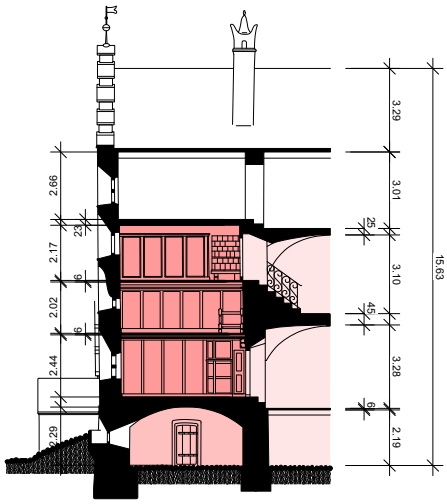
Quelle: Siedlungsinventar S-chanf, Kantonale Denkmal- Pflege Graubünden, S-chanf und Chur 1998, Seite 32



Schematische Darstellung der Vertikalen Raumorganisation und Wärmverteilung

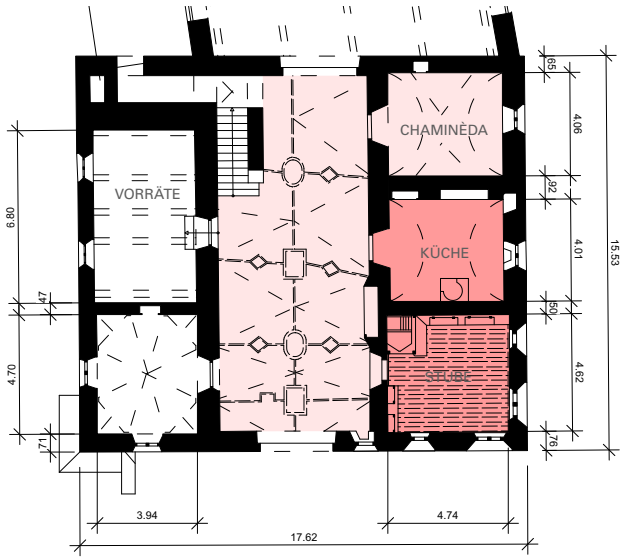


Haus Rödel Grundriss Erdgeschoss

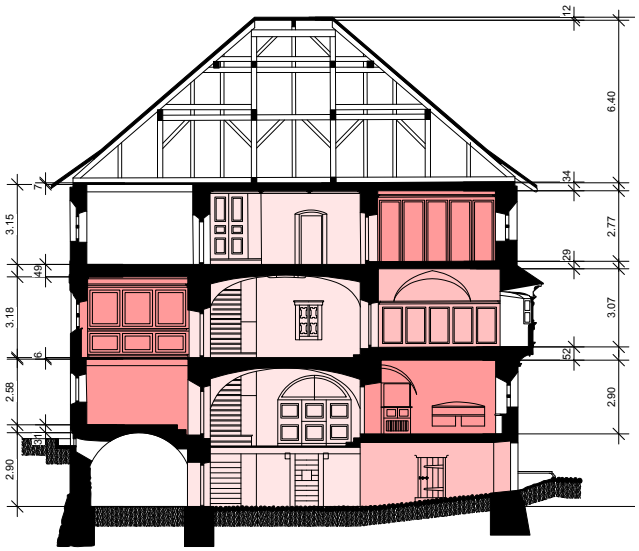


Haus Rödel Schnitt

Haus im Haus - Energie System

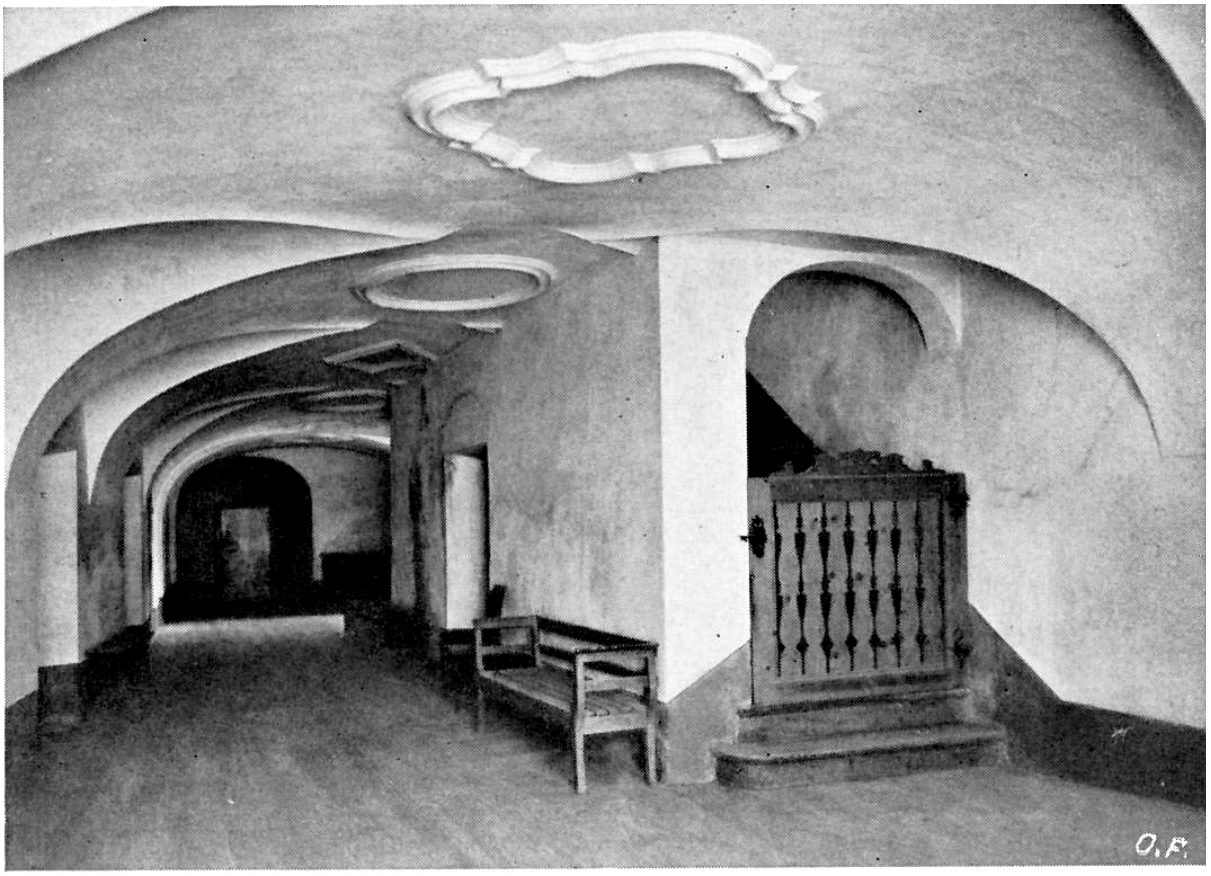


Haus Juvalta Grundriss Erdgeschoss



Haus Juvalta Schnitt

Haus im Haus - Energie System

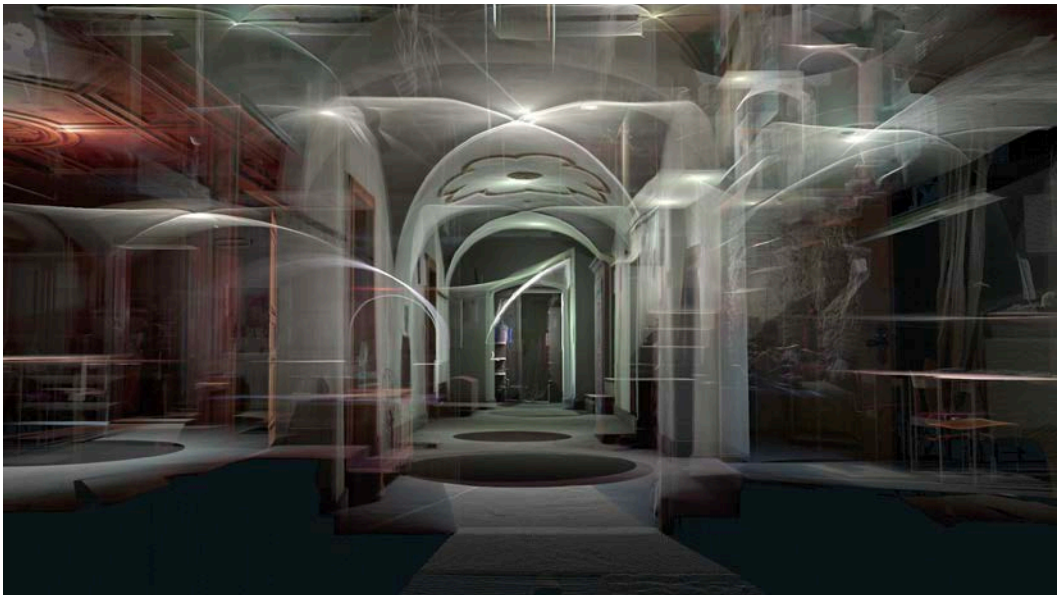


Sulèr

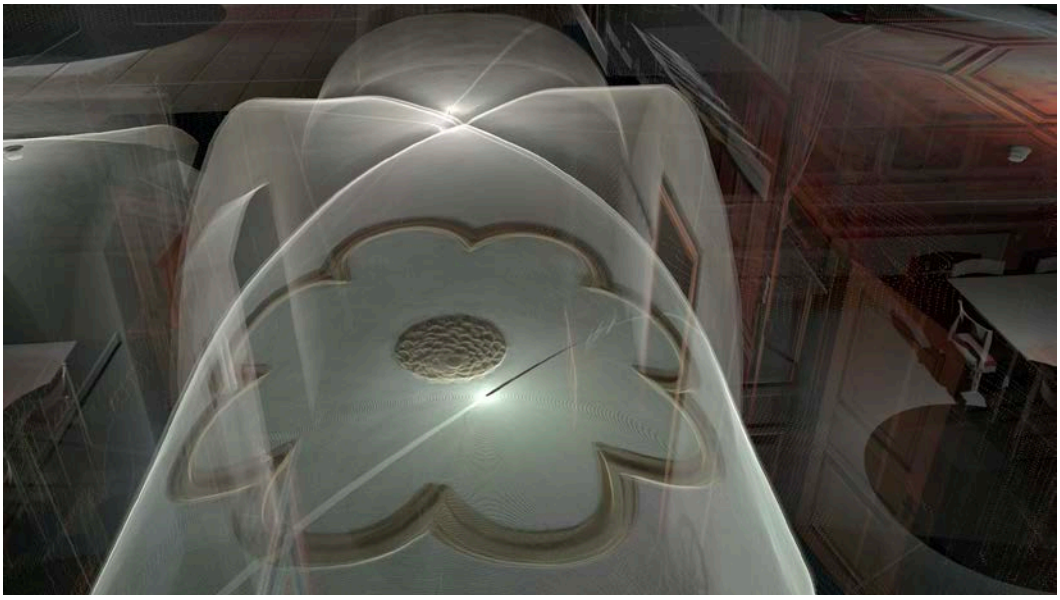
Quelle: Siedlungsinventar S-chanf, Kantonale Denkmal- Pflege Graubünden, S-chanf und Chur 1998, Seite 16

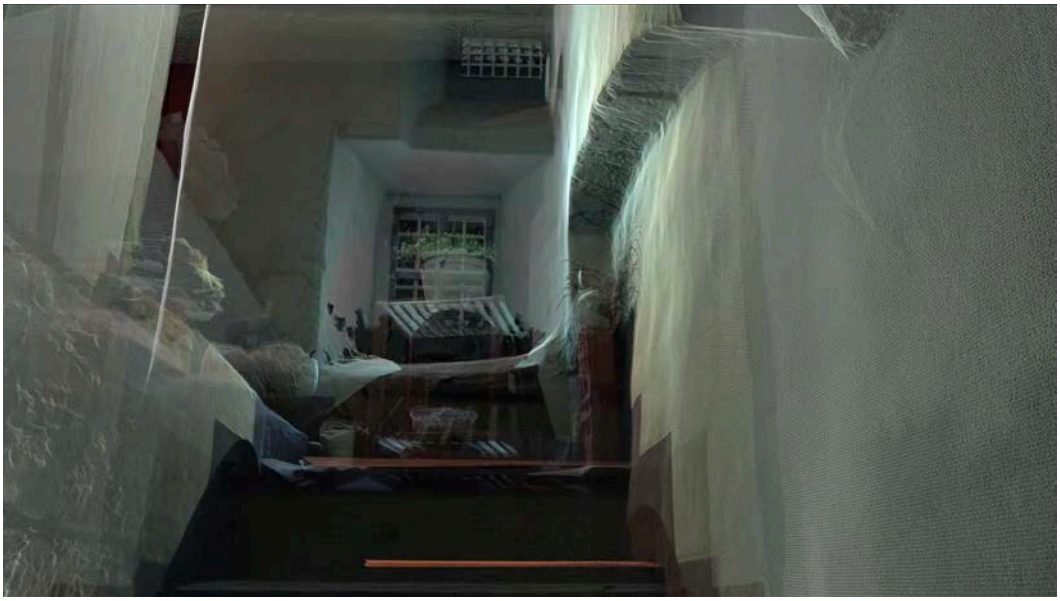
Stube

Quelle: Könz, Iachen U. 1994. Das Engadiner Haus. Bern: Verlag: Bern, Haupt. S.34



Point Cloud Scanning - Haus Jeuch, Klosters





Point Cloud Scanning - Haus Jeuch, Klosters

PLANTAHOF

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Schwarzplan - Landquart

Point Cloud Visualisierung Plantahof

Hauptgebäude und Hofplatz

Eingangsstrasse des Plantahofs

Schule

Nebengebäude

Umgehbung - Landwirtschaftliche Produktion

Umgehbung - Parameter


Plantahof
School System
FARMING
HUSBANDRY
TEACHING
PROCESSING
RETAIL
HOTEL
STORAGE
KNOWLEDGE SHARING
GREEN ENERGY PRODUCING
COLLECTIVE LIVING
SHARED KITCHEN
COLLABORATIVE MARKET
INHABITATING
CULTURE SHOWCASING
Szenario
FARMING
KNOWLEDGE SHARING
HUSBANDRY
GREEN ENERGY PRODUCING
TEACHING
COLLECTIVE LIVING
PROCESSING
SHARED KITCHEN
RETAIL
COLLABORATIVE MARKET
HOTEL
INHABITATING
STORAGE
CULTURE SHOWCASING

Programm

Modern agriculture is often seen as harmful to the environment due to increased carbon dioxide emissions and decreased biodiversity from monoculture plantations. My project aims to address this issue by preserving and improving biodiversity on the Plantahof campus. To start, we need to protect what's already on site. The campus has a large piece of land with monocultural turf grass, which contributes little to the environment and biodiversity. My proposal is to transform this field into a natural grass field with local plants such as Rote Hartriegel, Kornelkirsche, and Pfaffenhütchen. The natural grass field will attract insects, birds, bats, and small reptiles, providing food, shelter, and nesting places. In several years, this field will be wild, and the biodiversity will be significantly improved.

However, the nearby highway interferes with the welding process. To protect the inner grass field from traffic, I designed a long and slim building alongside the highway. This lineal-shaped building has a street facade. Behind this building, local plantation species are cultivated, some of which are edible and will be further processed and served in the canteen or sold in the store.

After passing through the facade, guests and visitors enter the Plantahof campus through the historic building, which leads them to the dining hall. The dining hall is connected to the collective kitchen, where students can even have cooking lessons. On the first floor are residential units for students who live on the campus for different lengths of time. In winter, when farmers are less occupied, there would be more than 200 people staying there. In the summer and autumn, when farmers are busy with fieldwork, and students also have practical exercises on the field, there are only 20 people living on campus, so this long building can be partially closed.

Kollage - Szenario

PROJEKT

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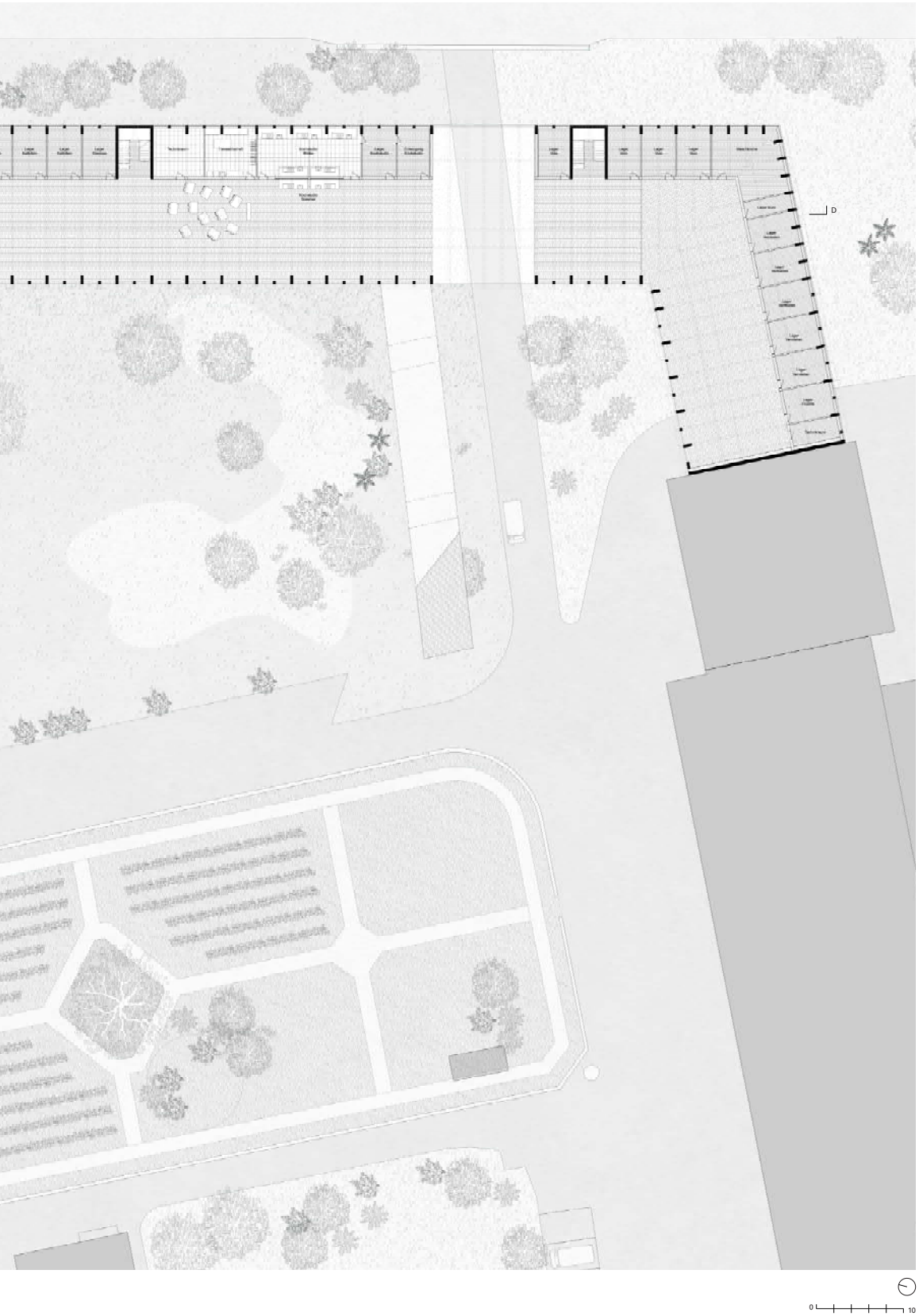
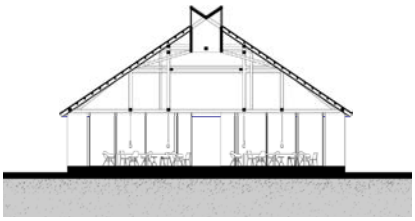
C
B
D
B
A
A
C

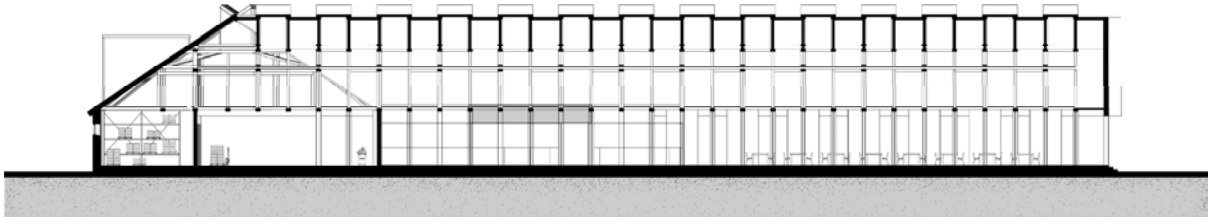


Grundriss EG

Visualisierung - Mensa

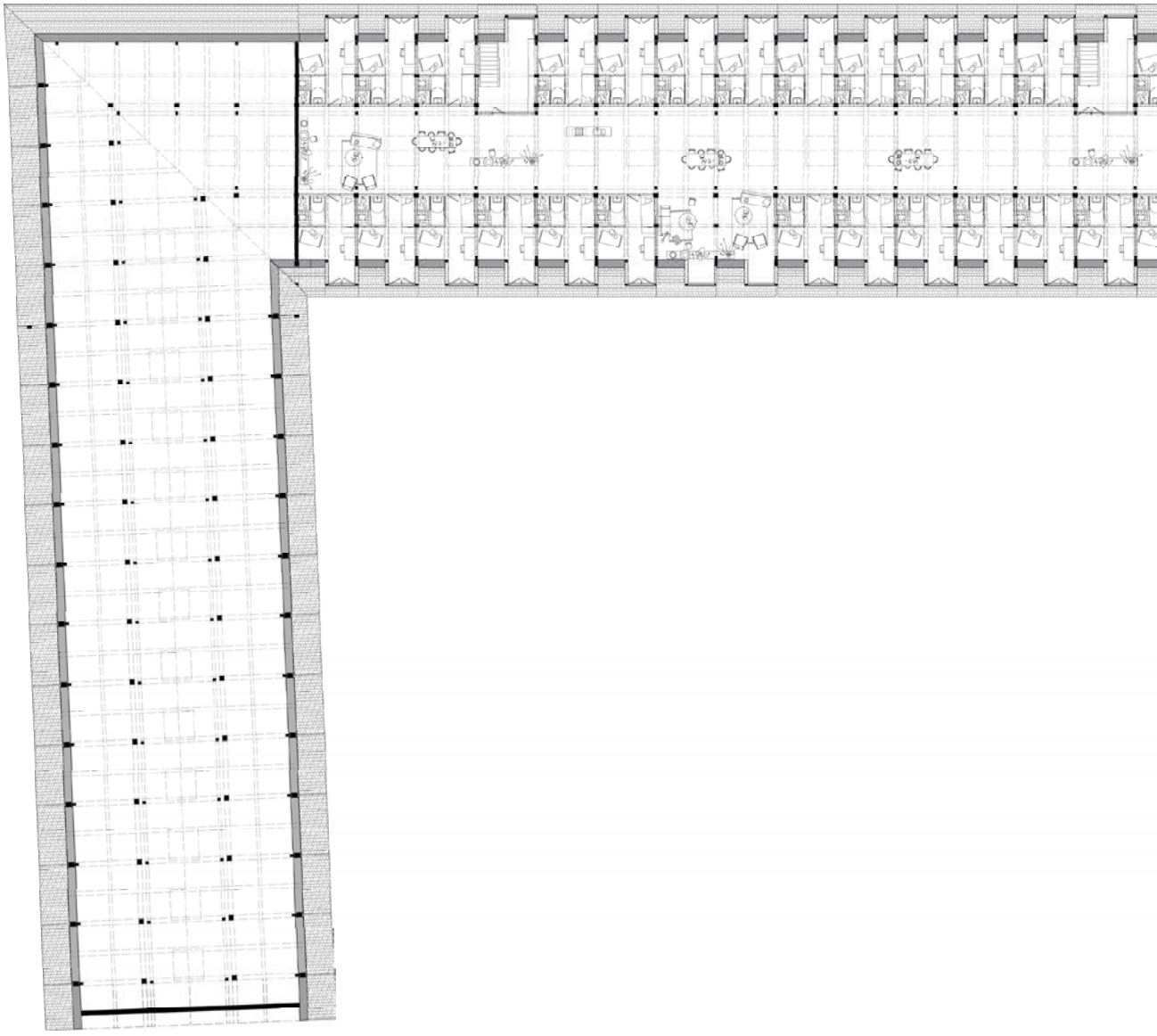


SCHNITT A-A

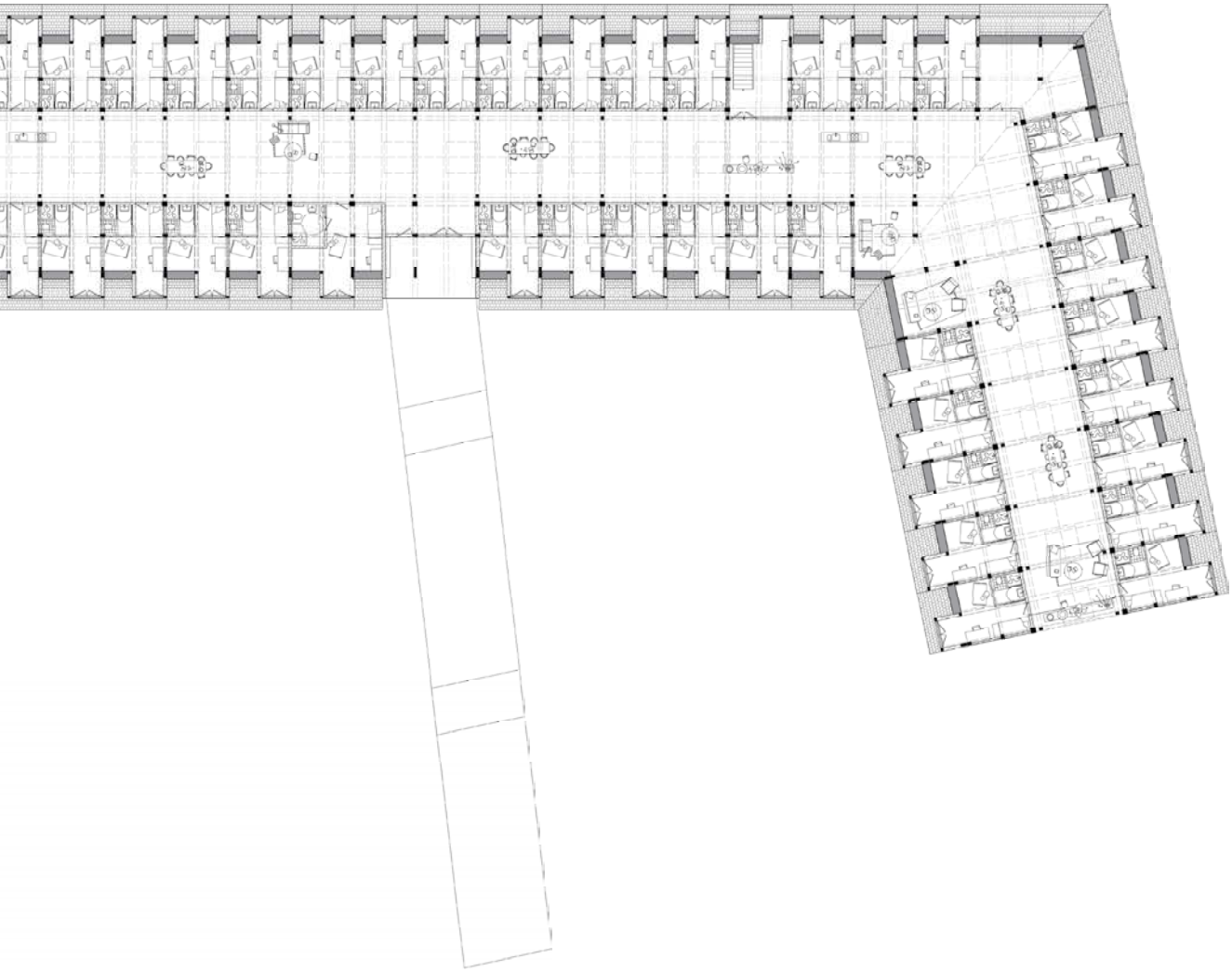


SCHNITT C-C

Schnitte - Mensa



GRUNDRISS OG



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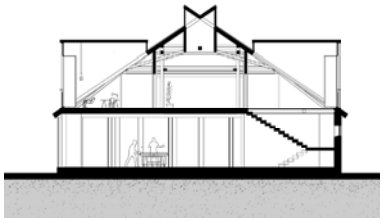
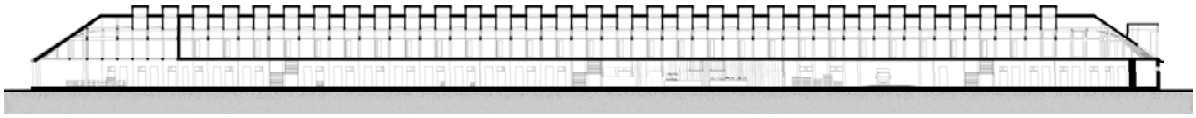
Grundriss OG

Visualisierung - Student Unterkunft



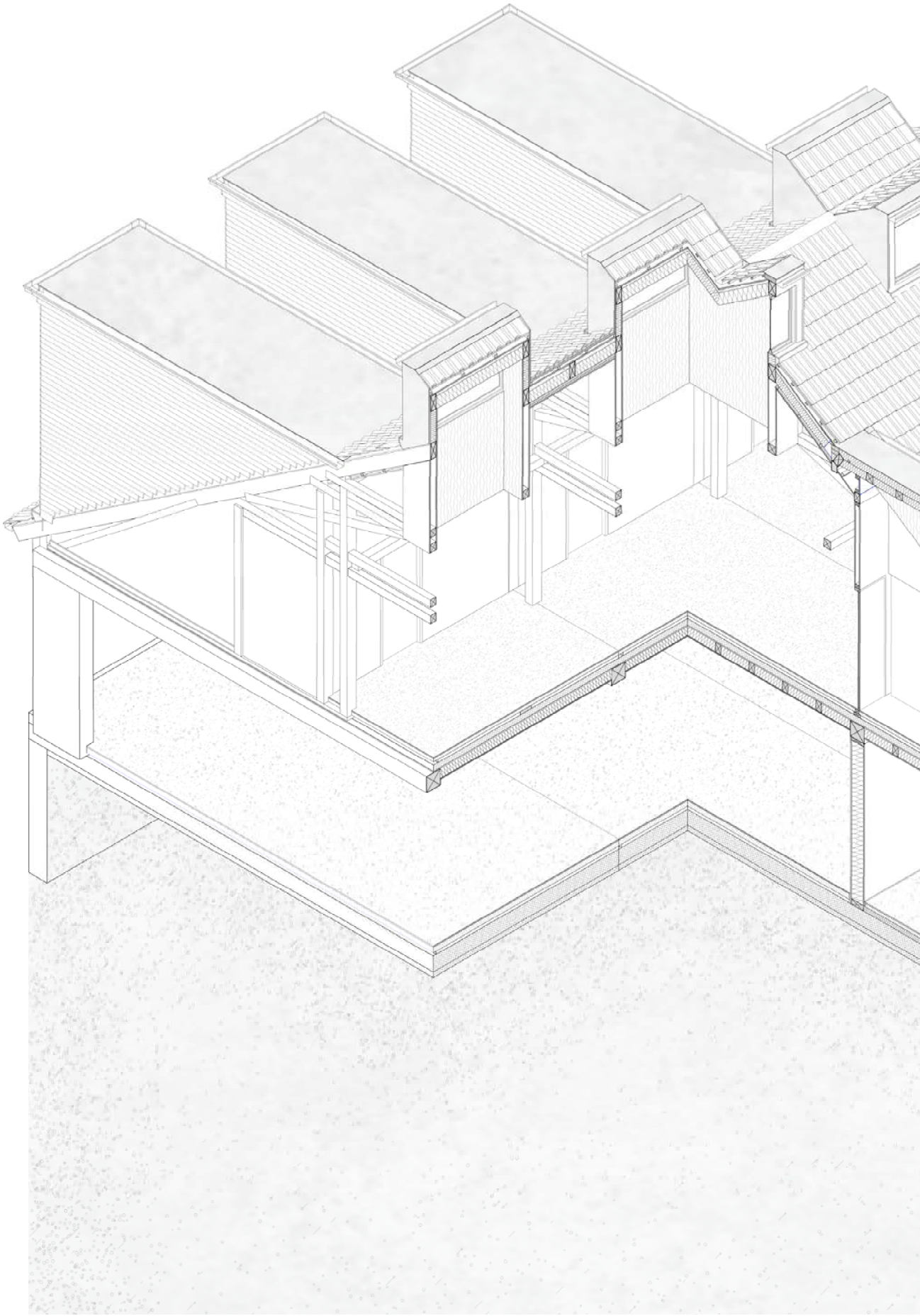
SCHNITT B-B

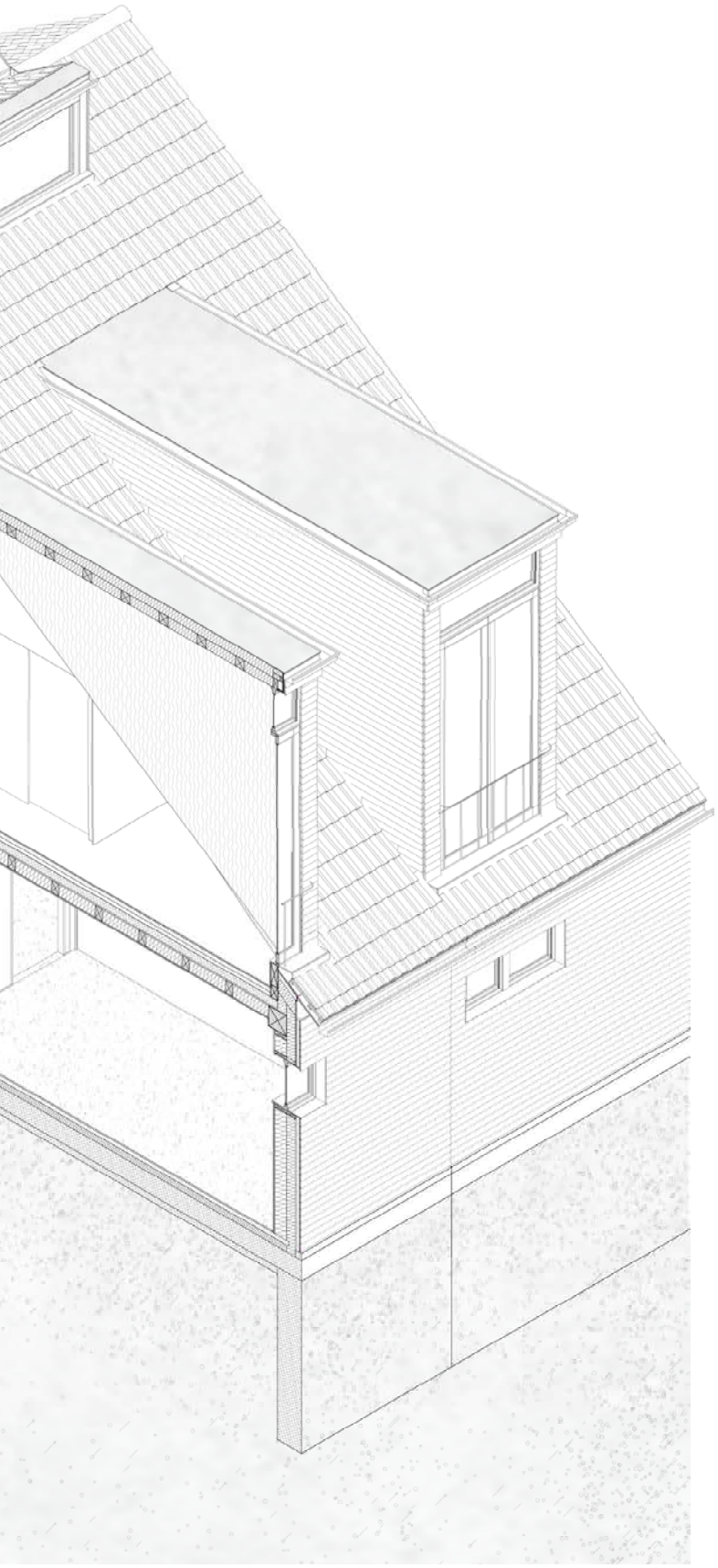


SCHNITT D-D

Schnitte - Mensa

Visualisierung - Co-living





Sprengwerksdach:
Doppeltes Sprengwerksdach:
Sparren 240mm x 120mm
Pfetten 180mm x 120mm
Hängesäulen 150mm x 200mm
Spannriegel 150mm x 120mm
Strebe 120mm x 120mm

Holzkonstruktion:
Skelettbau:
Pfeiler 240mm x 240mm
Balken 240mm x 240mm
Balken unter Decke 140mm x 80mm

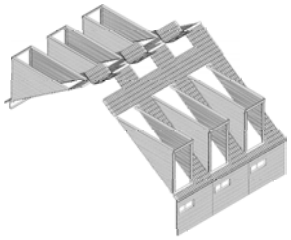
Dachaufbau:
Gipskartonplatte 20mm
Dampfsperre 1mm
Lattung 24mm x 48mm
Wärmedämmung zwischen Sparren 200mm
Unterspannbahn 1.5mm
Lüftung 38.5mm
Dachlattung 45mm x 50mm
Dachlattung 24mm x 48mm
Dachziegel 70mm
Total 424mm

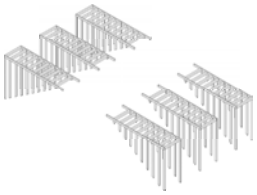
Wandaufbau:
Gipskartonplatte 20mm
Dampfbremse 1mm
Wärmedämmung mit Rahmenholz 180mm
Wärmedämmung 120mm
Äussere Platte 20mm
Hinterlüftungslattung 40mm x 40mm
Horizontale Holzleiste: 20mm
Total 401mm

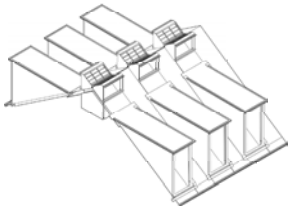
Deckenaufbau:
Holzparkett 20mm
Unterlagsboden mit Fußbodenheizung 65mm
Trennlage 1mm
Trittschalldämmung 65mm
Stahlbeton Deckenplatte 150mm
Deckenschalung 20mm
(Teilweise Wärmedämmung 180mm)
Holzpaneel 20mm
Total 421mm

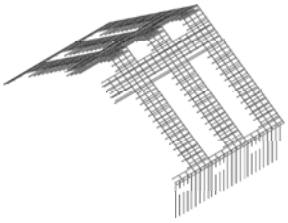
Sockelaufbau:
Holzparkett 20mm
Unterlagsboden 65mm
Trennlage 1mm
Wärmedämmung 100mm
Stahlbeton 300mm
Magerbeton 100mm
Total 586mm

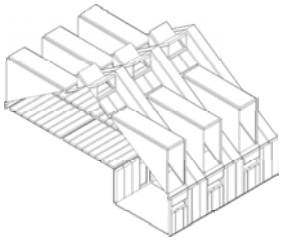
Detail - Isometrischer Schnitt

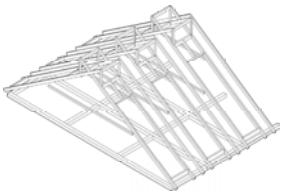




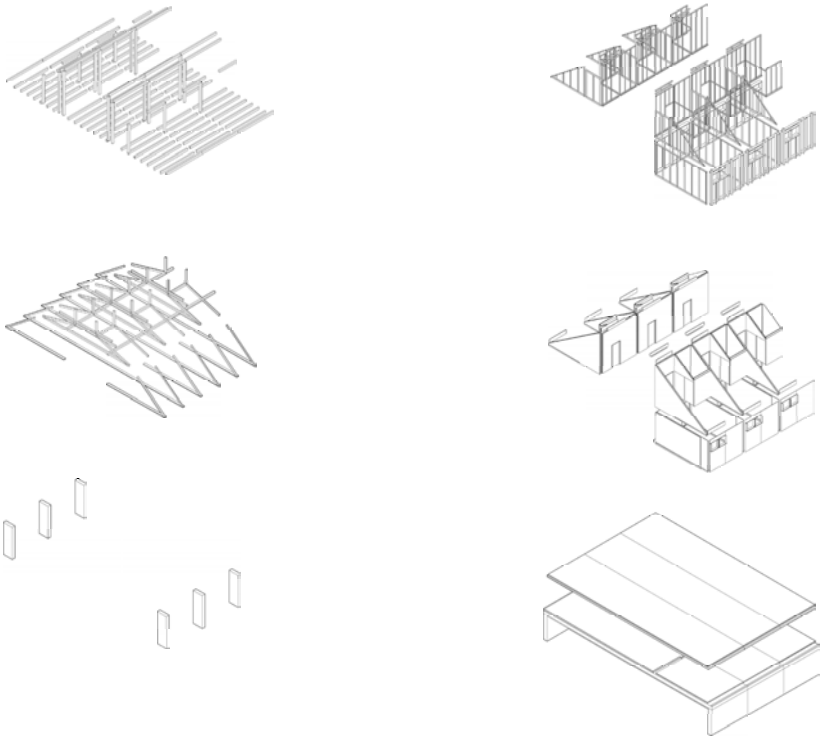






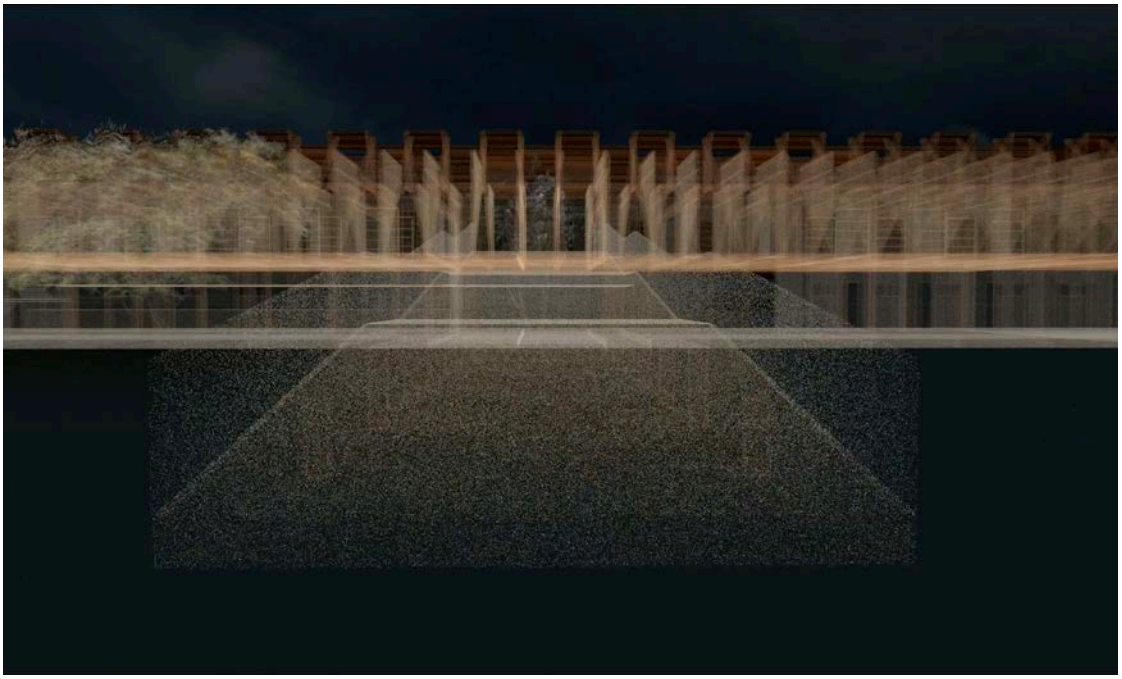


Explosion

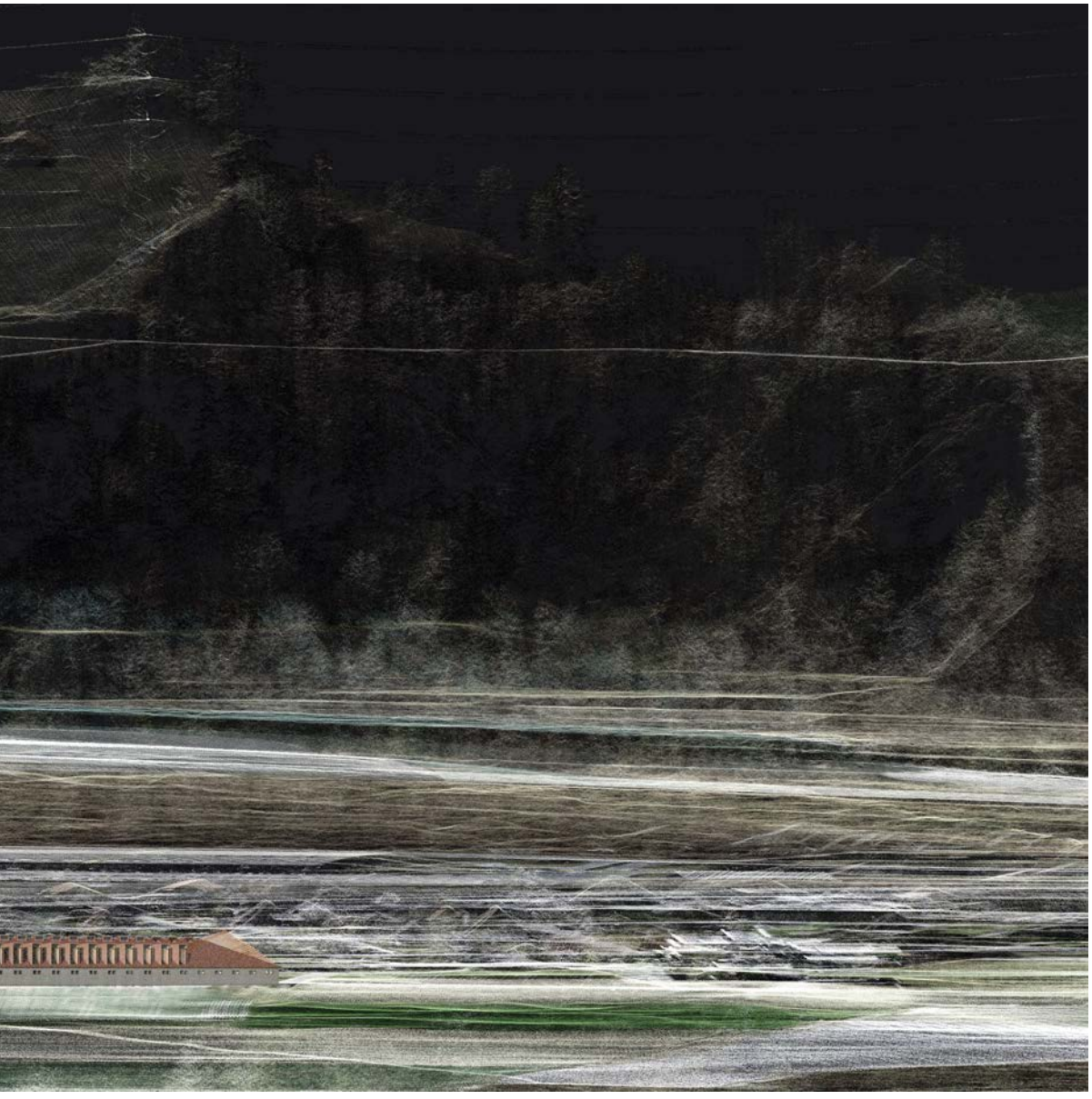


Explosion

Visualisierung - Mensa



Visualisierung - Rampe



Visualisierung Strassenfassade