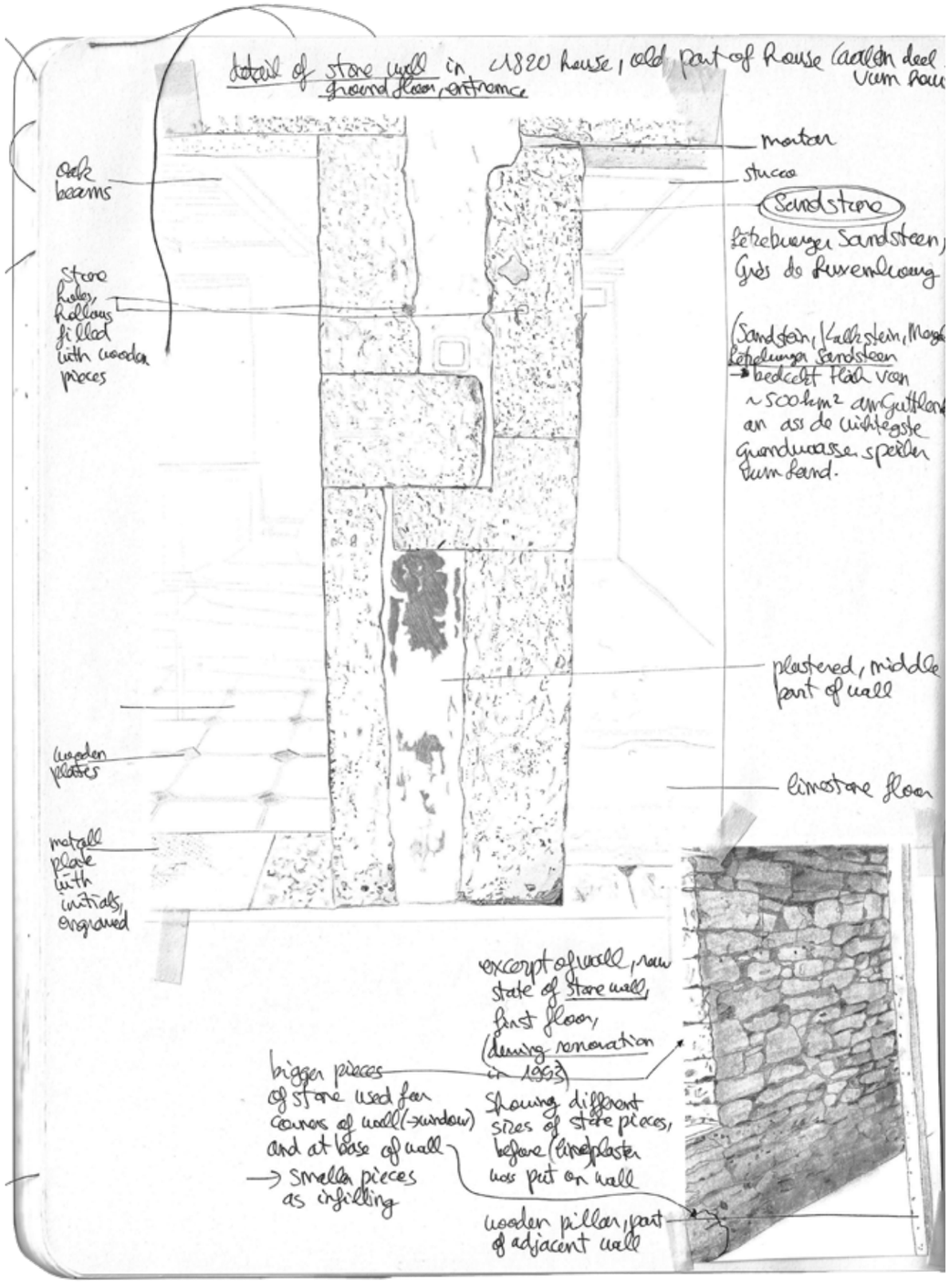
In Luxembourg, housing makes up for 1.5 million tons of emissions annually. February 14 is the day when the country has used up all its available resources for a year. Moreover, exorbitant rents and buying prices of housing are one of the bigger challenges Luxembourg as a country has to tackle. Globally, the building sector is responsible for up to 40% of emissions, and raw resource use is predicted to double by 2060. This poses the question: what could architecture without social and ecological exploitation look like in a small country with equally few resources?

This project tries to propose a way of tackling these challenges and intends to bring different materials and societal programs together in a rural context. 'No-waste' requires a non-linear handling of production and lifestyle. As such, "designing without depletion" implies that every part of the built must be decomposable, reusable or recyclable.

The proposal consists of a strategy for the conception of material use and reuse in a village in the south of Luxembourg. A testing and projective attempt, this project aims to compose a living environment for people to reside, work and live in Fenneng/Fennange.
Adopting mostly vacant, unused or soon to be unused buildings, the former centre of the village is revitalised and transformed into the centre of the communal projects. To begin with, these comprise the storage, reuse and production of material, the creation of a community centre in addition to a market space. Thus the design proposal for this case study plans to generate a place for building a sense of community while (re-)constructing the village.

By sampling a no-waste approach to architecture, this project proposal anticipates potential developments in a village and a country that are currently under construction, by (re-)connecting humans with their ecological, built and social environments. In this way, it defies the myth of endless capitalist growth by creating a relationship with our built environment and the materials we use and inhabit.



annoted sketches, analysis

Mona Steinmetzer

Based on the existing buildings, the project provides a strong reflection on the daily use of our built and unbuilt environment, as well as the human as an individual and in community. The strategy involves careful assessment, documentation, and restoration of existing structures while incorporating sustainable materials. Rather than demolishing the existing buildings and environments, the project advocates for their preservation and adaptive reuse.

The overview plan brings together ground floor plans, sections, views and axonometrics and showcases the steps of the circular use of construction materials, from evaluation to disassembly to storage and back to reuse. The material storage facility serves as a repository for salvaged building materials, allowing them to be carefully sorted, cataloged, adapted and made available for future construction projects. Additionally, the facility houses workshops where residents and artisans can learn with and from each other, creating a space for skill-sharing, and empowering the community to actively participate in the revitalisation of Fennange. The project to reimagine Fennange as a sustainable community represents an opportunity to engage with residents, encouraging them to actively participate in shaping their environment, while adapting to the changing needs of our living environments.

<u>Ernst A. Plischke's diagram</u>

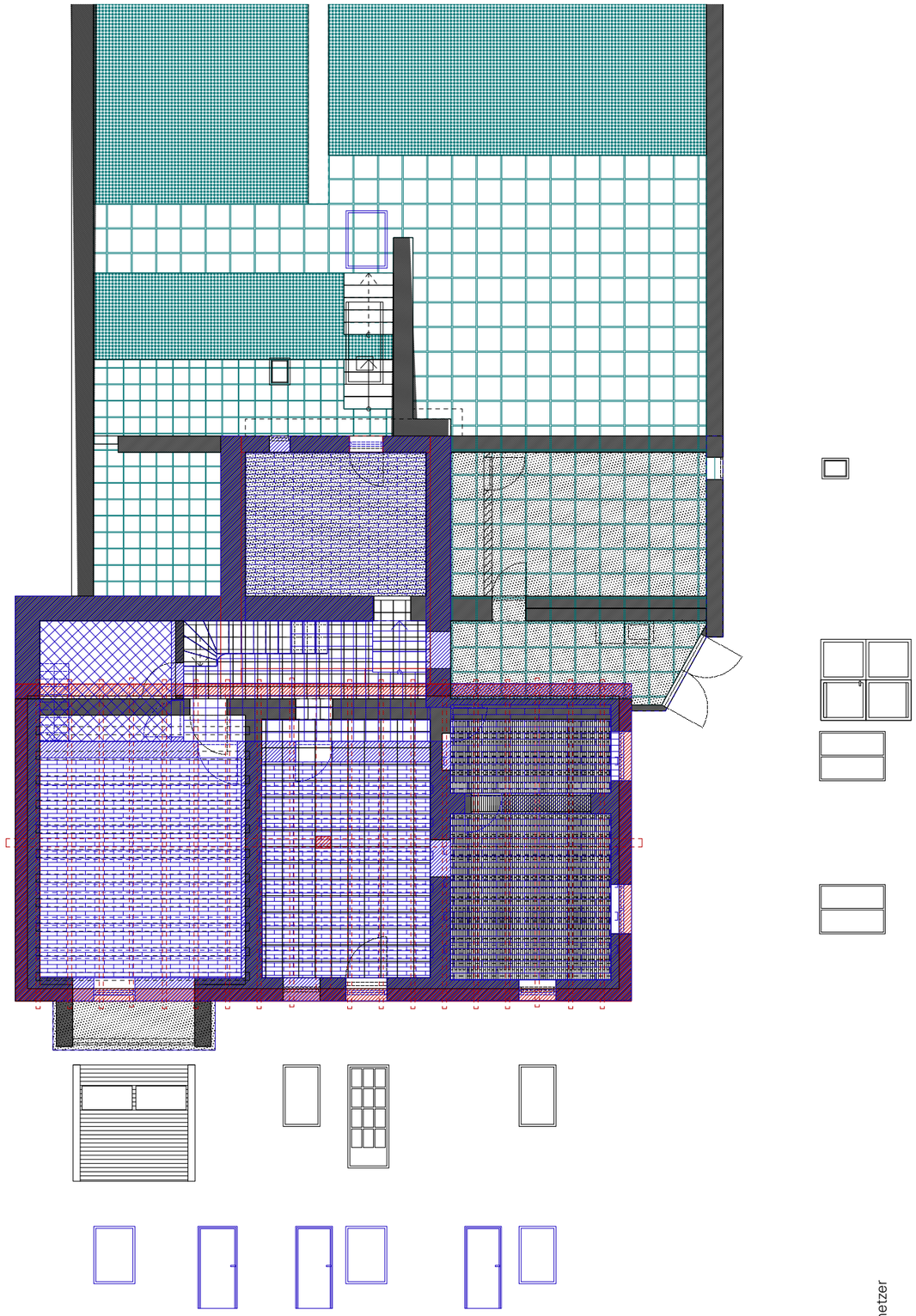
With his diagram, Ernst A. Plischke calls for a balance between Bauplastik, Raumkonzept, Funktionelles planen and Konstruktion, thus a balance between aesthetics and functionality, which is crucial to the development of moving past the status quo of modern architecture.

The careful examination of different places and situations is crucial to planning strategies, as there is not one solution that fits all. Sampling a no-waste architecture follows this line of thinking, by starting with an analysis of the built and unbuilt environment and offering different representations, scales and levels of detail depending on the type of intervention and focus. This allows for different kinds of reading and approaches to a place and topic.

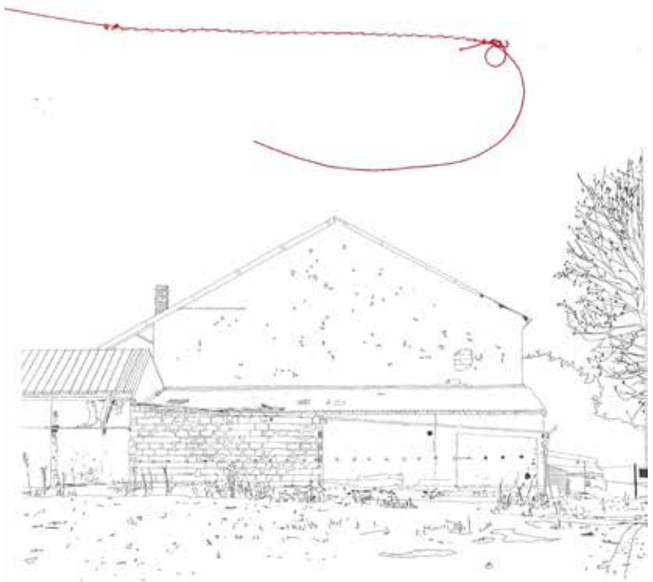
Plischke's emphasis on the fulfillment of functional planning and construction aligns perfectly with the project's core objective of reusing building materials and promoting sustainability. By repurposing and salvaging materials from existing structures, the project seeks to fulfill the function of creating functional and environmentally conscious spaces.

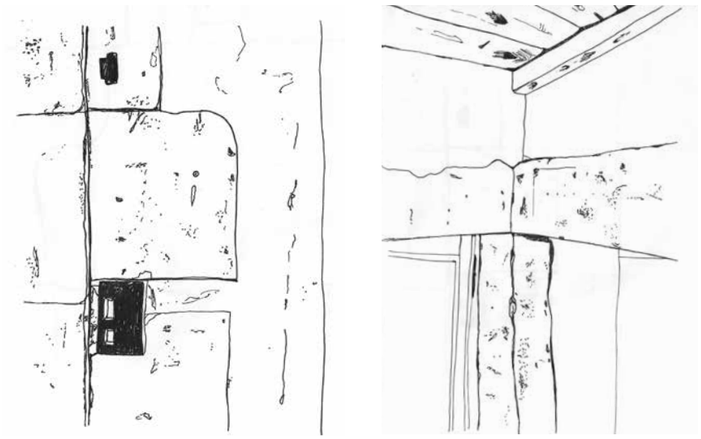
The goal of the project is not to leave everything as is, but to analyse and assess what is there already, what can be used, and what has to be adapted. As such, the spatial concept and form is always part of the architectural design, as we urgently need to explore and develop an aesthetic for an planning, designing and building in compliance with the resources we have.

Plischke's diagram also urges architects to move beyond stereotypical monotony and resist the lure of utilitarianism and routine.
The potential of a village in the context of eco-compatible planning and building lies in bringing the existing together with the new, by embracing innovative design strategies, engaging with the community. We need courage to tackle the climate crisis, and we need communities to do so. This project aims to break free from templates and clichés, breathing new life into the village.
This approach aligns with Plischke's call for ongoing development and the courage to challenge routine and utilitarianism, ensuring that modern architecture remains dynamic and responsive to the ever-evolving needs of society.



superimposed plan, showing different levels, layers and materials of vacant house

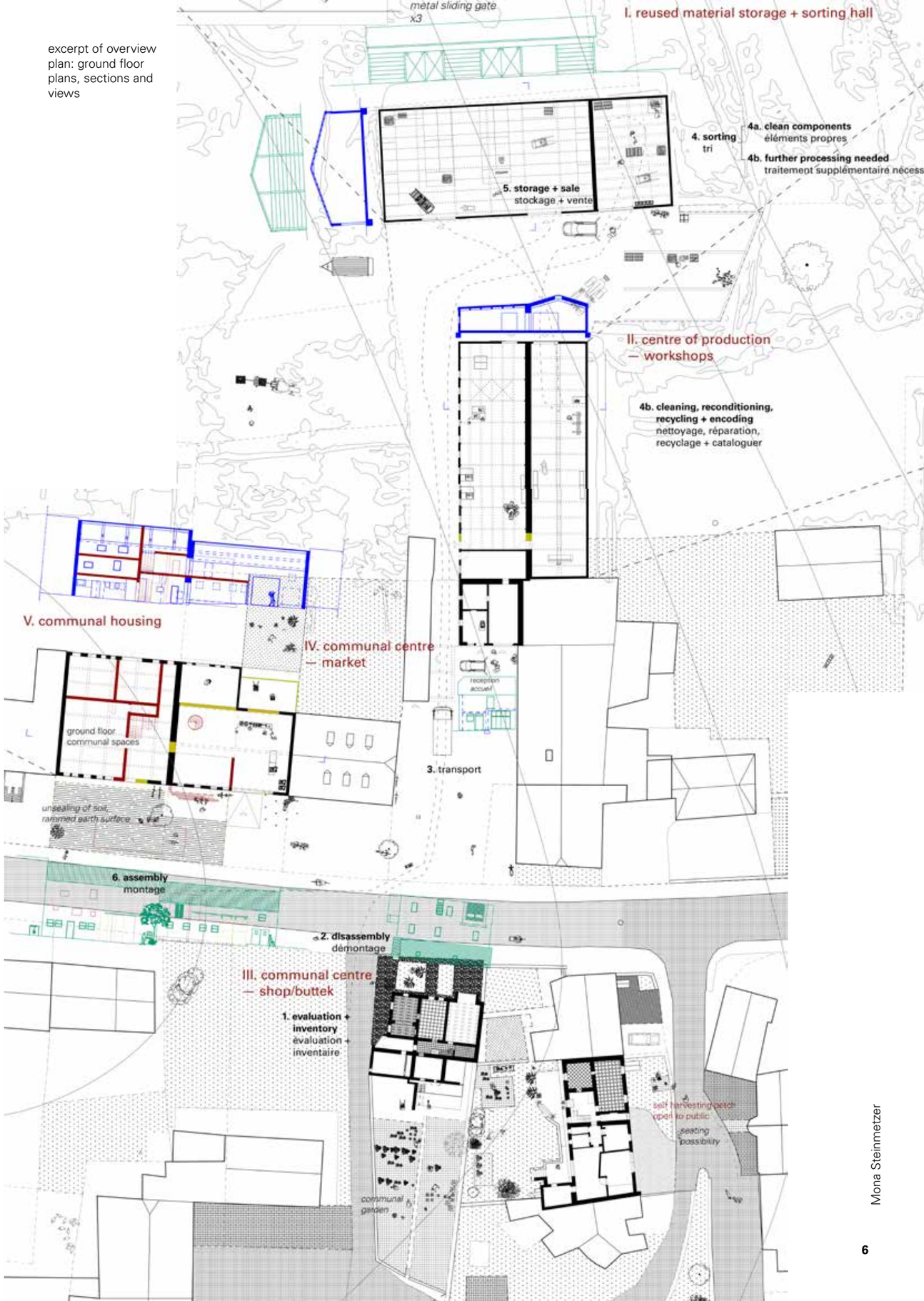


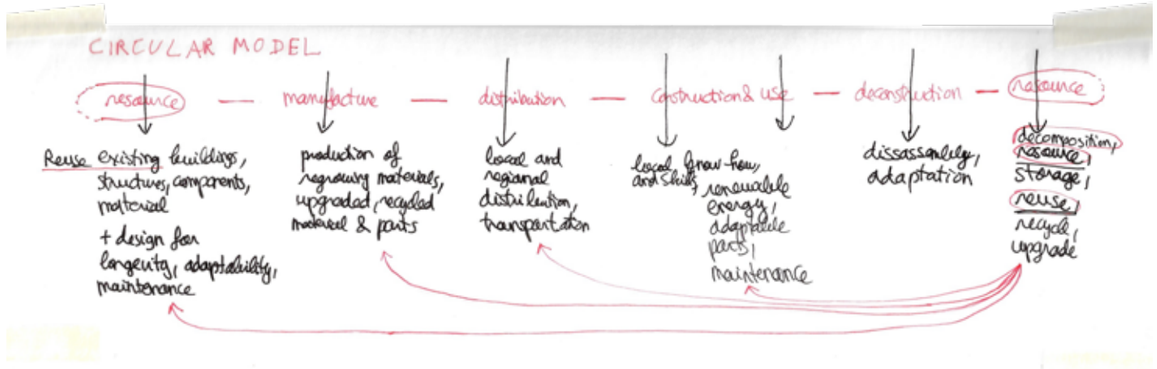


drawings, research + analysis of buildings

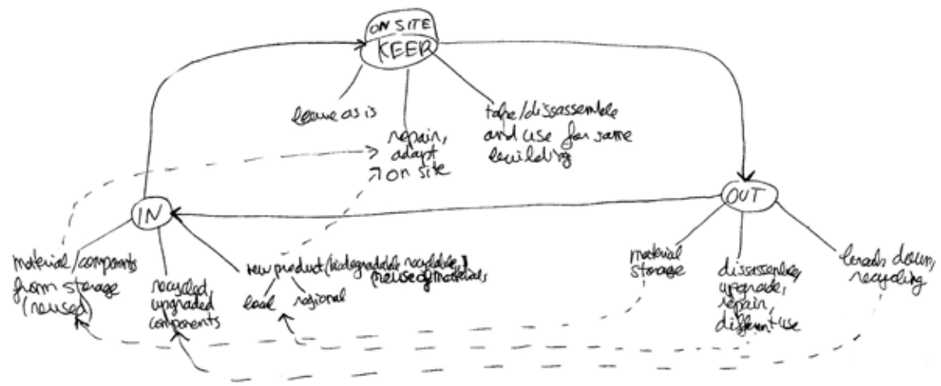
exhibition table, march 2023

excerpt of overview plan: ground floor plans, sections and views

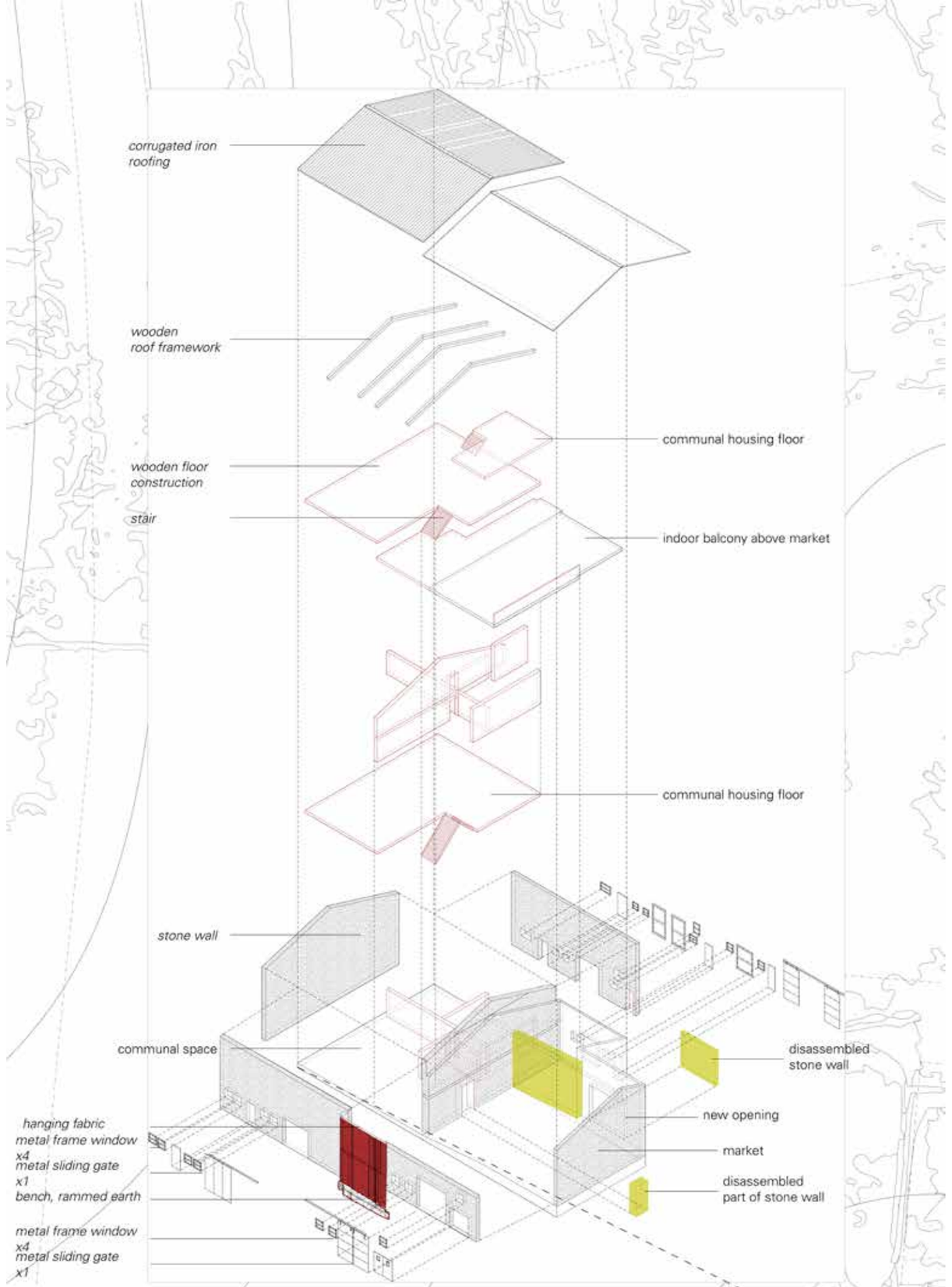




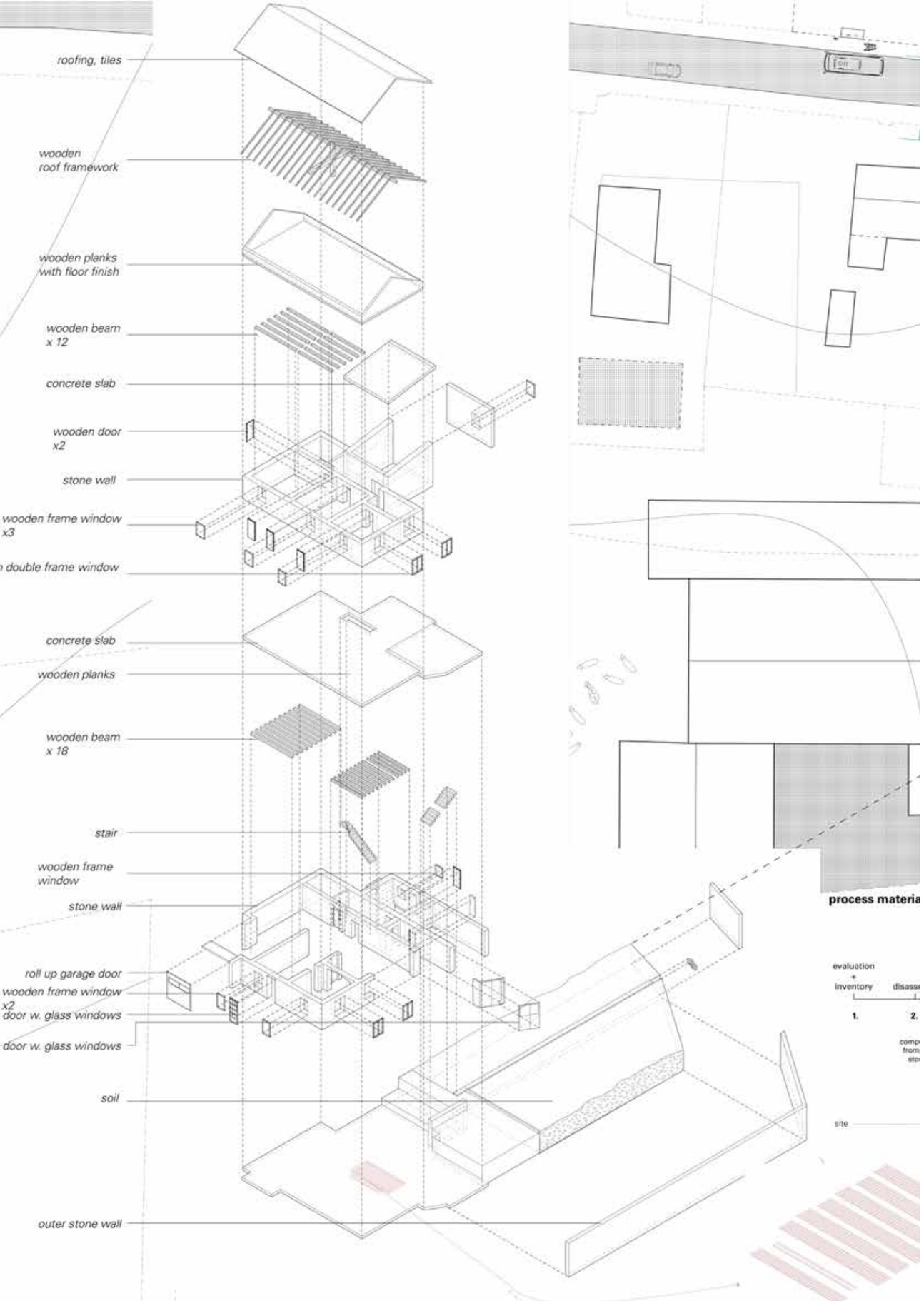
circular model in construction



fabric model, plan of fields



excerpt of plan: axonometric of market and communal housing building


roofing, tiles
wooden
roof framework
wooden planks
with floor finish
wooden beam
x 12
concrete slab
wooden door
x2
stone wall
wooden frame window
x3
double frame window
concrete slab
wooden planks
wooden beam
x 18
stair
wooden frame
window
stone wall
roll up garage door
wooden frame window
x2
door w. glass windows
door w. glass windows
soil
outer stone wall
process materia
evaluation
+
inventory
disass
1.
2.
site