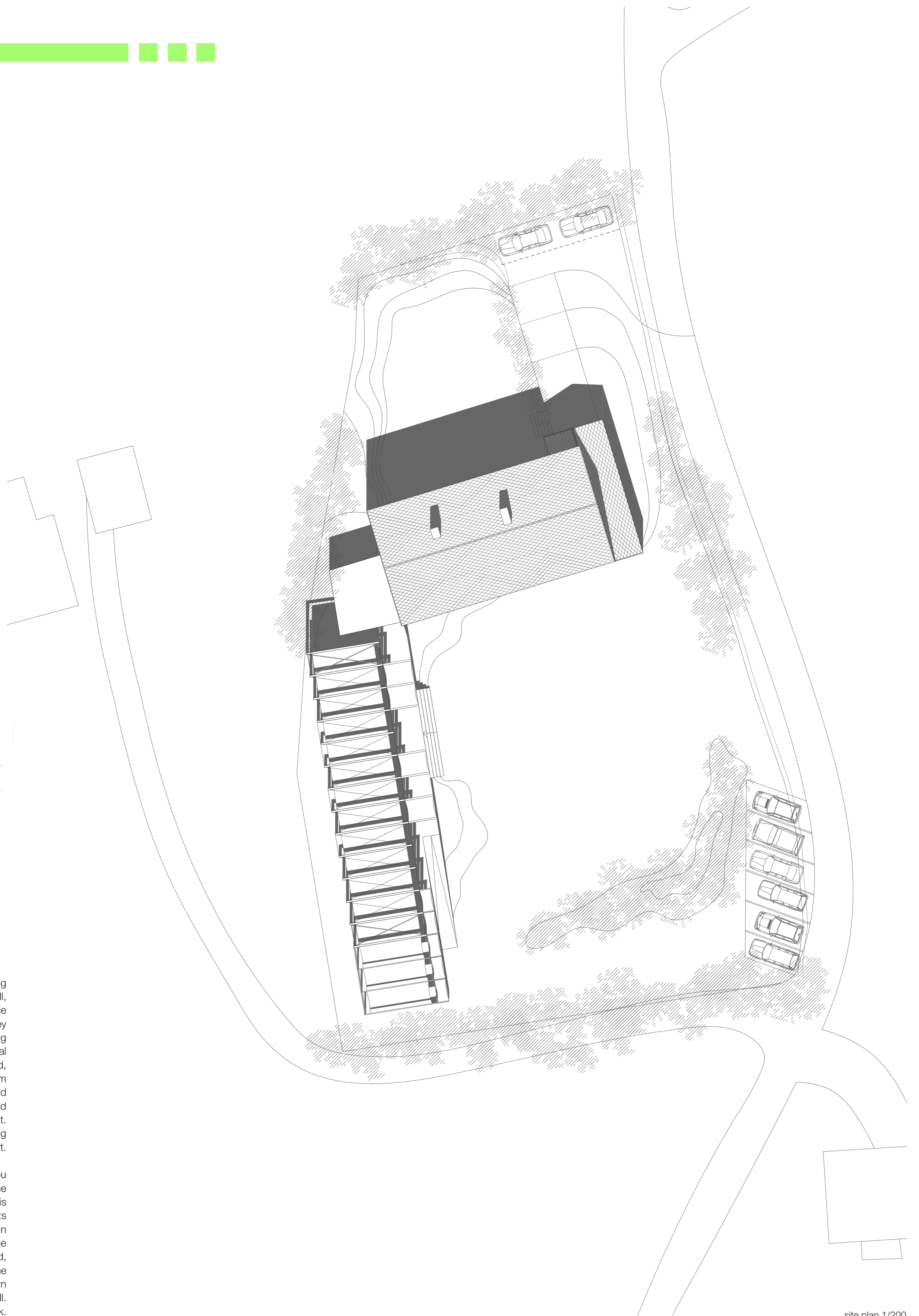
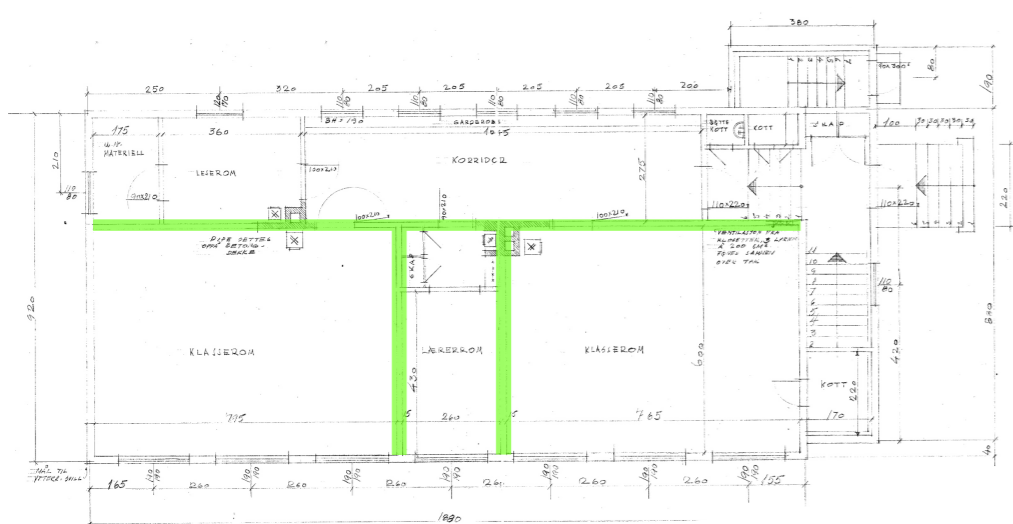
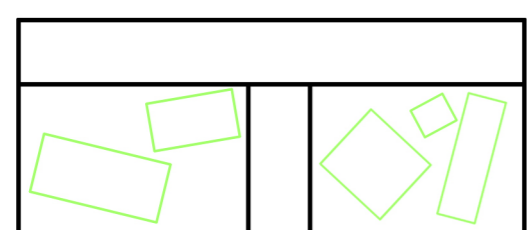
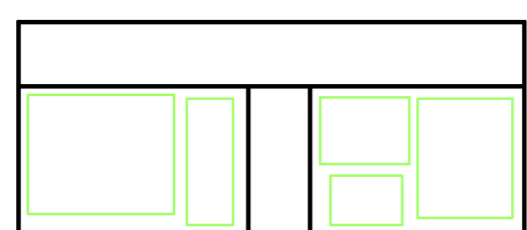
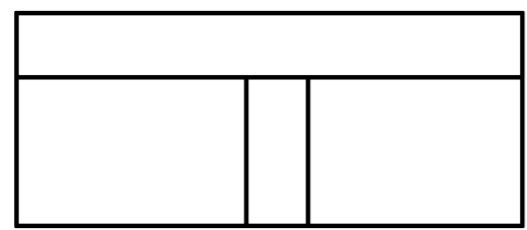
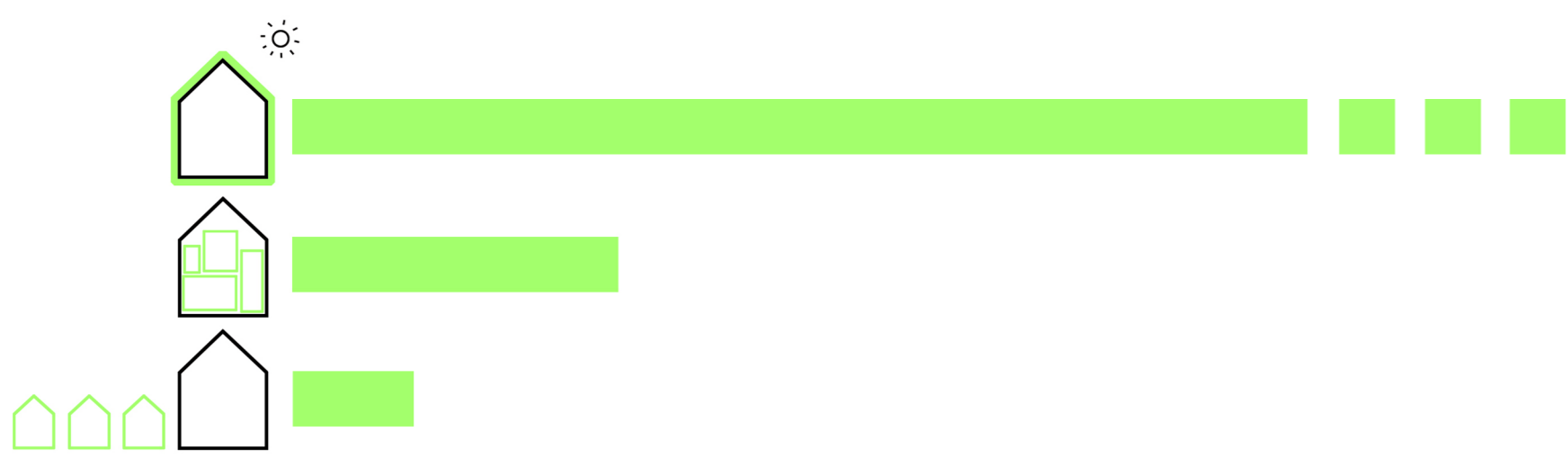


Linesøya Environmental Centre . Respecting the existing

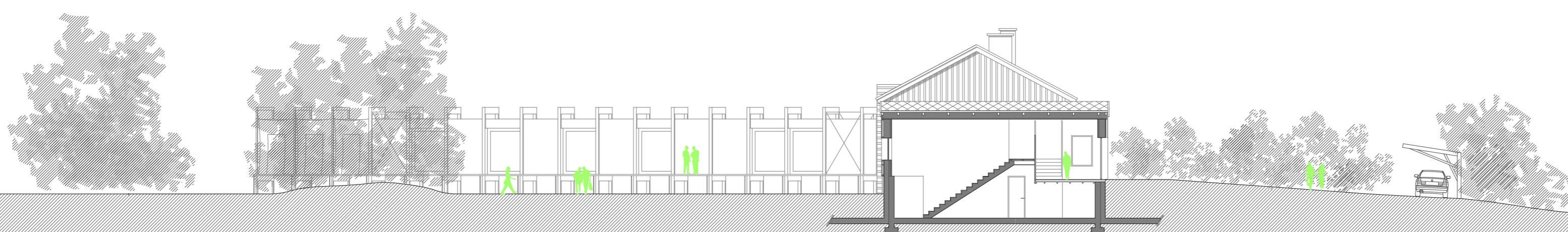
AAR 4610 . Energy and Environmental Friendly Buildings Diogo Vasconcelos . Matthieu Cambuzat . Pierrick Battedou . Yanan Liu May 2009



The main concept is about respect! Respecting the existing, respecting the memory of the building, respecting the environment but above all, respecting people. The school building of Linesøya has a strong presence on the island image, and people are already used to it. For fifty years they got used to live with it and since then its presence has been playing a big role on their lives and social relations. The school has always played a social part and it's the main infrastructure for keeping the community connected, so we decided to preserve it and reduce our intervention to the minimum and harmless as possible. For that, we keep the main walls of the old house that gives character to the corridor and the big classrooms, and faced all our intervention as ephemeral. Nothing that we do is permanent. Our intervention is planned for another 50 years, after which everything can be removed and recycled, leaving the school building almost intact.

It's a question of memory. Firstly by its aspect, by preserving the way you see it. The façades are almost kept the same, the outside cladding is the same, the tiles are the same... Its image is strong and important, and is kept the same. But then we go further. We cannot say that we keep its memory just by keeping its aspect. A building is an image, but the main part, is the way we experience it. The way we live it is what mark us the most, so we also kept the space the same. The entrance is relocated, but a window is left on the place where the main door used to stand. The way you enter the building is the same and the way you go up and down is the same as well. The classrooms are kept and the corridors as well. "But if everything is kept where is your intervention?", you will ask.

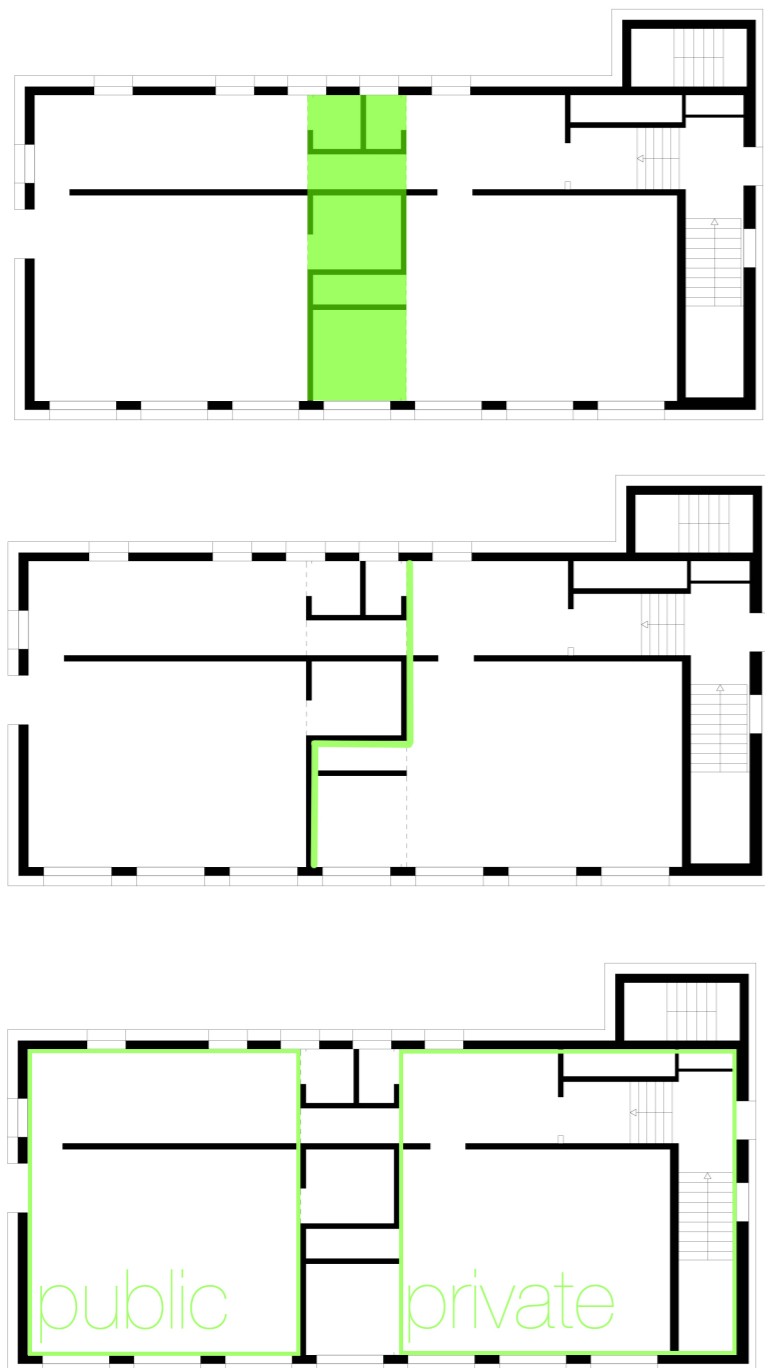
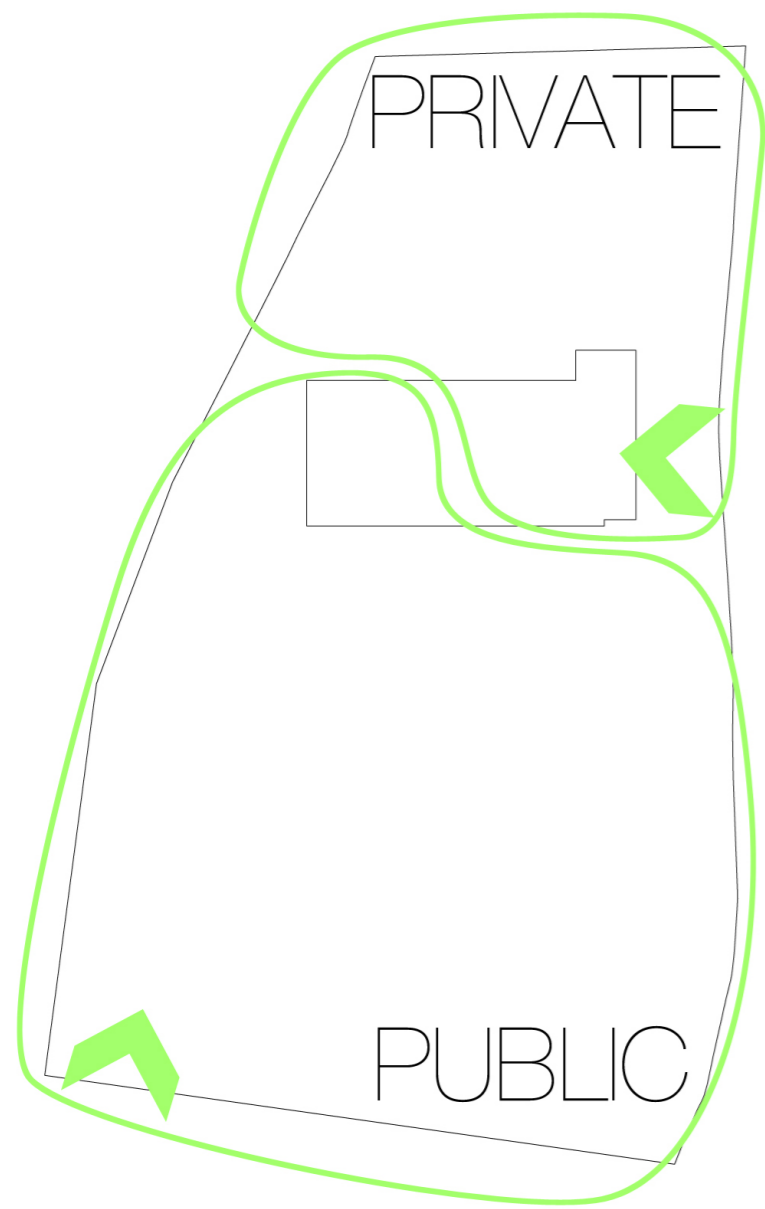
site plan 1/200



section 1/200

Linesøya Environmental Centre . Respecting the existing

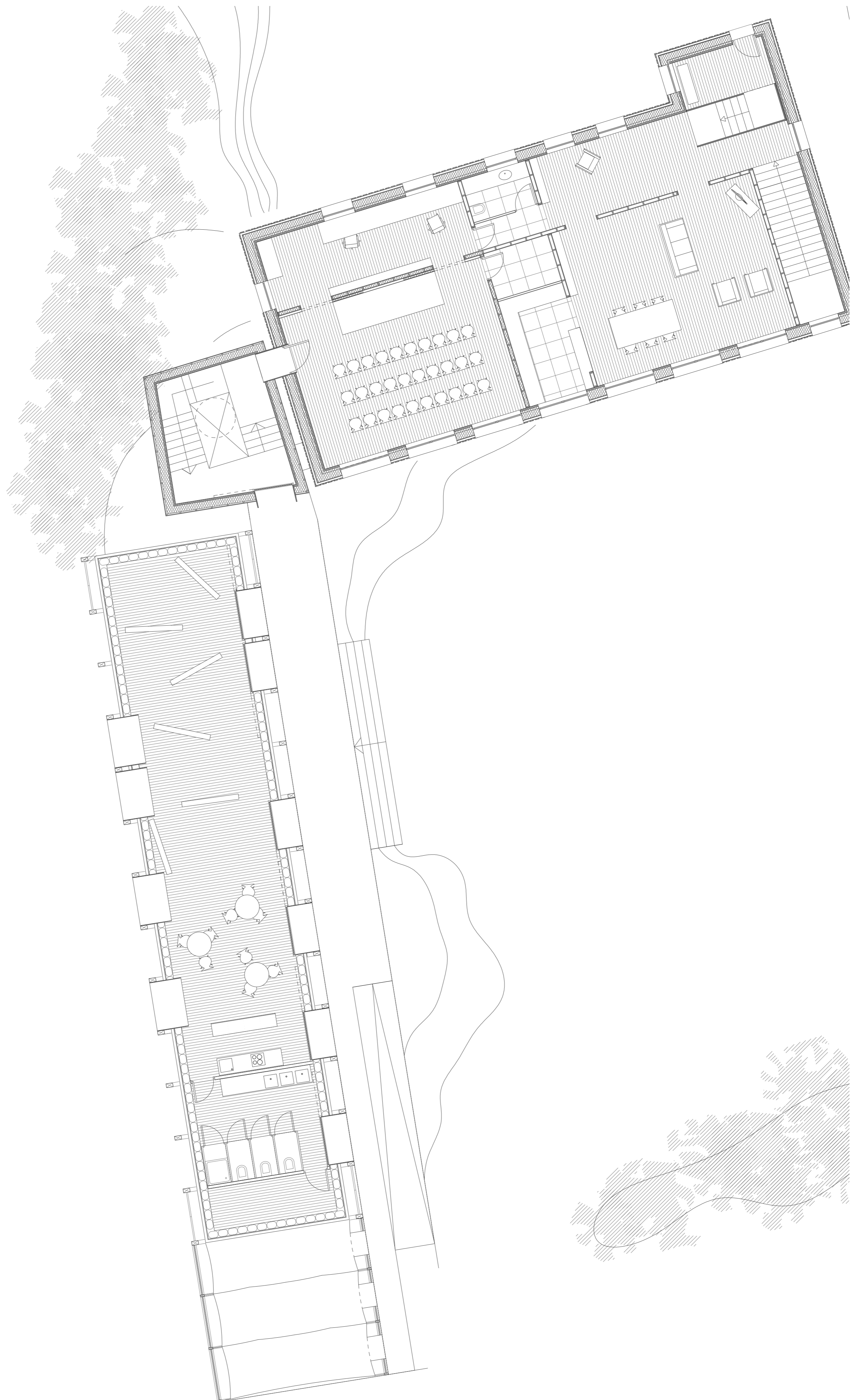
AAR 4610 . Energy and Environmental Friendly Buildings . Diogo Vasconcelos . Matthieu Cambuzat . Pierrick Battedou . Yanan Liu . May 2009



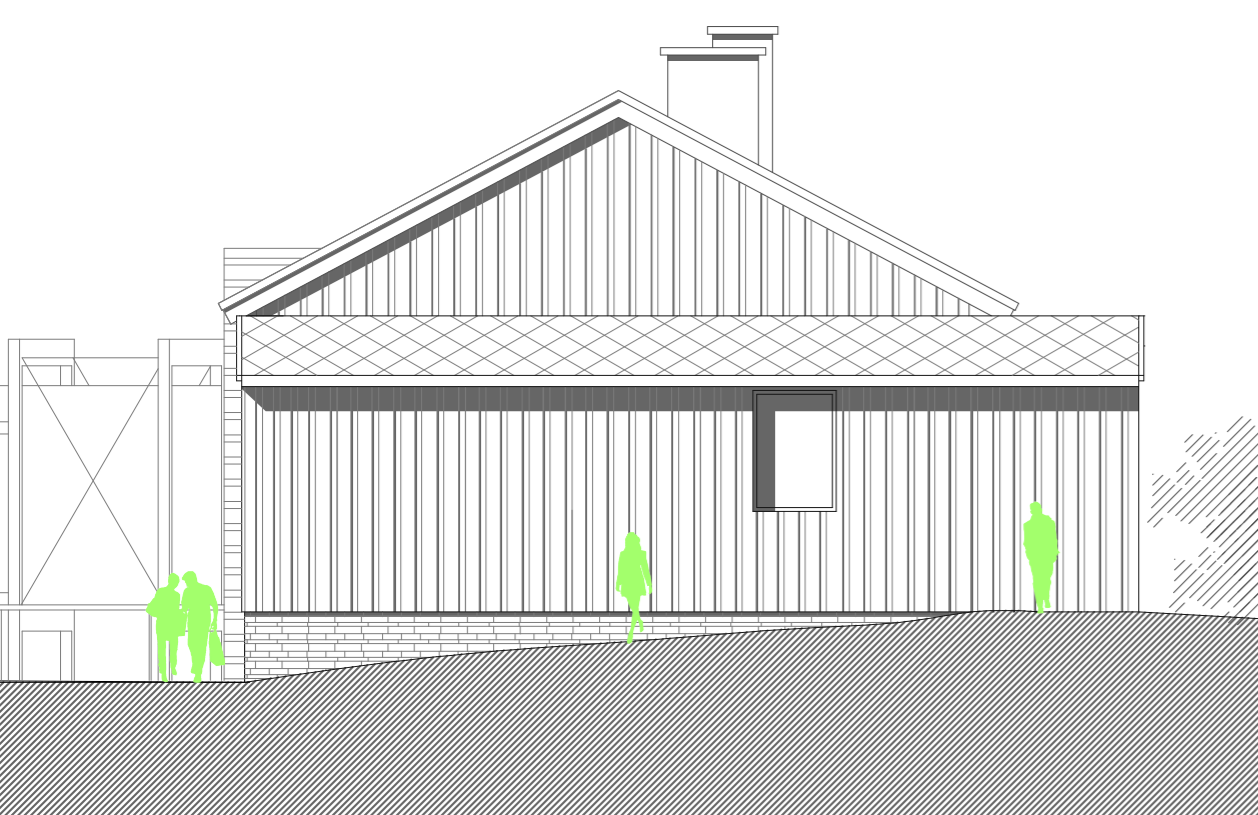
"After all, you have to do something no?". Our intervention is reduced to three main things, zoning and programing, furniture, and a new extension that will transform the school in an environmental centre.

Firstly we divide the old building in two main parts, private and public. In one half there will be the home for Thomas and Suki, and on the other the research and conference room, as well as a gym. Between the two parts is a technical core where all water facilities and technical rooms are located. The outside space is also thought for different uses. The south part would be mainly used for public issues, while in the back, Thomas and Suki would have a quiet and guarded courtyard for their own. About the furniture, some pieces are added in the entrance, living room, bedrooms and conference room, in order to give the spaces the qualities that they need for being inhabited. And then the new building.

The main inspiration for the new building came from greenhouses and winter gardens. The goal was to design a temporary light structure. A light building coming from the air, and with the feeling of levitation. A building, completely harmless, and not committed with anything. Something that landed on the site and which after it's job is done, can be disassembled and move to any other part of the world. This extension will be hosting an exhibition space as well as a cafeteria and some extra accommodation for the summer season. It was design as a big empty space, almost as a pavilion, with some temporary walls, moving on wheels that can be used to make some room for



ground plan 1/100



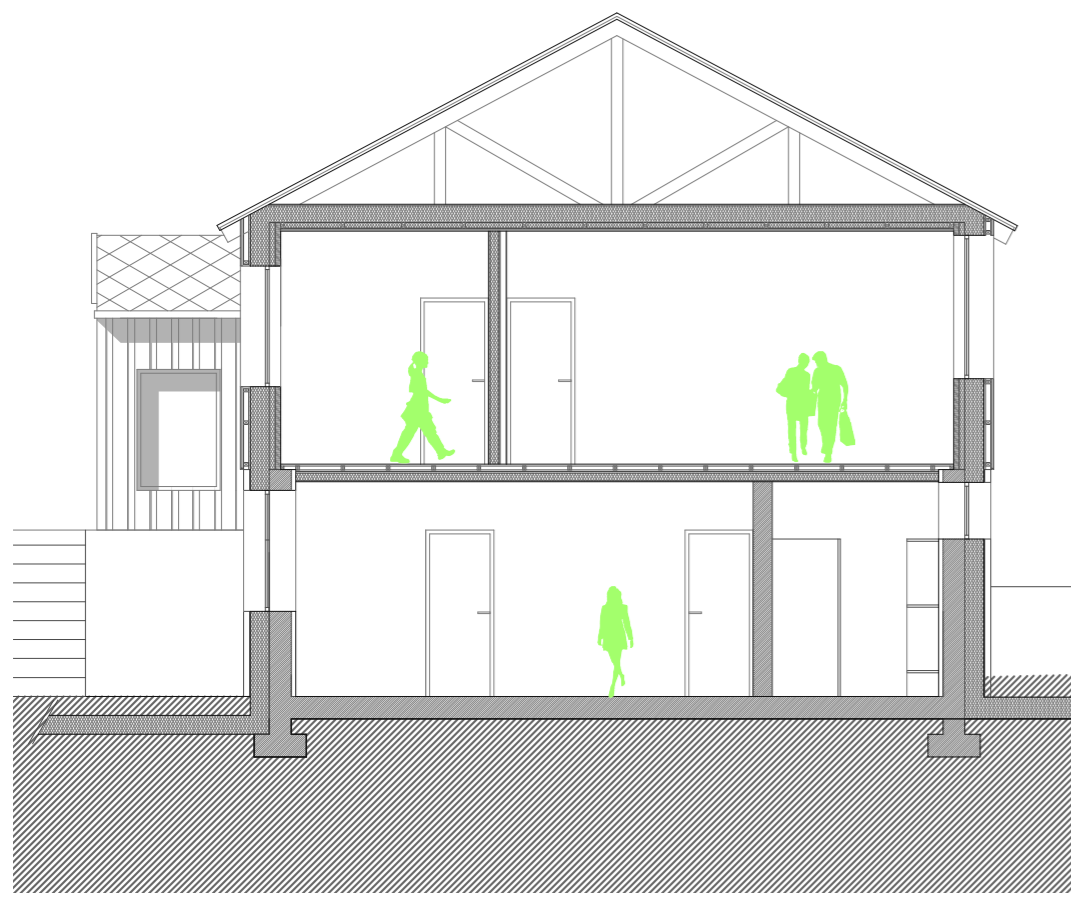
section 1/100



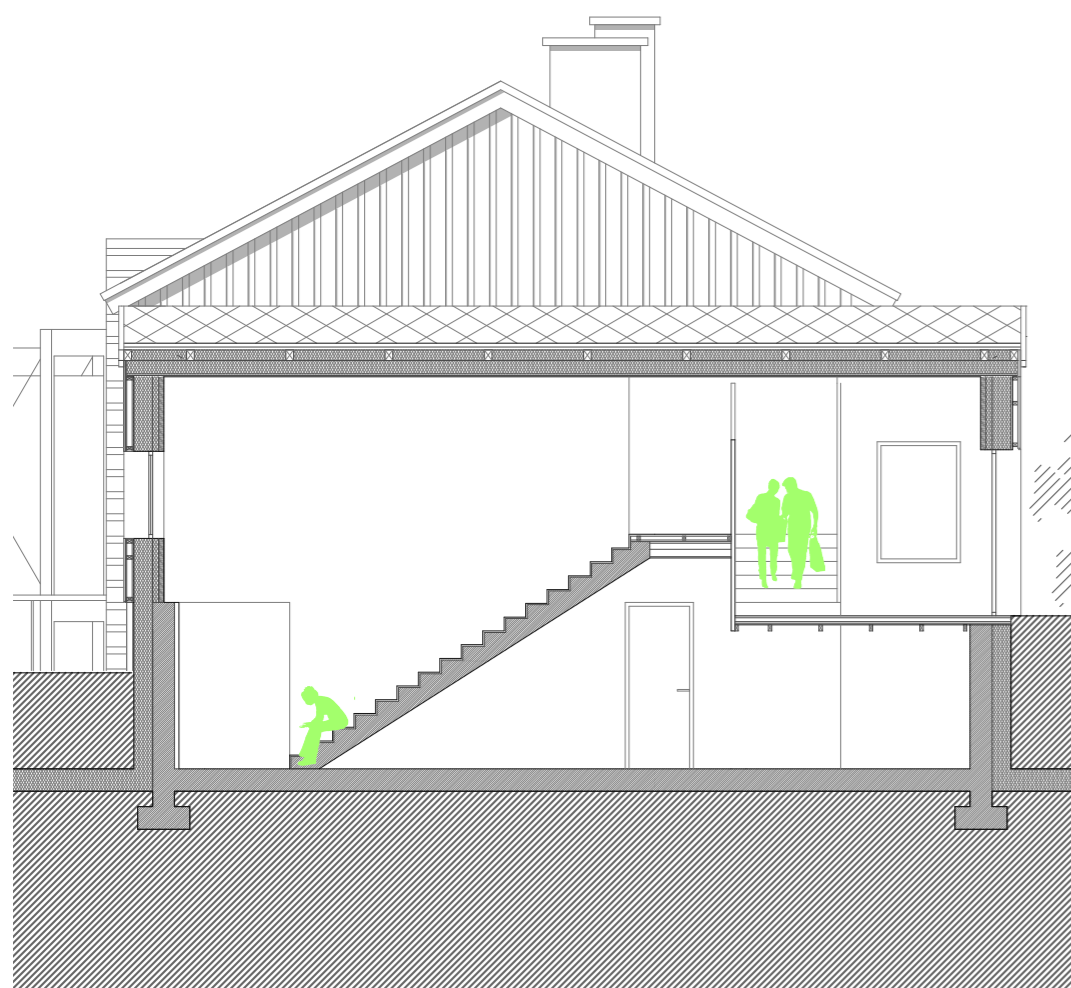
section 1/100

Linesøya Environmental Centre . Respecting the existing

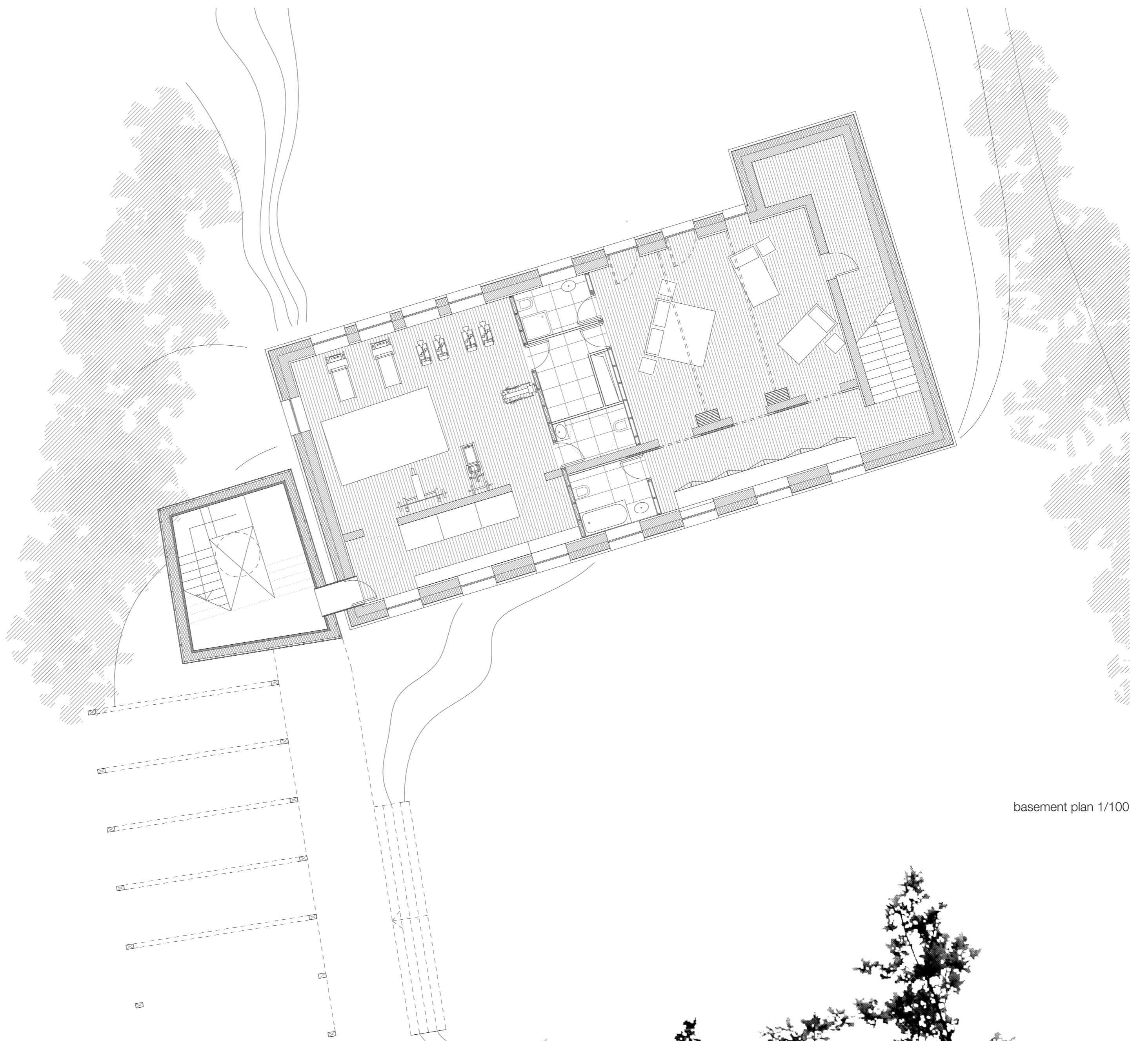
AAR 4610 . Energy and Environmental Friendly Buildings . Diogo Vasconcelos . Matthieu Cambuzat . Pierrick Battedou . Yanan Liu . May 2009



section 1/100

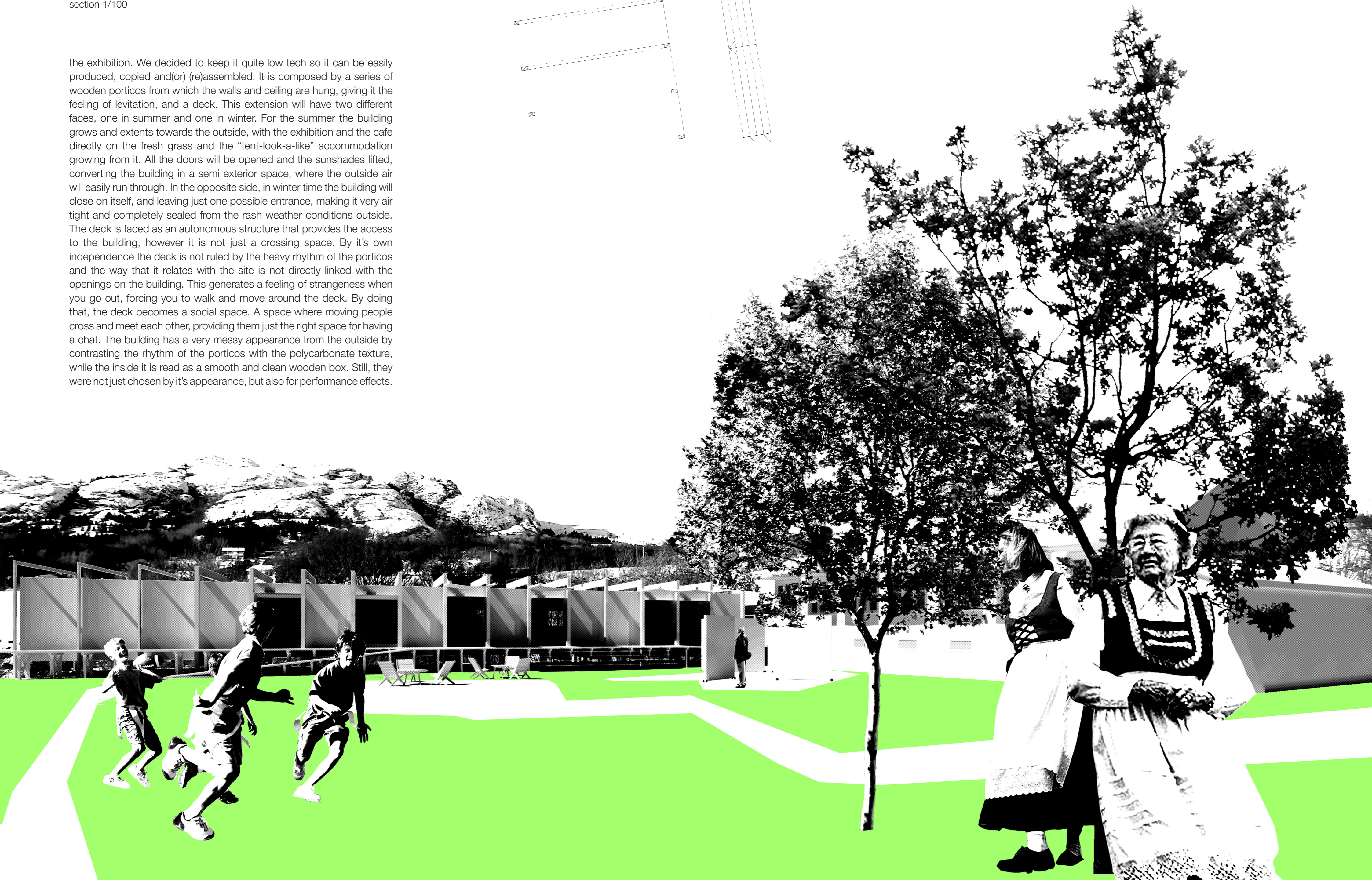


section 1/100



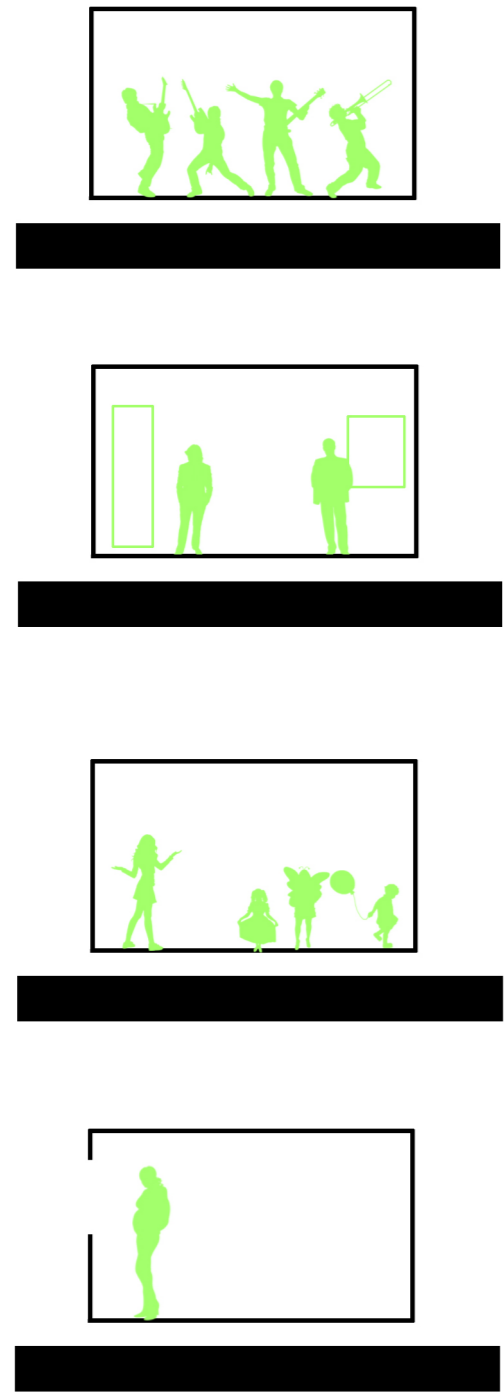
basement plan 1/100

the exhibition. We decided to keep it quite low tech so it can be easily produced, copied and/or (re)assembled. It is composed by a series of wooden porticos from which the walls and ceiling are hung, giving it the feeling of levitation, and a deck. This extension will have two different faces, one in summer and one in winter. For the summer the building grows and extends towards the outside, with the exhibition and the cafe directly on the fresh grass and the "tent-look-a-like" accommodation growing from it. All the doors will be opened and the sunshades lifted, converting the building in a semi exterior space, where the outside air will easily run through. In the opposite side, in winter time the building will close on itself, and leaving just one possible entrance, making it very air tight and completely sealed from the rash weather conditions outside. The deck is faced as an autonomous structure that provides the access to the building, however it is not just a crossing space. By it's own independence the deck is not ruled by the heavy rhythm of the porticos and the way that it relates with the site is not directly linked with the openings on the building. This generates a feeling of strangeness when you go out, forcing you to walk and move around the deck. By doing that, the deck becomes a social space. A space where moving people cross and meet each other, providing them just the right space for having a chat. The building has a very messy appearance from the outside by contrasting the rhythm of the porticos with the polycarbonate texture, while the inside it is read as a smooth and clean wooden box. Still, they were not just chosen by it's appearance, but also for performance effects.



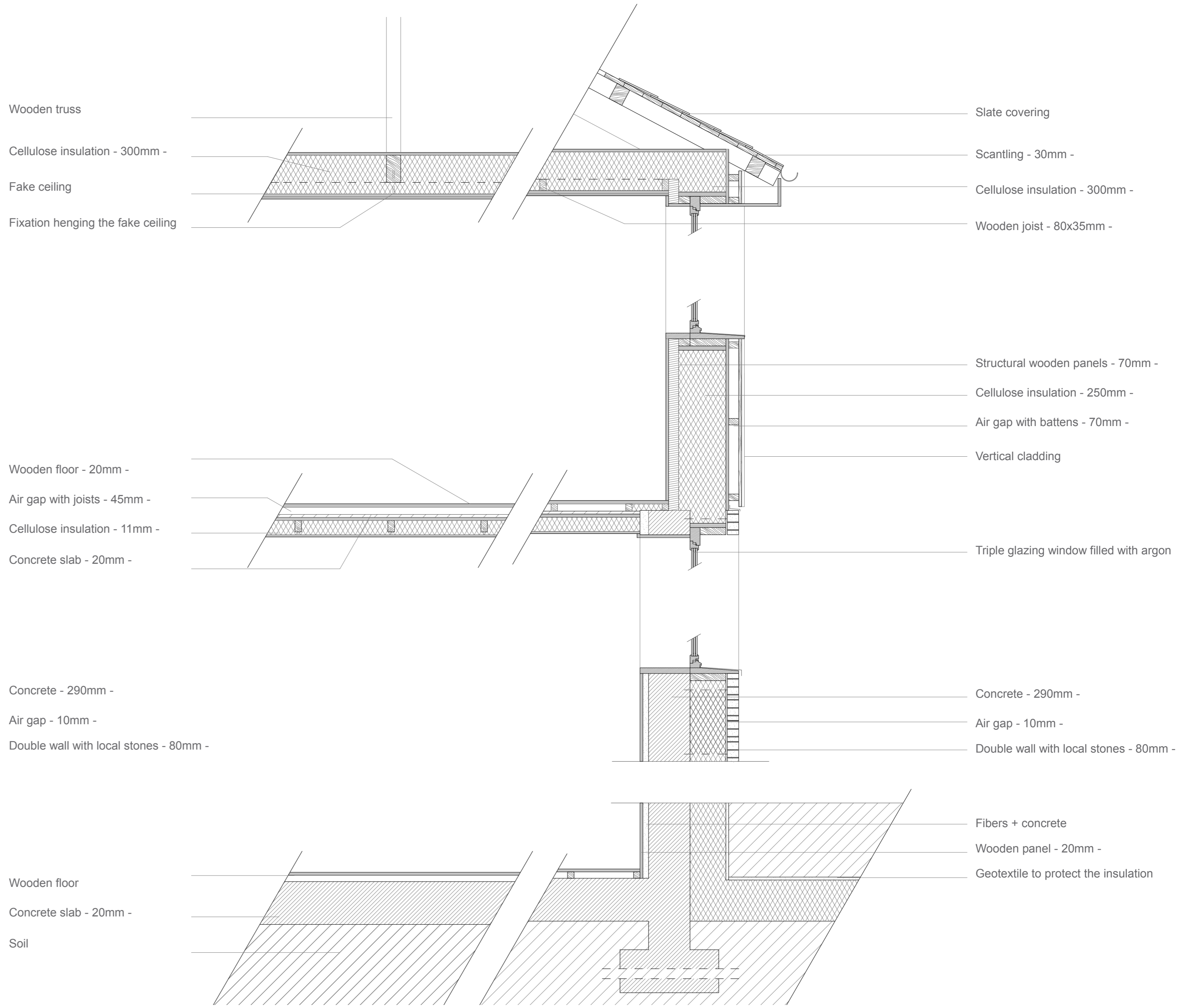
Linesøya Environmental Centre . Respecting the existing

AAR 4610 . Energy and Environmental Friendly Buildings . Diogo Vasconcelos . Matthieu Cambuzat . Pierrick Battedou . Yanan Liu . May 2009

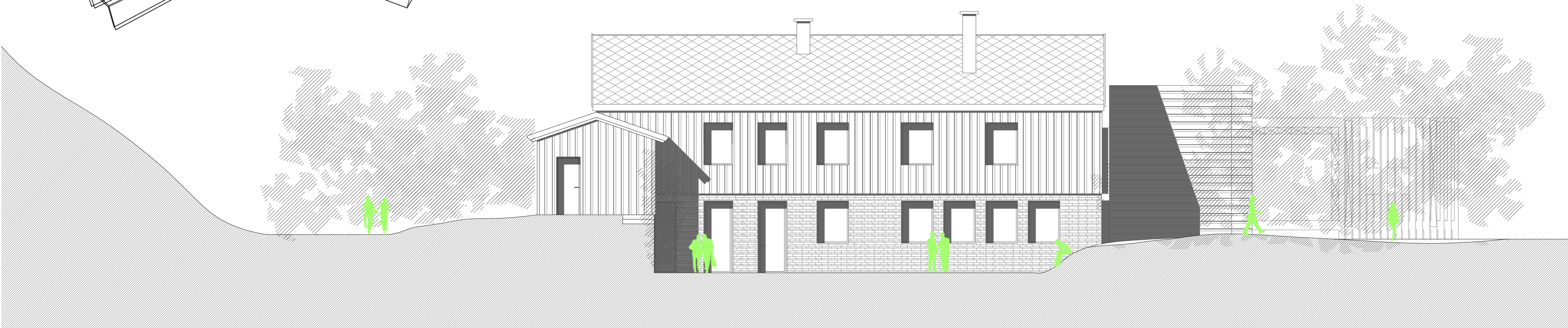
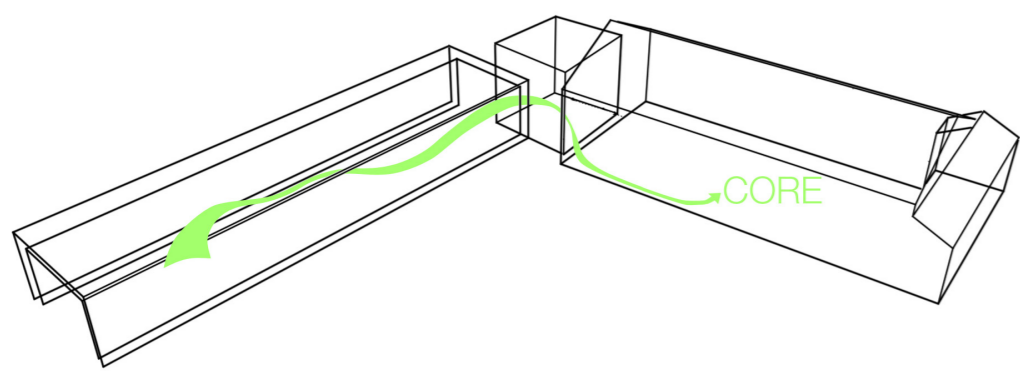


The idea is that the new building brings something good to the old one, while it is there, so the new building was design as a solar heat collector that will provide some warm air helping to reduce the old house heating demand. For that the walls of it are composed by two sheet of polycarbonate separated with a 10cm gap, where the heated air will circulate, 25cm of common plastic bags filled with cellulosed insulation, enhanced with a phase change material that will provide also some thermal mass, and one wooden panel to give so strength and stiffness to the inside. For the winter season, the sunlight will shine through the plastic and the heat will be absorbed by the PCM on the insulation. Then it will release it gradually generating some radiation heat towards the inside and some convexion heat on the air gap above. Then, this preheated air will be mechanical extracted and used to lower the old house heating demand. In summer the same air will be used but instead of heating we use it for cooling. By bypassing it through the heat exchanger, the warm air will go through a heat pump, using the heat to generate warm tap water, coming out on the other side, fresh for the ventilation.

The first idea was to create a parasite, but quickly we found out that the house was cool, and there was no point to hurt it. So... A parasite that does not take advantage, it brings advantages. It does not hurt, it is kind and tender. It does not leave any sort of scar. It is good, not bad... The complete opposite of a parasite. A friend, a pet, a dog... a dog called ANTI-PARASITE.



section 1/20



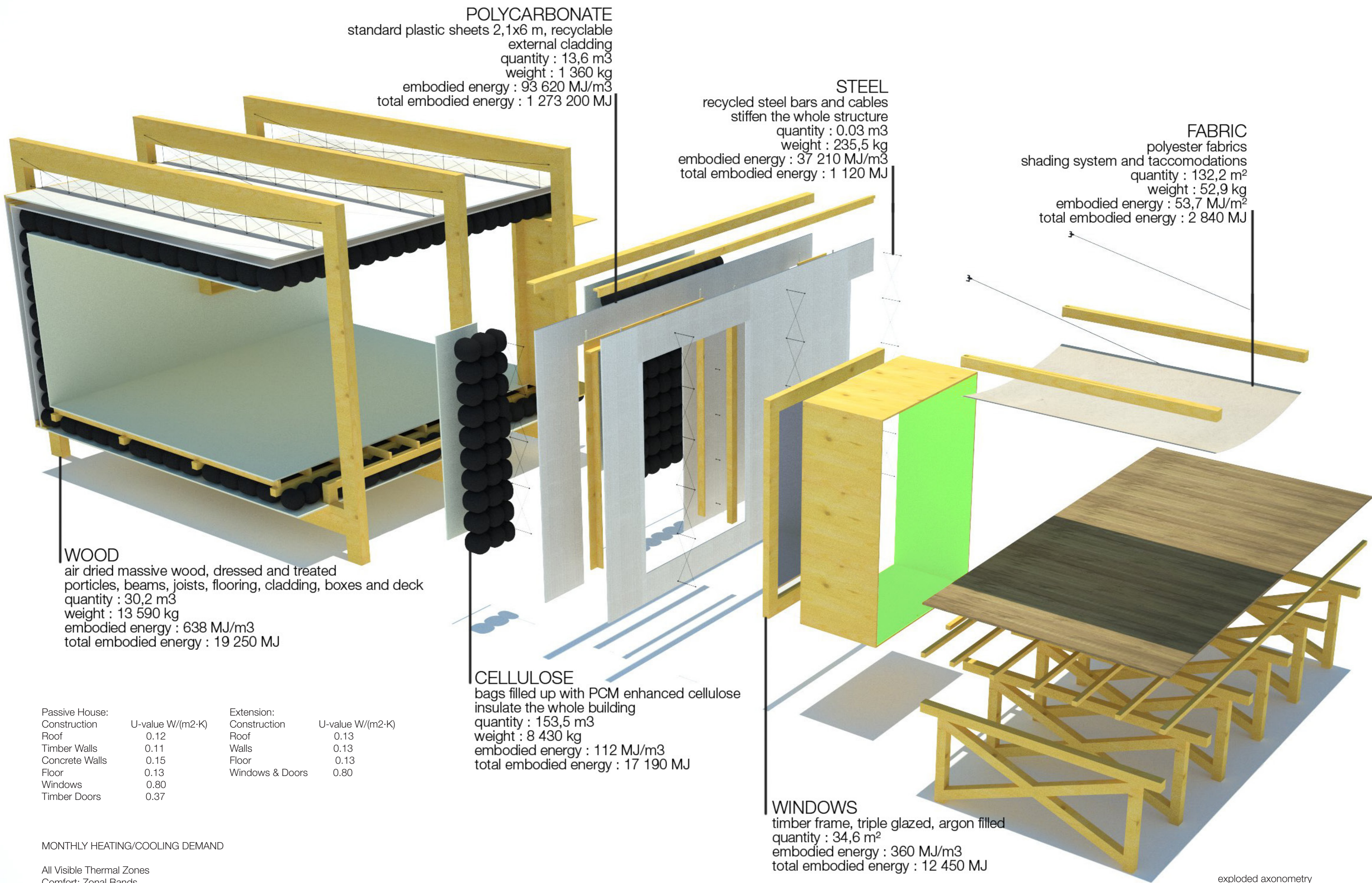
section 1/100



section 1/100

Linesøya Environmental Centre . Respecting the existing

AAR 4610 . Energy and Environmental Friendly Buildings Diogo Vasconcelos . Matthieu Cambuzat . Pierrick Battedou . Yanan Liu May 2009



Passive House:		Extension:	
Construction	U-value W/(m ² -K)	Construction	U-value W/(m ² -K)
Roof	0.12	Roof	0.13
Timber Walls	0.11	Walls	0.13
Concrete Walls	0.15	Floor	0.13
Floor	0.13	Windows & Doors	0.80
Windows	0.80		
Timber Doors	0.37		

MONTHLY HEATING/COOLING DEMAND

All Visible Thermal Zones
Comfort: Zonal Bands

Max Heating: 9308 W at 10:00 on 22nd January
Max Cooling: 4376 W at 15:00 on 28th June

MONTH	HEATING (Wh)	COOLING (Wh)	TOTAL (Wh)
Jan	986914	8548	995461
Feb	770562	7781	778343
Mar	661578	9853	671430
Apr	374923	12069	386992
May	167232	118053	285285
Jun	46252	158623	204875
Jul	33774	174179	207953
Aug	34245	212162	246407
Sep	148561	124508	273069
Oct	343563	14418	357981
Nov	667524	10881	678406
Dec	902062	9164	911226
TOTAL	5137190	860240	5997430

PER M²: 12166 2037 14203
Floor Area: 486.03 m²
A total heating and cooling demand : 12.34KWh/m²a

