

FLOORPLAN FOUNDATION 1:200

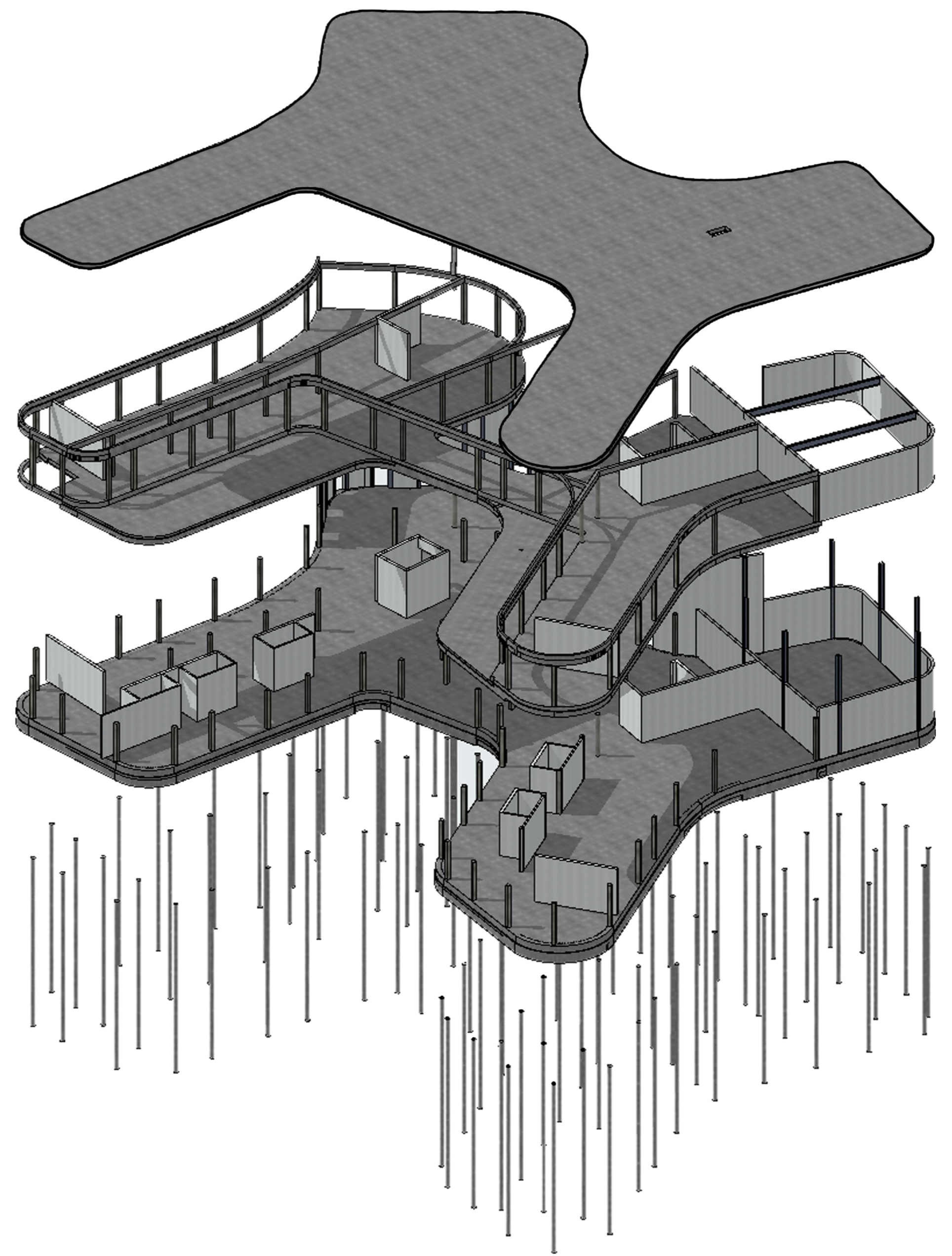
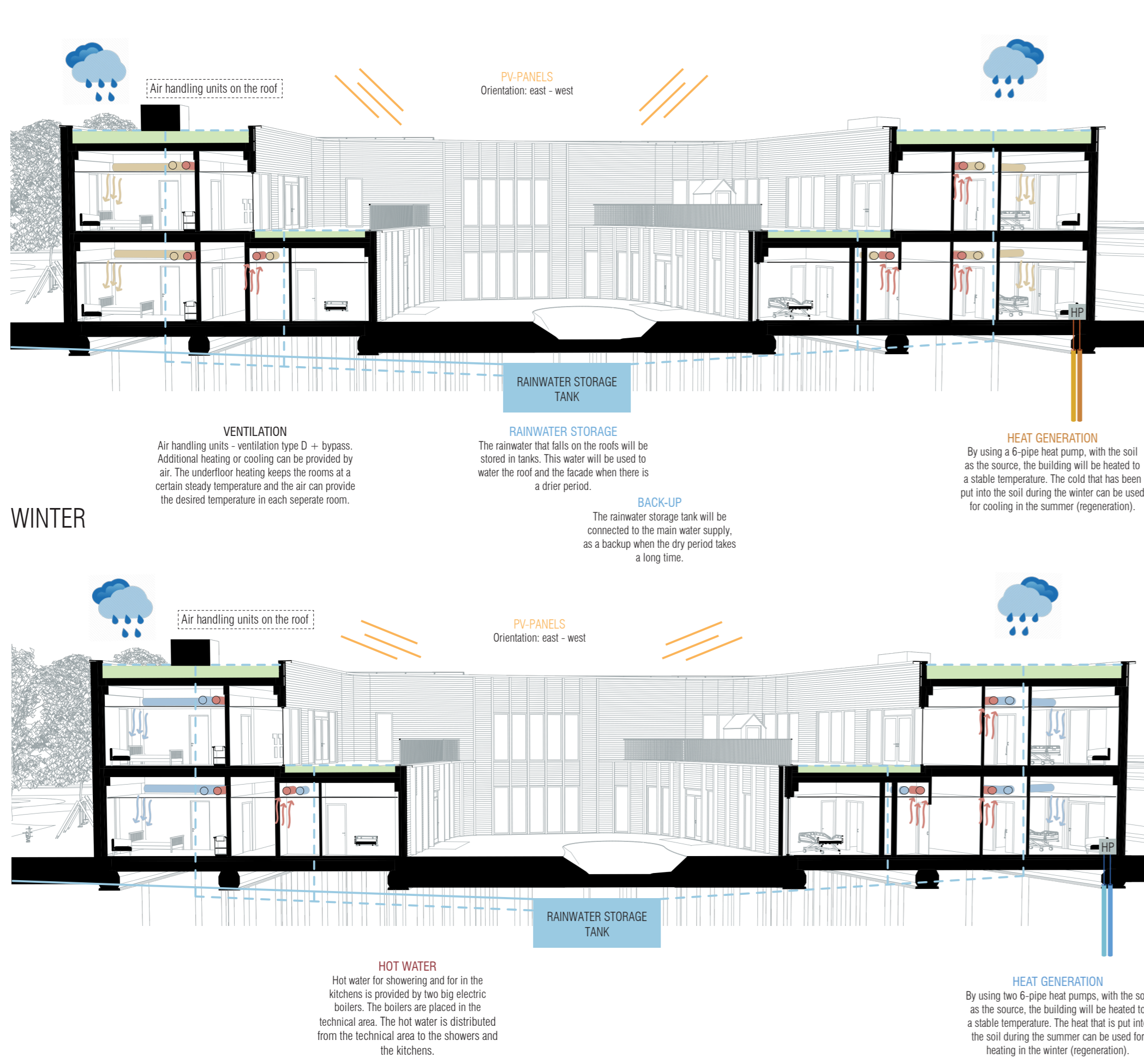


DIAGRAM CONSTRUCTION

CLIMATE DIAGRAM SUMMER - WINTER



FLEXIBLE LAYOUT

There is chosen for a column and beam load bearing structure, because this enables the possibility of a change of function in the future.

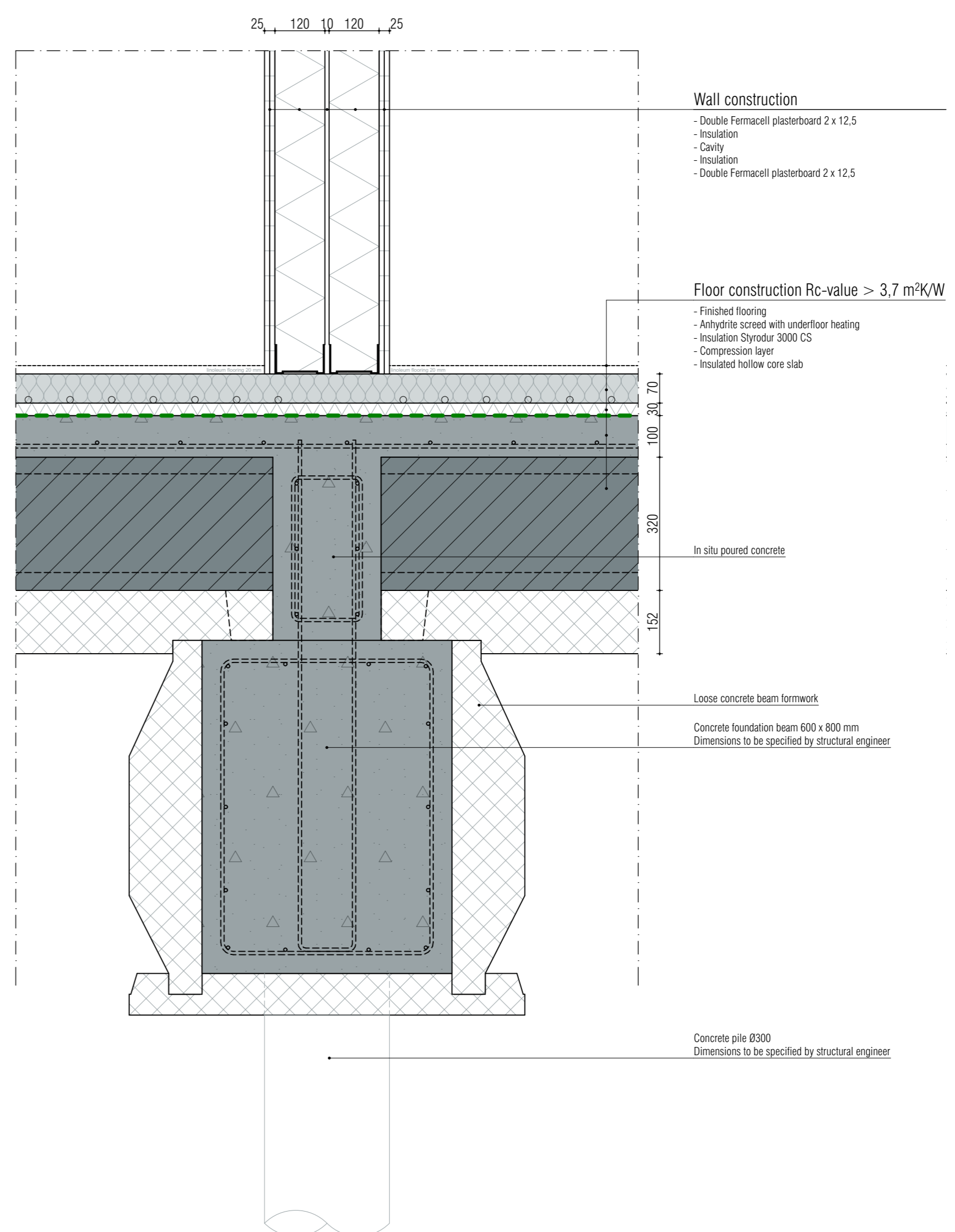
WHY CONCRETE?

Concrete is chosen as the main material for the load bearing structure, because of the terraces on the first floor and the manufacturability of the whole building. It is important in a building like this, that children in for example wheelchairs are also able to access the terrace on the first floor. Therefore the indoor level and outdoor level should be the same. This is only possible by lowering the floor of the outdoor terraces. This automatically constructs a beam which carries the loads from the first floor and the roof. This beam needs a lot of reinforcement and needs to connect both floors. That is the reason concrete is chosen as the main load bearing structure.

THE CONCRETE

Concrete is chosen as the main load bearing structure of the building. This may sound like an unsustainable material. However, the concrete that is used, is circular concrete. The materials used in concrete, like sand, cement and the aggregate, are recovered from sites where concrete buildings are being demolished and then reused in the production process of new concrete. This reduces the emission of CO2 by at least 63 percent (CIRCULAIR BETON NEW HORIZON, 2024).

DETAIL ROOM DIVIDING WALL SCALE 1:10



CIRCULARITY

- 1 A green landscape around and on top of the building harvests rainwater, which is stored underground on-site. Next to this, the green facade and the green roof will reduce the heat inside the building and foster biodiversity.
- 2 Photo Voltaic (PV) - panels for the harvesting of solar energy.
- 3 The wood used for the facade is re-used wood.
- 4 The building will be built, as much as possible, with materials which have low shadow costs. Shadow costs are the costs you would have to make to compensate for the negative environmental influences that become present while building. The shadow costs take into account the production of a material, transport and emissions, the degree to which a material is depleted, land-use and nuisance.
- 5 Use as little as possible fixed construction elements. This to foster a possible transformation of the building. Re-use and re-design.