

Glass House

2008

In Träslövsläge just south of Varberg on the Swedish west coast Karin and Sven-Olav acquired a parcel of farmland. This property is located along an old village street with a vast open field behind. In addition to the old traditional main building a large barn and a smaller cottage are situated on the plot. To the south there is an extensive orchard with a rich variety of trees. The buildings are placed in parallel on both sides of a courtyard whereas the traditional farm typology of this rural area dictates buildings to be placed on three sides of the yard. Since the main building was small and in poor condition the growing family needed more space. In addition to this a large glassed entrance was also required.

The solution was to frame the courtyard with a 250m² greenhouse and place a smaller 70m² building inside. In this way the view of the orchard was saved; you see it through the glass when you enter the courtyard from the street. The total building cost equalled that of a 100m² house; the difference in size of the indoor space corresponds to a normal living room. So instead of 30m² living room in a conventional house they got 150m² of living space in the glazed structure.

The plan was reorganized so that the existing main building houses the bedrooms in order to avoid complicated technical installations in an old building. Another reason for this was the ability to lower the room temperature in these spaces to reduce heat loss from the poorly insulated house. The new house takes care of all the technology-intensive functions such as laundry, bathroom and kitchen.

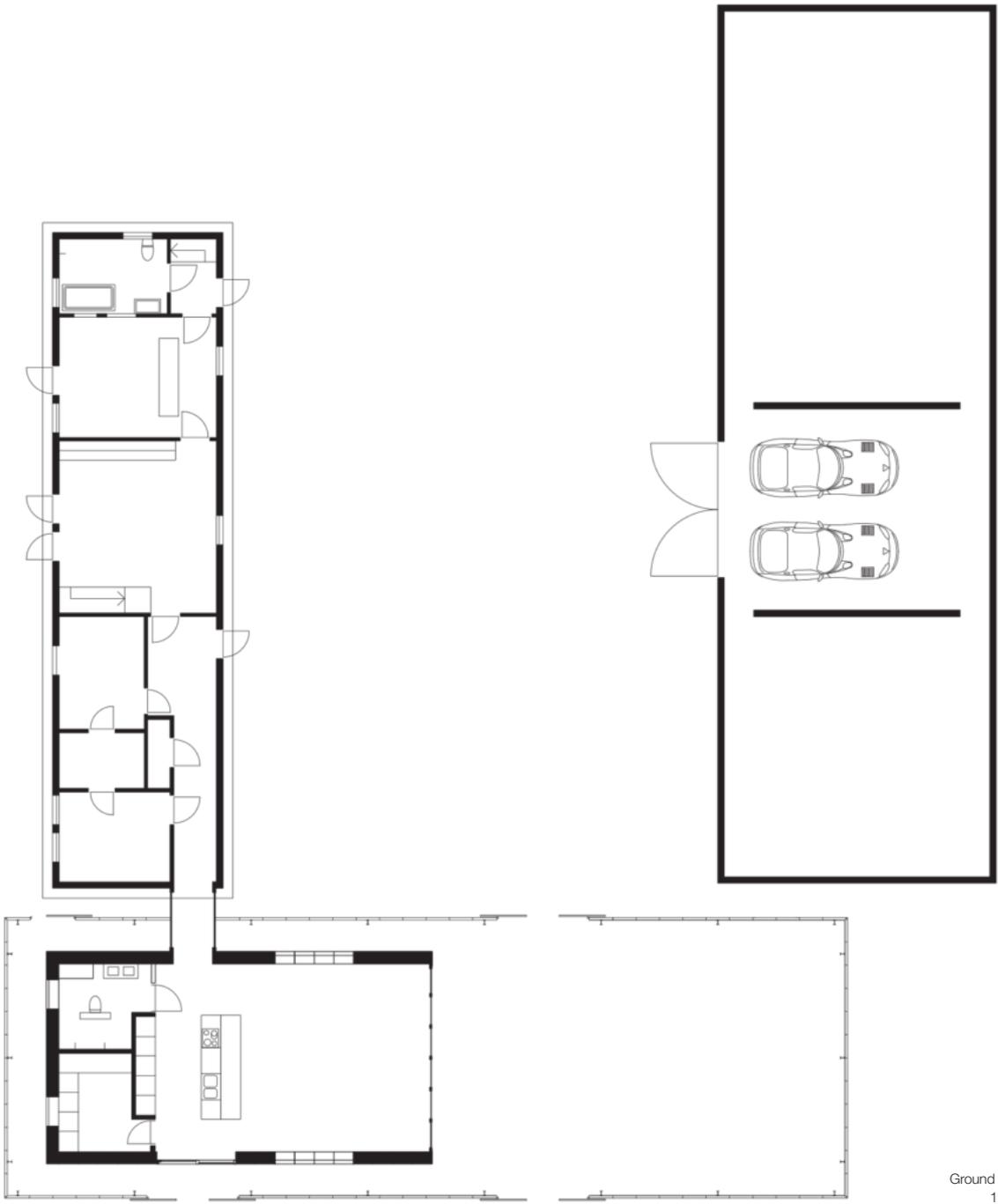
The old building was carefully renovated - both interior and exterior - in accordance with the clients. The new building has a concrete slab foundation with a surface of pigmented smooth cast concrete. Generally construction materials with high thermal inertia were selected to counteract temperature fluctuations. Walls are made up of solid lightweight concrete blocks with gypsum plaster on the inside. The roof consists of prefabricated Leca beams with 100mm hard insulation on top. Topmost is a pressure distributing walkable 30mm layer of concrete.

The greenhouse is built with standard components, including climate controlling technology such as automatic vents in the roof ridge and shading textiles with reflective aluminium coating. The ventilation and temperature is controlled by a computer. To avoid overheating in summer the inner house is supplied with pre-cooled air from ducts buried in the ground. During the cold season the same ducts help to pre-heat the fresh air and lower the need for additional heating. In the glazed space there are two climate zones, one at ground level and one - markedly warmer - in the terrace on the roof.

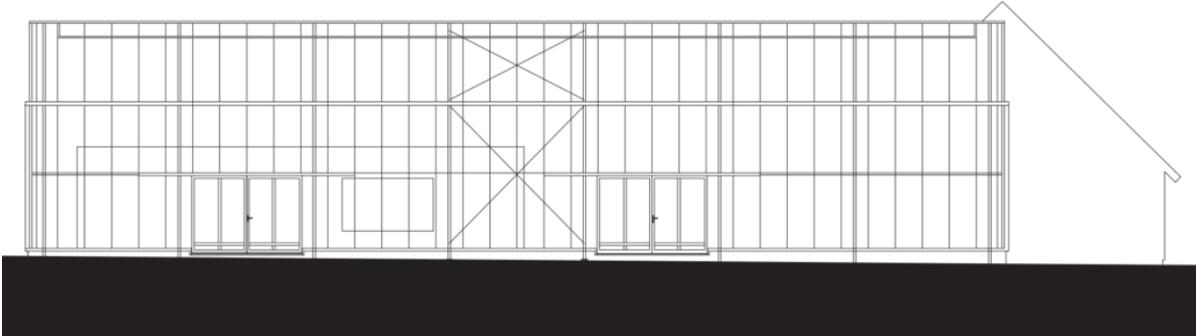
Client	Private
Area	Glass house 250 m ² Inner building 70 m ²
Status	Completion 2008
Architect	Klas Moberg & Mikael Frej (design principals), Frans Magnusson
Energy consultant	DeltaTe



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Ground floor
1:200



Southeast elevation
1:200

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