

SESSELJU'S HOUSE – Sólheimar in Grímsnes



SCOPE OF WORK

- Design: structural, electrical and building services
- Design coordination
- Supervision of construction activities

DESCRIPTION

As Iceland's first sustainable building, Sesselju's House is used as a 'eco-center' for conferences, meetings, and educational courses for companies, organizations, schools, as well as the general public. Verkís has provided technical consultancy for the whole building design (structural, electrical, building services), design coordination and has supervised the construction activities.

The building consists of timber-frame construction with a sod roof and part of the house is submerged into the natural landscape at the site. The design has taken into consideration the local conditions to improve the energy efficiency of the house and to integrate the building in its surroundings at best. Other issues such as acoustic design, the use of natural light, ambient comfort and health have also been integrated in the design. The natural site has been protected by for instance keeping equipment traffic at a minimum. Excavation has also been minimized and all excavated material has been re-used.

Building materials have been selected taking into consideration their impact on the environment from cradle to grave. Construction timber was carefully selected and laminated beams were used for the main structure. The house is clad with drift wood collected in Northern Iceland. Other issues such as insulation, flooring materials and painting have also been tackled with the use of environmentally sound materials.

Specific emphasis has been given to the energy issue with the use of geothermal hot water, hydroenergy and sun and reduction of the energy consumption. The main source of energy for house heating is hot water and its use has been cascaded in order to optimize the efficiency of the system. Sesselju's House can accommodate up to 150 persons at the same time and the ventilation combines natural and mechanical (hybrid system) ventilation to match the high occupation variations while reducing energy consumption. Water has also been paid special attention with, among other things, a sewer system equipment with a separator and connected to an existing marsh in the community of Grímsnes.

GENERAL INFORMATION

Sesselju's House (Sesseljuhús), has been erected at the earth's oldest eco-village, Sólheimar in Grímsnes Iceland, in honor of the founder of Sólheimar, Sesselja Hreindís Sigmundsdóttir and was taken into use on July 5th, 2002 in commemoration of Sesselja's 100 year birthday. The purpose of this building is to showcase environmentally friendly sustainable buildings by with a house built in an environmentally friendly manner using ecologically sound materials and construction practices.

TECHNICAL DATA

Building area: 850 m²

Protection of natural site

- Integration of the building in the landscape
- Excavation reduced and material re-used
- Reduction of construction equipment traffic

Building material selection

Impact on environment from "cradle to grave"

- Eco-friendly timber
- Laminated beams
- Driftwood
- Flooring: linoleum, recycled tyre gum...
- Painting
- Insulation: wool, paper..
- PVC-free building

Energy and water

- Geothermal energy, hydroenergy and solar energy
- Renewable energy source
- Cascaded use of the energy
- Water use reduction
- Sewer system with separator

