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Karlstad Central Hospital, Sweden

Case Study 3

Karlstad Central Hospital was a large scale renovation project that was one of the first collaborative projects between builder and customer in Sweden which leveraged the knowledge and experience of all concerned in the project to achieve the scheme's goals.

Aspects of Sustainability

This project highlights
the following:

Social Aspects

Human Resources
Corporate Community
Involvement
Business Ethics
Health and Safety

Environmental Aspects

Energy and Climate
Materials
Ecosystems
Local Impacts

Economic Aspects

Project Selection
Supply Chain
Value Added



Project Introduction

Skanska Sweden partnered with the real estate arm of the Värmland County Council in western Sweden (Landstingsservice Fastigheter i Värmland) in Karlstad Central Hospital's major renovation project, comprising numerous small renovation projects over an extended period of time and with no disruption to daily activities. Värmland County Council specifically wanted to develop a collaborative relationship with a builder in order to utilise everyone's skills and understanding on the project. Having chosen to work with Skanska Sweden, the primary aims of the project were jointly agreed: low annual costs for the building; low environmental impact and satisfied customers.

Property Management – Key to Sustainable Buildings

The focus of the project was very much on property management in order to achieve the

principal aims. As a result, all technical systems and materials were evaluated against the project's main goals throughout its lifespan enabling key choices to be made prior to the construction phase to guarantee the building's low environmental and economic impact when occupied and managed.

Environmental and Health and Safety performance

The use of halogen-free wiring contributed to the performance of the building from a health and safety and environmental aspect. In addition, product declarations were required for all systems and materials chosen to ensure their performance prior to use and during their lifetime.

Making the important measurable

The precise metering of water and energy use was provided for the building which has raised awareness of these vital and increasingly expensive resources, thereby facilitating their minimum usage in the management and use of the property.



The evaluation process also indicated the avoidance of heat-radiating machinery to reduce the necessity for air conditioning and to provide a pleasant indoor climate.

Social Aspects

Collaborative working

Skanska were able to offer a ten-year guarantee on the performance of the Karlstad Central Hospital in terms of a good indoor climate and against moisture, largely due to collaborative working which enabled the development of jointly agreed goals, sub goals, functions and sub functions of the project.

Training enables building performance guarantee

Collaboration between builder and customer also produced innovative ideas for the training of hospital employees and staff to enable the transference of skills essential for the property's optimum performance. The correct maintenance of the building was ensured by:

- a digital property management document
- a handover plan
- training programs for building operation and hospital employees
- a preventative maintenance plan including threshold value alarms
- operation and property management meetings four times per year during the guarantee period
- quality inspections (audits) to ensure that the property is being cared for in compliance with the agreed standards set by Skanska.

Sustainable Design Wins Skanska Award

Karlstad Central Hospital was among the winners of Skanska's Environment, Health and Safety Awards for 2003. The project demonstrates the attractions of sustainable design principles that have positive economic outcomes and is representative of Skanska's commitment to sustainability issues as part of the national construction industry dialogue in this arena. The project also illustrates the possibilities for collaboration between builder and customer, as 'partners' in a collaborative exercise with skills and experience to be shared on both sides for the most advantageous outcome for all.