

Pickaquoy Leisure Centre, Orkney



A description of the project

An extension to existing Pickaquoy Leisure Centre that provides 25 metre competition pool, leisure waters, three squash courts, a general-purpose activity area and associated facilities.

The building is formed in two primary masses. The main block houses the leisure waters, squash courts and ancillary accommodation. The feature block with curved roof houses the competition pool. A new link connecting the old and the new building is created.

The main entrance to the new facility is shared with the existing centre. It has been refurbished and existing draught lobby has been retained.

A single air handling unit provides conditioned air to maintain the pool and leisure pool areas at air temperature of 1 degree above the water temperature. The system has integral air source heat pump heat recovery which is also used to inject waste heat into the pool water to increase the air handling unit heat recovery potential.

A negative pressure is maintained in the pool hall to avoid any migration of moisture through the building fabric to the rest of the building.

The key innovative and low impact design features of the building

- Building utilises geothermal ground source energy.
- A Building Management System provides coordinated central control of heating and ventilation to minimise energy use.
- Rainwater harvesting system was installed to reduce amount of fresh water used.

Reducing the environmental impact of construction process

A requirement of the BREEAM (Building Research Establishment Environmental Assessment Method) assessment is to publicise information relating to the aspects of the design and procurement which will reduce the buildings overall environmental impact. Construction has been planned and executed to minimise impact on the environment.

Steps taken:

- The site and the main contractor were registered under Considerate Constructors Scheme with regular inspections taking place. The contractor was committed to achieving Performance Beyond Compliance under the scheme with minimum score of 36 points.
- The contractor implemented site specific Site Waste Management Plan to minimise amount of waste directed to landfill and to promote reducing, reusing and recycling practices.
- The contractor was committed to monitoring site energy, water and fuel consumption.
- All construction materials were responsibly sourced with 100% of timber being from sustainable sources.



BREEAM Rating and Score

Pickaquoy Leisure Centre has been assessed under BREEAM Bespoke 2008 Scheme BREAAM Bespoke 2008 Scheme can be carried out on new builds and major refurbishment projects.

BREEAM rating benchmarks are as follows: UNCLASSIFIED (<30), PASS (>30), GOOD (>45), VERY GOOD (>55), EXCELLENT (>70%), OUTSTANDING (>85%).

Predicted BREEAM Rating.	EXCELLENT- 72.5%.
Basic Building Costs.	£1241/m2.
Services Costs.	£1035.12/m2.
External Works Costs.	£466.04/m2.
Gross Floor Area.	5042m2.
Total area of site.	1.08ha.
Function Areas and their size.	1727m2.
Area of Circulation.	417m2.
Area of Storage.	107m2.
% area of grounds to be used by community.	98%.
% of buildings to be used by community.	34%.
Predicted Electricity Use.	69kWh/m2/year.
Predicted Fossil Fuel Consumption.	72.2kWh/m2/year.
Predicter water use.	6.47m3/person/year including water provided by rainwater.
Predicted water use to be provided by rainwater or greywater.	2.51m3/person/year.
% predicted water use to be provided by rainwater or greywater.	38%.