

Project

Aberdeen International Business Park, Phase 1

Client

Bowmer and Kirkland Ltd

Location

Aberdeen, Scotland

Expertise

Structural and civil engineering

Associated firms

Abstract Development
Keppie Design
Turner and Townsend

Value

£80 m



Broadening Aberdeen's horizons

Aberdeen International Business Park has a vision to become the region's hub of business, leisure and high class accommodation. Before this could become reality however, the flagship office block of Phase 1 had to be created on the ex-farmland site.

Opportunity

Located opposite the city's airport and surrounded by motorways leading to all of Scotland's major cities, Aberdeen International Business Park is an innovative development which will contain high quality offices, shops, leisure facilities and hotels. Phase 1 of the development saw the creation of a 350,000ft² office, designed to provide a comfortable workspace, complete with all the amenities a modern business needs.

Solution

Before we began the project design, we carried out a number of feasibility, site and transport, studies. When assessing structural forms, we wanted to include a low-energy displacement ventilation system, which led to a cost-effective and lightweight precast slab and structural steel design, achieving an A* BREEAM rating. We also profiled the 40 acre site for gravity surface water drainage, while minimising the cut-fill balance. This optimised the material balance, while our SUDS study and flood risk assessment displayed that a controlled discharge of surface water to the nearby Green Burn was easily achievable.

From the outset of the project we worked in a collaborative BIM environment with the architect and designers to effectively design, modify and visualise the final superstructure. We chose to create an economical, long span structural system, as it achieves a virtually column-free floor plate to provide full flexibility to the end user. We introduced a transfer truss hidden within internal walls, allowing a column-free sports hall at ground floor. This environment allowed us to work with the contractor to install CFA piling; reducing the risk from clay ground conditions through additional excavation to achieve major savings over the original design.

Outcome

Handed over on time and to budget, Phase 1 of the Park was seen as a huge success by the client and key stakeholders, with the top quality results securing more confidence and funding to begin the scheme's second phase.