



**CONSTRUCTING
EXCELLENCE**
in the built environment



demonstration project



Aerial view of Woodbridge Airfield

Woodbridge Airfield - a sustainability exemplar

Contractor:	Skanska
Client:	Ministry of Defence
Case Study Ref:	334
Project Number:	1260
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Region:	East of England
Sector:	Infrastructure, Buildings and Estates
Contract Value:	£82 million
Project Timescales:	May 2004 - May 2006
Themes:	Health and Safety, Sustainability

In 2004 Skanska commenced the £82million redevelopment of Woodbridge Airfield into a modern 21st century barracks to accommodate training, service and operation of 23 Engineer Regiment (Air Assault), part of a fast reaction task force supporting Britain's defence commitments.

Construction work consisted of demolition of 92 structures and refurbishment of four hangers; provision of 18 new buildings for accommodation, training, medical, sport, leisure, vehicle maintenance facilities, storage and ancillary structures including an outdoor barrack range, assault course, playing fields, refuelling facilities and vehicle wash facilities.

The 69-hectare site was extremely environmentally sensitive. It was surrounded by a Site of Special Scientific Interest (SSSI) and located within the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB), Special Protection Area (SPA) and Country Wildlife Site (CWS). The challenges posed by the site meant that environmental sustainability had to be a priority. Another key focus was health and safety and stringent standards were set to ensure that accidents were avoided.

Environmental Sustainability

Reuse and recycling

Decisions were taken at the design stage to reduce waste arising on site. Prefabricated bathroom pods were used as all the waste produced in their manufacture is contained within the factory. The pods had other advantages as their high thermal mass

reduced heating costs and fabrication off site reduced the health and safety risk, as hazardous materials were contained in the factory area.

The team reused demolition materials on site wherever possible. Crushed brick, concrete and tarmac were used to create roadways, hard standing and concrete. In total approximately 70,000 tonnes of materials were crushed and re-used on site. As well as reducing waste, this had other advantages as it avoided the need for imported material and disposal offsite, also reducing vehicle movements. It is estimated that this approach saved the project 10,000 vehicle movements thus reducing carbon emissions and minimizing local congestion; it also saved the project £120,000.

A target of 65% of all waste was established at the start of the project. Waste was segregated into six colour coded bins and these waste stations were controlled by full time waste marshals. Overall, the approach was extremely successful and resulted in the recycling of 72% of construction waste and 98% of demolition waste.



Segregated crush material

Measurement

In most construction projects total recycling figures include an estimate of general waste, that it is assumed is automatically recycled by the waste contractor. However, on this project, only material that was sent directly to recycling was included in the final recycling total. As a result of this project, all future Skanska projects only include waste that has gone directly to recycling in their recycling totals. The assumption is then made that any waste disposed of as "general waste" is sent to landfill.

Key Achievements in Sustainability

- Focus on community engagement led to no complaints from surrounding residents.
- High level of reuse of materials onsite led to reduced vehicle movements.
- High recycling target exceeded.
- Successful preservation and enhancement of habitats for local wildlife.

Biodiversity

The Woodbridge site was extremely rich in biodiversity. Parts of the site had remained unused for some time and had become habitats for local wildlife. The heather surrounding the air field was found to support 10% of the UK population of nightjar and woodlark which are on the International Conservation Union red list. To protect this valuable population, an area of heather the size of a football pitch was translocated to a quieter area of the site. This operation was performed in close consultation with English Nature, Suffolk Wildlife Trust, RSPB and the local County Council.

As well as this invertebrates and amphibians were translocated to a wildlife pond that is recharged from buildings roof run off and the area was made more attractive to wildlife by the installation of 40 bat boxes.

"Skanska's dedication to environmental protection is outstanding"

Alan Smith, Defence Estates Project Manager

Social Sustainability

Health and Safety

A rigorous approach to health and safety was driven from the top down. The Project Director was passionate about health and safety and ensured that the site was as safe as possible. He insisted that site operatives wore full Personal Protective Equipment (PPE) including gloves, hard hats, high visibility jackets, glasses and steel toe capped boots at all times. Every site operative was also required to have a Construction Skills Certification Scheme (CSCS) card. In addition, Skanska operated a system of "start cards" which meant that every day operatives were briefed on the risks and challenges



Waste was segregated into colour coded bins

posed by their working environment and these challenges were recorded on the cards. "Near miss" cards were also used to record any incidents which could have resulted in injury. To ensure that the site remained safe, all Skanska staff spent an hour every Friday, walking around the site to identify and address any potential health and safety hazards and environmental issues.

Staff health and wellbeing was also seen as a priority and a canteen was provided for site workers. The canteen served healthy options such as salads and baked potatoes and all food was prepared freshly on site.

The end result was an extremely safe site with almost no reportable incidents. The time spent on training and ensuring the highest Health and Safety standards put some pressure on the programme timescales and if the same approach was undertaken in future this would have been programmed in at the project planning stage.

Key Achievements in Health and Safety

- "Near miss" cards and "start" cards
- A fully trained workforce with CSCS cards
- Tool Box talks twice weekly
- No stepladders on site
- Full PPE for all persons on site
- Highest standards of welfare/canteen facilities
- Nutritious/healthy food

Community Engagement

Skanska strived to become part of the local community, for instance when an accident on site cut off local water supplies,



Translocation of an area of heather which was found to support 10% of the UK population of Nightjar and Woodlark

letters of apology and chocolates were given out as well as complementary bottled water. To engage the community further, over one hundred children from the local primary school were invited onto site. They were given a tour of the site and their own mini hard hats and high visibility jackets to keep. As a result of these measures there were no complaints from local residents.

Lessons Learnt

- Decisions taken at the design stage helped to reduce waste arising on site
- Reusing demolition materials on site wherever possible helped to reduce vehicle movements and also saved money on the project
- Strong leadership was vital in driving the project forward
- The team held a two day workshop to ensure none of the learning from this project was lost



Some children from the local primary school were given a tour of the site



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