

Moving ahead National Centre, naturally



We're building our National Centre on the site of the former National Hockey Stadium in central Milton Keynes.

We've designed a building with sustainability at its heart and we're working to improve the surrounding area to encourage wildlife to grow and flourish.

We will be:

- protecting existing trees during the scheme
- replacing existing plants with new plants, forming part of the landscaping
- managing existing grassland, tree and shrub habitats, as well as creating new habitats
- installing a range of nesting boxes for various bird species, such as the starling, swift, sparrow and peregrine falcon
- including living roofs to encourage wildlife.

Using nature to power our building

We have designed the National Centre to be as efficient as possible and, from the outset, have embedded this passive design approach in our plans.

Our building will use solar power to keep it temperate. We looked at building the offices at an angle, as well as the type of glazing used, to make sure we don't rely on air conditioning to keep a comfortable temperature throughout the year. The National Centre will be built in such a way that, in winter, it harnesses the low angle of the sun to maximum effect and conversely in the summer, it won't take in much heat.

By using the principles of passive design, we have lowered the energy consumption of the building and are creating a building that is truly sustainable.

We've also designed the office spaces to help ventilate the building. Our designs have narrow floor plans with the ceilings higher than normal. This means that the higher ceilings will allow fresh air to ventilate the offices as well as allowing the hot air to rise, keeping the working areas cooler, and that natural daylight will penetrate far into the heart of each building, meaning less reliance on artificial light.

Our National Centre will be naturally ventilated – we will use the wind to power the day-to-day ventilation instead of fans, helped by including atria within each building to draw air in on days when the wind has dropped.

Water efficiency

To reduce the water consumption we are:

- using fittings that have a low flow rate, including spray taps in wash basins, dual low flush WCs and showers with limited flows
- incorporating flow control devices in all areas so water is only available when an area is occupied
- introducing extensive metering and monitoring, so we can spot and fix leaks quickly and determine the high users.

We will also be introducing a rain water harvesting system by capturing rain water on the standard roofs and concrete areas around the building. The reclaimed water will then be lightly treated and reused for flushing toilets.

These initiatives should reduce water consumption to a third of that of a similar building.

Fresh air ventilation system

The diagram shows how the air will circulate naturally with hot air being dispersed at high level, and cooler air drawn in under the floors.

