



# Worcestershire

## SUMMARY

## KEYWORDS

Redevelopment, school, impact assessment, priority risks, UKCIP Adaptation Wizard, building design, sustainable drainage, green roof.

## NAME OF AUTHORITY

Worcestershire County Council

## SERVICE AREA

Estate management, Capital projects, Children & young people's services

## BUILDING CAPACITY/TAKING ACTION

Taking action

## SUMMARY

Redevelopment of a primary school includes a climate change impact assessment

## DESCRIPTION

## DRIVERS

- Worcestershire County Council is a member of the Sustainability West Midlands Climate Change Partnership and through this association the council has access to climate change impact science, experts (e.g. UKCIP), tools and techniques
- Enthusiastic team

## METHODS

- The £2.7 million Red Hill School project involved a replacement primary school on the site of the former 1960s building. Robert Lewin-Jones, a Principal Architect at the council, piloted the UKCIP Adaptation Wizard to assess the impacts of climate change on the new school at the design stage and develop an adaptation strategy.

- This strategy was applied to the design and construction phases of the building and throughout its design life. The priority risks identified in the strategy were:
  - » Higher rainfall in winter, more intense periods, driving rain
  - » Milder winters
  - » Hotter drier summers
  - » Increased wind speeds/extreme storms

## OUTCOMES

- The school is a low carbon building that is more likely to be able to cope with climate change to maintain a comfortable and robust teaching environment over its lifetime.
- Some of the adaptation features integrated into the school to help it to withstand climate change impacts include:
  - » a sustainable urban drainage scheme using swales, ponds and underground box storage
  - » a rainwater harvesting scheme, used for flushing toilets, takes rain from approximately half the roof area. Other roof areas have a planted roof finish (sedum) to reduce run-off
  - » extra shade for pupils and teachers, provided by overhanging eaves and external canopies to the classrooms
  - » zinc sheet roof coverings, with standing seams, that may be less vulnerable to high winds than roofing tiles
- The school's design won the Green Apple Awards 2007 for the Built Environment and Architectural Heritage.

## KEY PLAYERS

- Properties Team, Worcestershire County Council
- UK Climate Impacts Programme
- Sustainability West Midlands

## ANALYSIS

### STRENGTHS

- The school is a low carbon building that is able to cope with climate change to maintain a comfortable and robust teaching environment over its lifetime.

### KEY MESSAGES

- Applying a climate impact assessment at the design stage can help to sustainable, low maintenance, attractive educational buildings.

## FURTHER INFORMATION

### CONTACT NAME AND DETAILS

- Robert Lewin-Jones, Principal Architect, 01905 766416, rlewinjones@worcestershire.gov.uk

## REFERENCES, WEB LINKS

- Worcestershire County Council <http://www.worcestershire.gov.uk/cms/community-and-living/property-services/architecture-and-design/awards/red-hill---new-school.aspx>
- Constructing Excellence case study <http://www.constructingexcellence.org.uk/demonstrations/RedHillSchoolCaseStudy4pp.pdf>