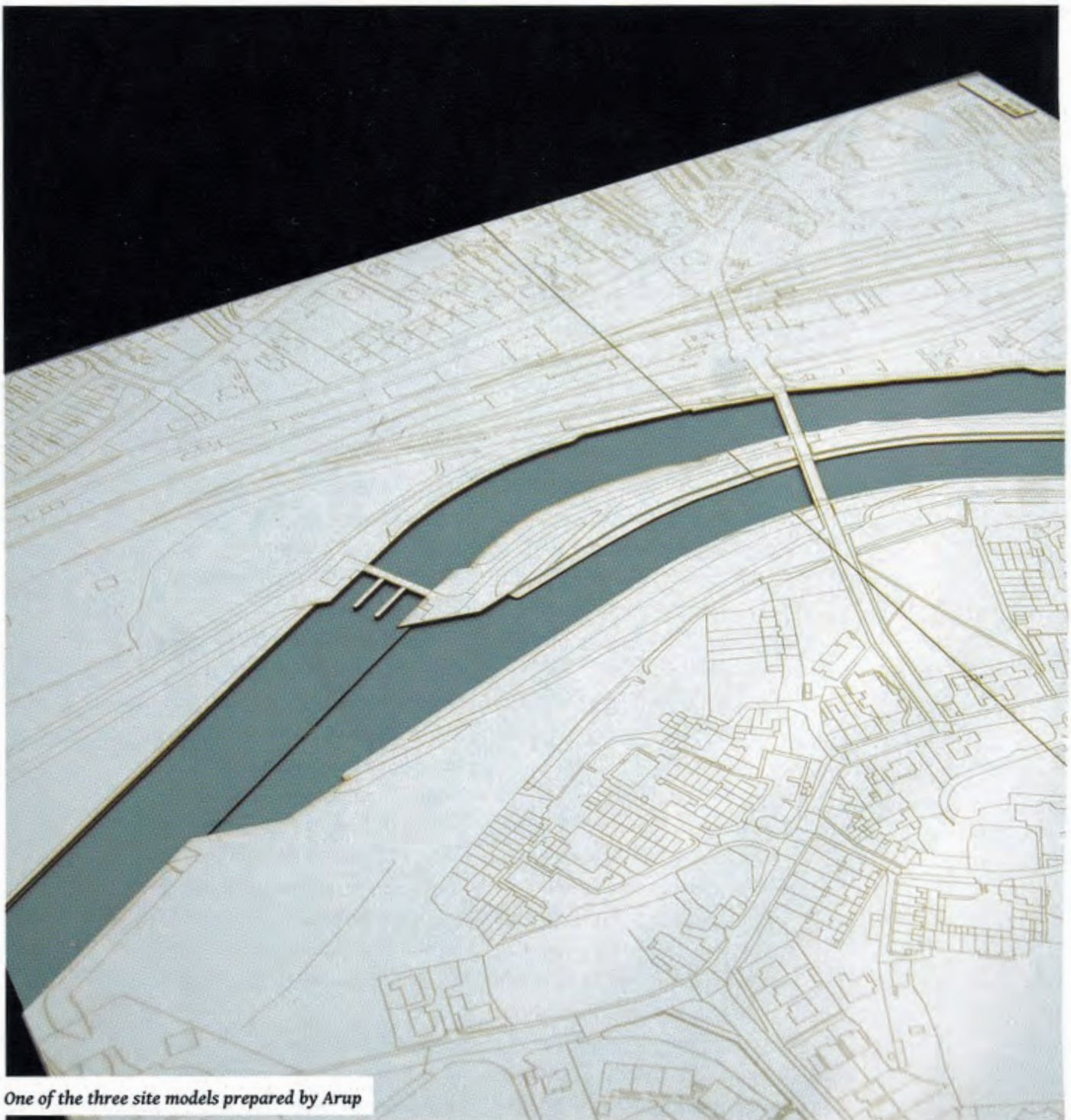


Crossing the divide



One of the three site models prepared by Arup

Mark Fletcher highlights an event aimed at achieving better integration between engineering and the arts



IN SEPTEMBER 2009 ARUP, in collaboration with CIWEM's Arts and Environment Network (AEN) and the Centre for Contemporary Art and the Natural World (CCANW), organised a two day workshop exploring alternative, interdisciplinary approaches to water and environmental infrastructure projects. The aim was to investigate ways in which skills from arts-based practice might become more integrated into the core processes of designing and delivering water and environmental engineering projects.

The workshop was held jointly on site in Exeter city centre and at CCANW's gallery at Haldon Forest. Participants included artists, curators, architects, landscape architects, engineers, ecologists, members of the Environment Agency (EA) project delivery teams and the EA National Environmental Assessment Service (NEAS). The workshop, facilitated by CIWEM AEN members Paul Simkins (Arup), David Haley (artist and academic, Manchester Metropolitan University) and Clive Adams (Director, CCANW), was run to coincide with an exhibition at CCANW entitled *Reflections on Water*.

Shifts are taking in place in the way that environmental professionals work. This is driven partly by changing regulatory demands, such as the need for increased community consultation and more integrated, multi-agency working, and a requirement for projects to be developed on qualitative rather than purely quantitative criteria. This coincides with fundamental societal shifts, includ-

ing a growing recognition that in order to create meaningful and lasting places we need to rethink the way we assess and respond to our natural and sociological environment. New skills will be required to deliver projects in different ways. Many of these do not form part of engineering and scientific approaches but underpin much arts-based practice.

Many contemporary artists and architects are engaging with environmental issues. There are arts and ecology programmes at the RSA and the Arts Council and a growing number of post-graduate courses bringing arts and ecology together. The EA has appointed an artist in residence in its North East region and think-tanks, such as RIBA Building Futures, are researching matters of climate change, flooding and coastal erosion.

For reasons of history, engineers and scientists remain quite disconnected from the arts and non-scientific disciplines, and because of this also from the valuable skills and knowledge developed within this parallel strand of environmental practice. The Exeter workshop developed out of a belief that the re-integration of these skills and alternative approaches might add value to the process of delivering environmental infrastructure projects.

It was felt that in order to make these connections the September workshop should focus on a real case study and the Exeter city flooding project was proposed. Prior to the workshop, Arup worked with members of the local NEAS team to identify

Vary depth
and create
stepping stones
in shallow
areas

Water 'springs'
from river to
water space.
'oasis' forms
natural needs etc
biodiversity

? Echo form
of channel
through tree-
line set behind
the defence.



With the workshop underway,
brainstorming and discussion
ideas are recorded



three contrasting sites along the River Exe that carried potential for meaningful enhancement. Arup then prepared background material, including site models and maps to focus discussions during the workshop.

The aim of the event was not to produce solutions but creative discussions, and this was achieved. Anthropologist, Amanda Ravetz (Manchester Metropolitan University) was invited to monitor and evaluate the event. She has produced a draft report with useful insights and learning. Further feedback is still being gathered and evaluated and it is hoped that this kind of rigorous research, alongside project-based learning, might

serve as a useful evaluation tool.

One of the barriers to an integrated arts and engineering approach arises from the tension between the justification of actions through instrumental analysis - the manner of engineers and scientists - and assessing qualitative, subjective matters through critical debate - often the way of arts-based practice. The need for clients and funding bodies to justify expenditure leads to a tendency to prioritise the former, and where they venture away from scientific analysis to engage with alternative practice, they often favour discreet, easily identifiable pieces of work with very specific outcomes. It was recognised that justification of a

more integrated application of alternative approaches will require new evaluation tools coupled with evidence from real projects. Arup and CCANW are working with the EA NEAS team to identify ways in which an artist could contribute to the Exeter flooding project. ■

Mark Fletcher is Royal Academy of Engineering visiting professor in engineering design for sustainable development at Bradford University and a director of Arup

Written with contributions from Paul Simkins, senior engineer and architecture graduate, and Jochen Rabe, associate landscape architect and urban designer, both from Arup.