

## **A passive flow-control device for the Banbury flood storage reservoir**

JOHN ACKERS, Chief Hydraulic Engineer, Black & Veatch Consulting  
PHILLIP HOLLINRAKE, Senior Hydraulic Engineer, HR Wallingford Ltd  
RICHARD HARDING, Project Manager, Environment Agency

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**SYNOPSIS.** The Environment Agency is developing a scheme to protect the town of Banbury against flooding, principally by providing an 'on-line' flood storage reservoir on the River Cherwell upstream of the town. A flow control structure will be sited on each of the two branches of the river, incorporating a suitably designed throttle to limit discharges passed through the town in events up to a return period of about 200 years. Construction of the main works of the project is programmed to commence in 2005.

This paper describes the development of the design for the flow-control structures with the aid of a physical model at HR Wallingford. The design is based on a double-baffle orifice capable of maintaining discharges passed downriver within a target range of less than  $\pm 10\%$  over a wide range of water levels in the flood storage reservoir.