Chapelton Flood Storage Reservoir

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SYNOPSIS. The Moray Council has completed a scheme to protect the town of Forres (Moray, Scotland) against flooding from the Burn of Mosset up to a standard of at least 1 in 100 years. The main component of the scheme is a 3.8Mm³ capacity flood storage reservoir situated at Chapelton.

The Paper describes the development of design, which includes the first baffled crump weir flow control structure constructed in a UK dam and the first large-scale use of open stone asphalt on a UK dam spillway. The design also includes features to minimise the visual impact of the dam, such as a sacrificial layer of topsoil and grass over much of the engineering work and an aesthetically pleasing curved dam crest. The Burn Management Works dramatically illustrate the combination of cutting-edge river restoration techniques, habitat creation and a sustainable solution to a geomorphological problem.

The main impounding structure is an earth dam, approximately 200m in length and up to 6.9m high. It is constructed from locally won material and has a sheet piled cut-off to control seepage. The flow control structure will accommodate fish passage and fine debris thus removing the need for conventional trash screens. The paper describes the design for the flow-control structure with the aid of a physical model. The design is based on earlier work by Ackers et al and reported at the 13th BDS Biennial Conference.