

## **Investigation and Rehabilitation of Chardara Dam Spillway**

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SYNOPSIS. A reported vibration problem with 40 year old spillway outlet gates turned out to be a hydraulically poorly designed structure with cavitation and hydraulic impact problems requiring alterations to the structure as well as replacement of the gates. Vibration surveys, hydraulic model testing and diving surveys were all employed successfully to investigate the cause of the problem and to assist with the design of the remedial works. Dewatering of the structure was required to carry out the remedial works and as there were no provisions to do so in the existing structure a caisson gate was designed that could be floated into the site and then positioned by flooding watertight compartments.