

Eagle Pond Flood Protection Works

CLIENT: Stillwater Associates

LOCATION: Snaresbrook, London

YEAR OF COMPLETION: 2013

Eagle Pond is a 40,000m³ reservoir retained by a 4m high dam in east London, built prior to 1745. Being in an urban area, the reservoir is considered to be high risk in terms of consequence of failure.

The project was to implement a recommendation in the interests of safety, from a Section 10 inspection report under the Reservoirs Act 1975, to increase the spillway capacity to pass the Probable Maximum Flood.

The existing earthfill dam was shown to be at risk of failure during a flood event and therefore it was necessary to undertake works to raise the crest of the dam and to provide protection to prevent piping failure under a 1 in 1000 year flood event. A simple sheet pile wall system was designed which extended up to 8m into the dam embankment. Alterations to the reinforced concrete spillway were designed to accommodate the raised crest level.

At the initial stages of the project we planned and procured the geotechnical site investigation. This was followed by the preparation of an interpretative report. We then undertook the design of the crest raising works including finite element analysis to ensure the effectiveness of the sheet piles to provide cut-off to water flow through the dam.

KEY FACTS:

- Dam crest raising
- Spillway alterations
- Numerical geotechnical analysis

