

## Project Profile



<b>Project Title</b>	Hodder Service Reservoir
<b>Client</b>	United Utilities Integrated Alliance North
<b>Project Value</b>	£11M
<b>Contract Conditions</b>	UU AMP4 Bespoke
<b>Duration</b>	18 months
<b>GHA Livigunn Services</b>	Civil, Structural, Geotechnical, Mechanical and Electrical Engineering detailed design
<b>Description</b>	The purpose of the project was to provide increased security of supply to the population served by Hodder WTW. GHA Livigunn were involved from the project inception and various site locations were appraised.

The reservoir was sited in an Area of Outstanding Natural Beauty and the site was carefully landscaped so that the finished ground profiles will be regarded to closely match the existing ground profile. Before construction could commence a new 500m long access road had to be constructed across the steeply sloping site. The project briefly comprises 2 cells with integral contact tank and valve chambers with a total storage volume of 24ML and is fed by connections off the 27" and 36" Hodder Aqueducts.

A number of innovations and design challenges were incorporated in the solution these included the use of precast permanent formwork for the roof construction, passive ground anchors to resist floatation forces and re-engineering of the standard under drainage blanket. The value engineering of the drainage blanket and roof resulted in savings of £450k reduced the programme by 6 weeks and 150 less HGV movements.



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