



**GEORGE
LESLIE**



CASE STUDY **CRAIGMADDIE & MUGDOCK**

PROJECT OVERVIEW

Much of the infrastructure at Craigmaddie and Mugdock Reservoirs dates back to the mid 19th century, creating a need to renew essential assets while protecting the site’s historic and environmental significance. The programme was driven by ageing infrastructure, accessibility challenges, environmental constraints, and strong community interest in how the reservoirs are managed and enhanced.

Works were carefully planned to minimise disruption, maintain access, and protect sensitive habitats, with a focus on sustainability, low carbon construction, and long term value.

EXECUTIVE SUMMARY

George Leslie delivered a programme of infrastructure and environmental improvements at Craigmaddie and Mugdock Reservoirs on behalf of Scottish Water, completed in September 2024. The reservoirs supply drinking water to approximately 700,000 people and attracts over 160,000 visitors each year.

The programme comprised four elements: replacement of the historic Craigmaddie Valve Tower Bridge, upgrading around five kilometres of footpaths, removal of long accumulated silt from the Dirty Dam, and the creation of a biodiversity garden.

OUR SUSTAINABILITY ROUTE



**Nature Based
Solutions**



**Recycled
Aggregates**



**Low Carbon
Steel**



**Low Carbon
Concrete**



**Battery
Units**



HVO Fuel



**Welfare Eco
Cabins**



**Green
Energy**

PROJECT BACKGROUND

Replacement of the Craigmaddie Valve Tower Bridge was a major challenge. As a listed 1896 structure, it required an exact steel “half through” truss replica, demanding careful design, fabrication, and close liaison with heritage specialists. Constrained access, steep terrain, and sensitive habitats further complicated delivery, requiring temporary trackways and a road bridge to safely accommodate a 72 tonne crane. Unexpected deterioration to the original masonry was addressed by specialist stonemasons.

Maintaining safe public access to a heavily used recreational site was a priority. Works were carefully phased, with footpath upgrades delivered in seven stages to minimise closures. Ongoing engagement with the Friends of Milngavie Reservoirs informed delivery and helped manage local impacts.



Footpath improvements addressed flooding, drainage failures, and surface deterioration using recycled Ultitrec surfacing and recycled sub base materials, while strict weight limits drove innovative logistics solutions.

Dirty Dam de silting required removal of approximately 7,000 m³ of historic silt while protecting downstream water quality. This was achieved through temporary works, controlled over pumping, silt management measures, and rigorous turbidity monitoring in close coordination with environmental specialists.

ENVIRONMENTAL BENEFITS

Recycled Ultitrec surfacing and recycled Type 1 aggregate were used for footpath works, supporting waste reduction and circular use of materials. Local sourcing and back hauling minimised transport impacts.

Dirty Dam works restored the pond’s original function of separating surface water from the potable supply, improving downstream water quality and reducing pollution risk. Reinstatement included pre seeded coir matting and extensive planting to support habitat recovery and biodiversity.

A lasting legacy of the programme is the biodiversity garden created at the former chlorination site. Developed with community input, it includes wild-flower planting, trees, shrubs, hedging, drainage improvements, and accessible paths, providing an enhanced natural space for visitors and volunteers.



CONCLUSION

The Craigmaddie and Mugdock Reservoirs Improvement Programme demonstrates how complex works can be delivered within a historic and environmentally sensitive setting. Through careful planning, innovative construction, and close collaboration, the project safeguarded vital water infrastructure while improving access, habitats, and community value.

