

# Project Case Study



## Cotswold Canal Restoration – Capels Mill

The project consisted of the construction of a new 320m section of canal through Capels Mill in Stroud, linking the existing channel north of the A419 in the west to Arundel Aqueduct in the east.

The site was constrained by a railway viaduct crossing the site from north-west to south-east, the River Frome running along the southern boundary and a domestic landfill site which had created variable topography and required the removal/remediation of contaminated material.

An intrusive ground investigation on the landfill slopes was undertaken in order to determine the type of retaining wall construction required and associated material remediation. An archaeological assessment was also carried out and resulted in the requirement of monitored excavation works.

A 175m long anchored contiguous piled wall was then constructed to support the landfill slope and ranged up to a maximum retained height of 8m. Construction of the wall consisted of 200 No. bored piles up to 15m deep, anchored with 52 No. 3 and 4 strand anchors, with cased upper section through the landfill and was installed using an “up and over” drilling approach.

The new canal channel was then excavated and constructed, part in reinforced concrete, part with a clay liner, and involved driving 209 No., 3m long steel cased piles beneath the channel. This method was the result of Value Engineering proposed by Griffiths and saved the client £90k, an 80% reduction from the original proposal.

The works also included:

- Extensive re-profiling of the landfill slopes
- Sheet piling works for canal wall to the west of the viaduct providing provisions for boat mooring

## Project Details:

**Client**  
Stroud District Council

**Location**  
Capels Mill, Stroud

**Completion Date**  
May 2013

**Value**  
£3.4m

**Contract**  
NEC Option C

## Key Project Aspects

- Canal Construction
- Anchored Contiguous Piled Wall
- Large Earthworks
- Contaminated Land
- Sheet Piling
- Scour Protection

- Approximately 450m of new towpath/footpath alongside canal
- Extensive liaison with Statutory Undertakers and the diversions of an existing water main and HV electricity cable beneath the new channel sections
- Clearance and dredging of 25m of existing channel
- Refurbishment of the existing brickwork on Arundel Aqueduct headwall
- Scour protection at various locations

The entire project was considered environmentally sensitive and required the implementation of a wide reaching Construction Environmental Management Plan. All earthworks required a strict contaminated land recording and monitoring programme with all domestic and industrial landfill material tested and sorted into segregated 'suitable' and 'non-suitable' material. An additional clay capping layer was also installed over an area of contaminated material with a gas vent system. This was undertaken under the CLA:IRE Code of Practice and mitigated the need to remove any landfill waste from site.

The project also hosted a Community Open Day that saw over 1,800 people walk along the bottom of the new canal channel. The open day allowed the public to see at first hand the solutions to the challenges this piece of canal restoration has presented. The channel was then filled with five million litres of water taking 3 days to reach a depth of 1.5m.



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