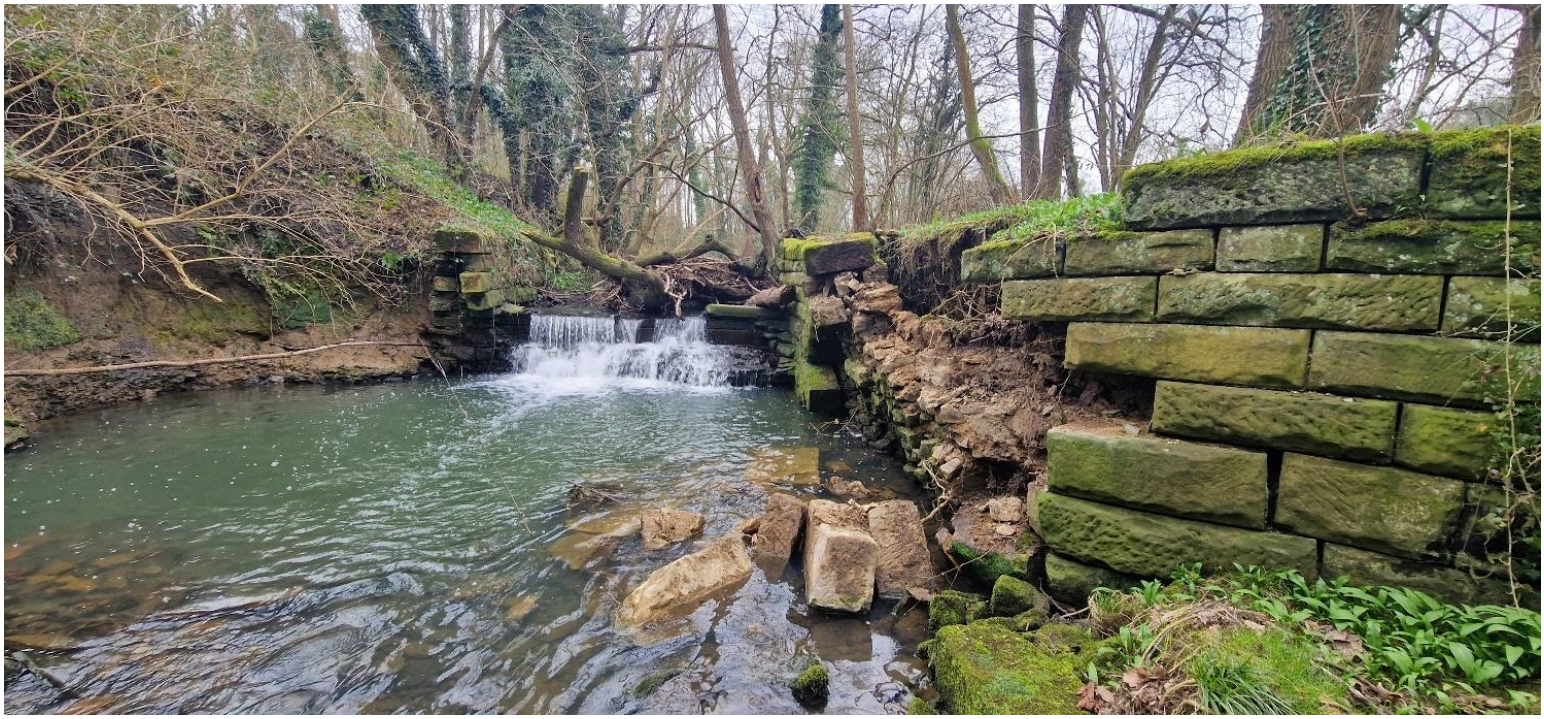
Barnaby Furnace Weir Removal

Request for Quotes - Design Specification



Barnby Furnace Weir and failing walling

Background information

The Barnby Furnace weir presents a key barrier to fish passage on Silkstone Beck, a tributary of the Cawthorne Dike, which ultimately joins the River Dearne above Barugh Mill. Removal of this structure supports the vision of Great Yorkshire Rivers (GYR) to restore connectivity, improve ecosystem function, and enhance the resilience of native fish populations across priority river catchments.

This site offers a strategic opportunity: the removal of Barnby Furnace weir would open approximately 7km of river that is otherwise free from artificial barriers. Environment Agency data confirms the presence of brown trout, bullhead, stone loach, and minnow in the downstream reach. Once removed, these species will be able to access high-quality upstream habitats in Silkstone Beck and Banks Bottom Dike, both of which are classified as 'not heavily modified' and support strong invertebrate populations.

This project is fully grant-funded by Great Yorkshire Rivers and benefits from a supportive landowner. The weir is not listed and lies on a non-main river under the jurisdiction of Barnsley Council (Land Drainage Authority). A recommendation to pursue full weir removal was made following a site visit by the Wild Trout Trust (Dr Paul Gaskell).

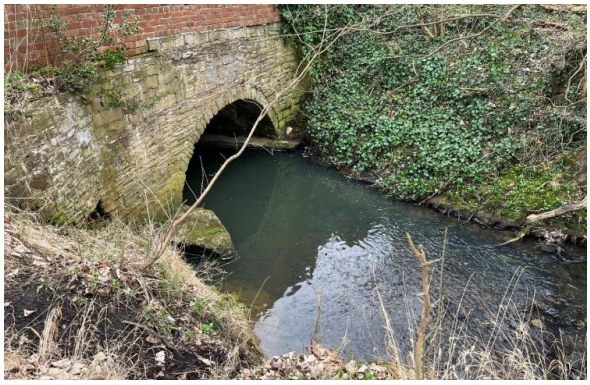
Overview – Barnby Furnace Weir Removal

Site Details

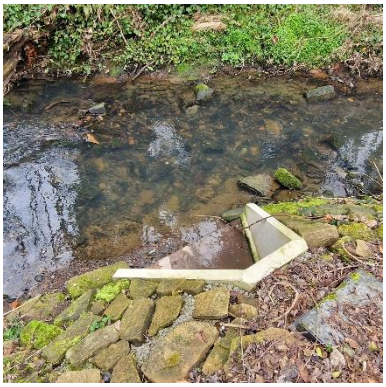
- Grid Reference: SE 30043 07564
- Approximate Weir Dimensions: 1.5m (height) x 3m (length) x 1m (width)
- Catchment: Silkstone Beck (tributary of Cawthorne Dike, upstream of the River Dearne)
- Authority: Barnsley Council (Land Drainage – Non-Main River)

Infrastructure Considerations

- Upstream:
  - Road bridge approx. 100m upstream
  - Private waste processor with a concrete outflow approx. 60m upstream (river-left)



Bridge - SE2996507512



Treatment outlet - SE2998607525

- Adjacent Structures:
  - Weir is enclosed by failing wall structures and a disused goit off-take
- Downstream:
  - River-right embankment is heavily armoured (disused railway line)
  - Partially or fully collapsed walls immediately downstream
- Local Utilities:
  - No known Yorkshire Water, gas, or electricity assets in the vicinity (based on an initial (free to use) LinesearchbeforeUdig data).

Site constraints

- Right-Hand Bank (RHB):
  - High-sided embankment with unstable, collapsing wall. May require substantial earthworks and structural reinforcement to mitigate risks post-removal
- Left-Hand Bank (LHB):
  - Elevated relative to the channel bed, potentially limiting machinery access and requiring site-specific solutions

Scope of Services

The price shall include feasibility and outline design work to support the full removal of Barnby Furnace Weir. The scope of services shall cover:

- Project Management
- Desk Study
- Field Study

- Utilities Search
    - While free-to-access data indicates no utilities are present, a comprehensive paid-for search is required to confirm this and eliminate the risk of unidentified services.
- Engineering / Geomorphological Assessment (including Targeted Hydraulic Assessment):
    - Assess the structural and geomorphological implications of barrier removal, including bank and bed stability.
    - Evaluate potential impacts on upstream infrastructure (e.g. road bridge, private sewage treatment outflow), including head cut migration risk.
    - Analyse the mobilisation of stored sediment and downstream implications, particularly at the Cawthorne Road (A635) bridge/culvert.
    - Predict changes to water levels, velocities, and local flow patterns following removal. Full floodplain modelling is not required unless interventions (e.g. rock riffles) are likely to materially alter flood behaviour.
    - Assess any local flood risk impacts to infrastructure and properties.
    - Provide technical evidence to support regulatory approvals (e.g. Land Drainage Consent, Planning Authority).
    - Recommend mitigation/design measures to ensure long-term stability of rock riffles and effective fish passage, including bank protection and sediment management.
- Optioneering & Outline Design:
    - Develop outline designs for appropriate mitigation measures (e.g. rocky riffles) to manage vertical head loss, ensuring long-term stability and ecological function.
- Planning Permission and Retaining Bank Walls
    - Assess the stability of the adjacent failing walls and determine whether alteration is required.
    - Planning permission is not expected for straightforward weir removal; however, engineering solutions for the walls may trigger planning consent.
    - At the outline design stage, the consultant shall identify any likely planning or statutory consent requirements for the preferred solution and advise on the scope of supporting information.
- Recommendations to RIBA Stage 3 (Developed Design):
    - Identify the additional work required to progress the scheme to RIBA Stage 3, including scope and cost estimates.
- Early Contractor Involvement (ECI):
    - While this commission is limited to feasibility and outline design, contractor expertise should be incorporated where beneficial. This may include advice on constructability, methodology, risk identification, and indicative pricing (particularly for bank stability and machinery access).
    - Such input shall remain advisory and shall not commit DCRT to appoint the same contractor for subsequent construction works.

Outline budget

We anticipate that the project should be deliverable for approximately £15,000 (inc VAT) + 10% for contingency. Please submit your best price for the above.

Documents and resources available to you:

- DCRT staff time and input from stakeholder engagement
- Hydraulic Model from EA

Key Dates:

Please submit your proposal and quote by **noon on Friday 24th October** for an immediate start. This stage of the project (i.e. to outline design) must be completed by the **end of July 2026**.

Pricing:

Submit itemised quote for the work as outlined above.

Queries:

Please email your proposals and direct any queries to matt.duffy@dcrt.org.uk (Fishery Habitat Officer, DCRT) 07825 911973