Project Profile No: 22/51

Tel: 01202 674194
Email: info@suttleprojects.co.uk

Cheesebottom Weir Fish Pass

Client: Yorkshire Water

Value: Circa £1.55m

Duration: **18 months**

Project Overview:

Suttle Projects were instructed by the Environment Agency to design and construct a two-flight Larinier fish pass at Cheesebottom Weir. This marks our fifth fish pass installation, delivered as a full design-and-build package. We were selected for our proven experience in delivering inshore watercourse schemes, having successfully completed over 100 of these types of projects to date.

Construction Works:

The construction phase involved a range of enabling and in-channel activities to facilitate safe access and dry working conditions within a sensitive watercourse environment.

Key elements included:

- Installation of extensive haul routes, a floating bridge, compound hardstanding, and in-channel worksite platforms
- Sheet pile cofferdams to form dry working areas for structural works
- Raising the existing weir crest level and modifying the glacis to improve smolt passage
- Construction of a 38m long in-situ reinforced concrete, two-flight Larinier fish pass
- Installation of penstocks, access bridges, and maintenance platforms

All reinforced concrete works were carried out in situ, with environmental controls in place to prevent concrete wash water from entering the watercourse.

Planning and Consents:

The project required securing several complex consents and approvals prior to commencing works on site. These included:

- Closure of a Public Right of Way (PROW) footpath
- A bespoke Flood Risk Activity Permit (FRAP) covering both temporary and permanent works
- National Fish Pass Panel approval for the proposed structure

- Abstraction licence negotiations to accommodate the adjacent hydroturbine

All permissions were obtained through close coordination with stakeholders including the Environment Agency and local authorities.

Environmental Management:

Given the sensitivity of the site, a bespoke environmental management plan was implemented. This involved:

- Regular dissolved oxygen (DO) monitoring during low-flow conditions, suspending in-channel works during periods of ecological stress
- Deployment of a bubble curtain around cofferdams during sheet piling to capture turbid water
- Use of containment systems to prevent concrete wash water ingress into the watercourse
- Manual removal of invasive Himalayan Balsam prior to enabling works, followed by ongoing maintenance picks
- Installation of a low-profile floating bridge system using pontoons to minimise disruption to local bat foraging flight paths

Special Conditions, Challenges & Innovations:

The project was delivered within an ecologically sensitive environment, presenting several challenges throughout delivery. A key issue was managing dissolved oxygen levels during periods of low flow, requiring close environmental monitoring and operational flexibility to reschedule activities as required.

An innovative floating bridge system was developed to maintain site access without disrupting bat flight paths, avoiding the need for traditional scaffold structures. Additionally, temporary access platforms and haul roads were constructed using low-impact materials to reduce disturbance within the river corridor.

As this project affected a number of stakeholders we developed a board with a QR code to be displayed on site, this board included a summary of the works being carried out as well as the QR code which allowed anyone to scan it and contact us through whatsapp. This created a channel where any member of the public could enquire about the works being carried out or ask any questions.

Machinery Used:

- Movax SG-45V side grip sheet pile driver
- 13T & 22T excavators
- Bubble curtain system

Project Duration:

The works were completed over a 18 month programme delivered safely, on time, and in full compliance with environmental and consenting requirements.

Photographs:



Figure 3: The temporary sheet pile cofferdam in situ to create a dry working area





Figure 1: The sign we created for Stakeholder engagement



Figure 2: The fish pass in progress





Figure 4: The complete Larnier Fish Pass