



CASE STUDIES

FLOOD RISK & INCIDENT MANAGEMENT

Pressure on flood defences and infrastructure highlight the need for specialist monitoring and management

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THE THREAT

Data clearly shows that the UK is experiencing warmer and wetter conditions, and with it an increase in total rainfall amounts and flooding events. This in turn has put pressure on existing flood defences and those responsible for monitoring and managing assets.

Local authorities, government agencies, and private landowners are increasingly reaching out to industry experts to help with the evolving challenges associated with flood infrastructure.

RAB are leading the way in this area, having developed a range of innovative solutions to support both the public and private sector organisations manage their flood assets.

Here we showcase two examples that demonstrate the benefits of partnering with RAB and our team of experienced professionals.

FLOOD ASSET INSPECTIONS FOR THE ENVIRONMENT AGENCY

RAB is part of the Collaborative Delivery Team that supports the Environment Agency (EA) in the onerous task of inspecting all its flood assets and defences.

Our engineers check for signs of erosion, structural damage, and any debris such as fallen trees blocking channels. We report and make recommendations to address defects using the Environment Agency's Condition Assessment Manual, assigning a condition grade for each asset on a 1 to 5 scale. Most of our inspection work for the EA is undertaken from dry land, but occasionally assets can only be fully assessed from the water.

We also undertake similar work for other national and regional organisations using our T98 and CIWEM certified training inspectors. They identify and itemise assets in a flood asset register, assess their condition and recommend clearance and/or repair works that comply with the Condition Assessment Manual.

We will also advise on the likely ongoing maintenance and operational requirements and costs, so you can establish annual inspection, maintenance, and capital expenditure budgets.



- Ⓜ Cradle to grave approach: delivering in-house end to end service with single point of contact, saving both time and money.
- Ⓜ Visual Asset Inspection accredited personnel available for work in both the public and private sector.
- Ⓜ Secondment into local council delivers expertise and experience
- Ⓜ Offer a unique Public Safety Risk Assessment (PSRA) service, plus a training program for those wanting to develop their own staff.
- Ⓜ Experts in Outline Business Cases and Section 19 investigations in conjunction with local authorities
- Ⓜ Extensive experience supporting organisations with visual asset inspection and remedial strategies.
- Ⓜ Offer CIWEM accredited training if they wish to develop their own staff
- Ⓜ Creation of Flood asset registers, inspection and maintenance programs



EXTENSIVE RIVER EROSION IN A CHALLENGING LOCATION

Four sections of the Warmbrook river at Chapel-en-le-Frith in Derbyshire had eroded and slipped, encroaching on the public footpath resulting in a serious public safety concern. Additional considerations included Japanese Knotweed, White Clawed Crayfish, and obtaining access to the site itself. There was also a residential development bordering the footpath.

Our 'cradle to grave' approach allowed us to integrate all aspects of the project on behalf of the client to ensure a remedial strategy was delivered safely to specification and within budget.

Key components included:

- Identification of the failure mechanism of the bank and undertake a lifecycle costed feasibility study for suitable solutions.
 - Each option was scored against different technical, environmental, and commercial factors. The recommended solution was a vegetated geotextile bag system, providing the required erosion protection function in an aesthetically and environmentally sensitive way.
 - To complete the design, we used a fluvial river model to assess river flows and procured topographic, geotechnical, ecological and utilities surveys. We gained approval for the required Flood Risk Activity Permit from the Environment Agency and planning permission from the Local Authority.
- RAB managed the delivery of the solution, including any required specialist contractors (and associated tenders, procurement, risk assessments, method statements, and on-site build quality).
 - Project completion in line with recommended solution, to the complete satisfaction of the client, and within budget!



IN SUMMARY

Climate change is placing increased pressure on flood defences and assets. Monitoring and management of infrastructure requires specialist resources and expertise.

RAB have developed a range of innovative services to support both public and private sector clients who are responsible for managing flood assets. Please feel free to contact RAB to explore how the team can help your organisation, and also save both time and costs.



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