

Preventing flooding with embankment repairs

We collaborated with our client to complete essential bank stabilisation works to prevent flooding in the surrounding area.

stonbury

In summary

- A large section of eroded riverbank posed a severe flood risk to the surrounding area
- Using sheet piles and coir matting in a client-supplied design, we successfully stabilised the bank
- We landscaped the embankment using existing earth to restore its natural appearance

We then covered the area with coir matting and seeded with grass to support stabilisation during establishment.

Subsequent inspections have confirmed that no water is penetrating the previously eroded section of the embankment, demonstrating that the piling works have been successful.

The benefits

- The project has provided a benchmark for an embankment repair method on that stretch of the river
- The works prevented a potentially catastrophic failure which could have resulted in significant flooding
- Works also prevented a far more challenging and costly repair, which would have been necessary if the embankment had fully breached
- The channel is now stable enough to help prevent long-term flooding

40m

the total length of eroded riverbank repaired during the project

3

weeks were reduced from the programme by adjusting the working methodology

The need

A 40-metre section of embankment had begun to fail due to erosion from previous flood events. Water was seeping through the bank, putting it at risk of complete collapse which would have caused flooding in the surrounding area. The works were essential to restore long-term resilience to the embankment and reduce the risk of future floods.

The solution

The initial design included the installation of included installing sheet piles, reprofiling the embankment, and fitting coir matting.

Due to the remote location - with no direct or nearby access - a pontoon launched from the opposite bank was the only practical solution to avoid floating equipment and materials almost a kilometre upriver from the nearest access point. Working in collaboration with the landowner we carefully planned with the landowner the timing of the works to minimise any impact on the nearby fields. By adjusting the working methodology to access the bank from the opposing side, we reduced the eight-week programme to just five weeks.

After securing the Flood Risk Assessment Permit (FRAP), we carried out the repairs directly from the river using an excavator on the pontoon. Sheet piles were used to stabilise the banks, the trench was backfilled with existing material and re-graded to restore the embankment's original profile.

