Client:
Reservoir

Location:
East Midlands

Featured Product Range:

EnviroHub®
Water Treatment
Solutions

RVT's Fully Compliant Water Management System Stopped Contaminated Water Entering The River Goyt During an Extensive Restoration Project at Toddbrook Reservoir

Project Overview

Toddbrook Reservoir is located just upstream of the town of Whaley Bridge in the High Peak area of Derbyshire, England. The almost 80-foot tall embankment was constructed between 1837 and 1840 for water supply, with a central puddle core and outer shells of more granular earthfill. At the time of construction, Toddbrook Reservoir Dam was the tallest dam in the UK, capable of storing 1,040 acre-fee. The Dam's auxiliary spillway suffered a serious incident in August 2019 after almost a week of intense rainfall, which had an estimated annual exceedance of 1% (i.e. a return period of 100 years). As a result, a £15 million restoration project was started in 2022.

Challenge

Kier was asked to carry out permanent repairs which involved the construction of a new side channel weir, 'tumble bay', spillway channel and stilling basin. The damaged auxiliary spillway will be removed, the dam repaired and the slope grassed over. For this to be completed, a number of excavations and piling works had to be undertaken. The excavations would require dewatering due to the high water table on site and also a water management system was required for surface water runoff to prevent contaminated runoff water from entering into the River Goyt.

- When carrying out activities on a plot of land, including construction work, the main contractor or landowner is responsible for any water that is to be moved or discharged from the site
- EnviroHub® solutions are easy to use, therefore reducing the burden or stress that site managers might feel when managing water on site
- The Environment Agency states that contractors must have a plan for the control and disposal of water from site, and must distinguish between excess water due to rainfall and water arising from the construction process
- EnviroHub® helps to ensure compliance with environmental regulations, giving you peace of mind that you have protected the environment
- EnviroHub® is a fully modular system, allowing RVT to create a tailored set-up for your site. Furthermore, water can be neutralised using CO2 or chemicals
- With RVT, customers are supported throughout every step of the hire, receiving technical support and consultations whenever necessary
- The EnviroHub® Monitoring Unit (MU02) is a simple way to give ultimate reassurance about the compliance of your site water

Solution

Given the importance of the Dam, and the sensitive nature of the surrounding site environment, RVT had to move quickly and get the right solution in place.

RVT promptly attended site, took and analysed water samples and combined the sample information with the geological nature of the ground. As a result, RVT proposed a complete EnviroHub® chemical dosing water management system. This included EnviroHub® TU02 Dosing Skid, EnviroHub® TT10 Treatment Tank and EnviroHub® HL50 Lamella Plate Settlement Tank. The EnviroHub® system was able to achieve a particulate removal rate of around 95%. The system accomplished this by the neutralisation of colloidal (fine/clay) particles, allowing them to agglomerate together forming heavier flocs, which then easily settle out in our EnviroHub® Lamella Tanks.

Furthermore, our real-time EnviroHub® Monitoring Unit would generate automatic text and email alerts to warn the site team when the system was approaching the set compliance limits. This made the system really easy for the site team to manage and enabled the site manager to rest assured that they would always remain compliant with their environmental water discharge permit.

EnviroHub® Lamella Tank

EnviroHub® Water Management System

Do you have a similar challenge on site and would like to speak with an expert?

Enquire Today