

PH Correction Solution Provided for Concrete Works

RVT support Tilbury Douglas with a safe and sustainable water treatment solution for alkaline wash water

August 2021



Client:



Location:

South England

Featured Product Range:



Water Treatment
Equipment

Introduction

As part of an ongoing project to upgrade a water treatment site in south England, Tilbury Douglas needed to accommodate consolidating solids and preventing run-off liquids arising from concrete structure works. In order to treat the high pH water caused by the washout of concrete delivery trucks, Tilbury Douglas approached RVT for a safe and sustainable solution.

The Challenge

Wash water resulting from concrete washouts is alkaline, containing high levels of chromium, which can leach into the ground and contaminate groundwater. It can also migrate to storm drains, which can increase the pH of area waters and harm aquatic life. Solids that are improperly disposed of can clog storm drainpipes and cause flooding.

Key Case Study Facts:

- As part of an ongoing project, Tilbury Douglas needed to consolidate solids and prevent run-off liquids arising from concrete structure works.
- Wash water resulting from concrete washouts is alkaline, which can contaminate groundwater and migrate to storm drains, increasing the pH of area waters and harm aquatic life.
- Tilbury Douglas approached RVT for a suitable washout solution to minimise the environmental impact caused by the necessary concrete works.
- RVT provided an EnviroHub Concrete Washout Kit comprising of the EnviroHub CW01 Concrete Washout Unit and the EnviroHub TT01 Concrete Water Treatment Unit.
- This kit used geotextile filter bags to separate solids from the wash water. The wash water was then pumped into the adjacent treatment tank and dosed with CO2 to neutralise pH levels.

To avoid polluting the local water systems, and to remain compliant with Environmental Permitting, Tilbury Douglas required a suitable washout solution to minimise the environmental impact of both solids and wash water caused by the concrete works. Tilbury Douglas approached RVT to provide a solution that ensured there was no risk of contamination to the water treatment site.

The Solution

RVT provided an EnviroHub Concrete Washout Kit comprising of the EnviroHub CW01 Concrete Washout Unit and the EnviroHub TT01 Concrete Water Treatment Unit. This combination used heavy duty geotextile filter bags to separate the aggregate and silt which could then be used as backfill or disposed of safely. The remaining wash water that had seeped through the filter bags in the washout unit, was then automatically pumped into the adjacent treatment tank for pH correction. In the tank, the alkaline water was then dosed with CO2 to neutralise pH levels which allowed for its safe disposal.

This kit guaranteed the upgrade project for the water treatment site continued safely, whilst minimising the environmental impact of necessary concrete works. EnviroHub solutions provided by RVT ensured compliance with authorities such as the Environment Agency and the Water board's site water standards requirements.



EnviroHub CW01 Concrete Washout Unit and geotextile filter bag separating the solids from the wash water.

Water Treatment Solutions:



The EnviroHub CW01 Concrete Washout Unit uses heavy duty geotextile filter bags to separate the aggregate and silt from concrete wash water. The wash water seeps through the bag into the base catchment tray, where it can be pumped to a secondary treatment tank for final storage and pH correction or away for safe disposal.



The EnviroHub TT01 Concrete Water Treatment Unit uses CO2 dosing to neutralise the alkaline pH. On-board automated dosing ensures the water is safely brought within a pH of 6 to 8, meaning it is clean enough to reuse for chute wash down or disposal through an accredited waste disposal company.



EnviroHub TT01 Concrete Water Treatment Unit neutralising the alkaline pH levels of the wash water for reuse or safe disposal.

“We have used the RVT Envirohub for concrete washout on our site for 14 weeks and have found it easy to set up and use. It has been simple to reduce the pH to a safe level and then reuse the water for the next wagon. We have used less water overall, probably only around 1m3. And the treated water is much easier and cheaper to dispose of legally than untreated cementitious water would have been.”

- Senior Engineer, Tilbury Douglas

What Can EnviroHub Do For You?

- EnviroHub is a modular system, allowing you to first discuss requirements with a consultant and then select the kit that is suitable for your site's specific needs.
- EnviroHub is easy to use, reducing the burden or stress that site managers can feel when managing water on site.
- Envirohub helps to ensure compliance with environmental regulations, giving you peace of mind that you have protected the environment.
- Envirohub is fully flexible, allowing you to neutralise water using CO2 vapour gas or chemicals.
- Customers are supported throughout every step of the hire, receiving technical support & consultations whenever necessary.