

Remediation of the Former BPC Site and Wheelspan Works



“We tackled this complex site with some fairly simple solutions, underpinned by novel technology, which involved stabilisation of materials and re-use onsite. Previously, a site such as this would have been a “dig and dump” and it’s great to implement a more sustainable approach”
Mike Higgins, Hydrock Director

Overview

Hydrock was appointed Lead Remediation Adviser to Bellway and tasked with managing the remediation process to make the existing site suitable for residential redevelopment. The 2.7 ha site has an unusually complex industrial history that includes filled brick-pits, a gasworks, a printworks and a pigment manufacturing facility. This industrial history, which spans the late 1880’s to the late 1990’s, left a legacy of contamination in the soils and groundwater that required cleanup to make the site safe for its new use.

Description

The site had been derelict for many years and was ideally located for residential development. Hydrock was tasked with a review and appraisal of previous investigations, reports and risk assessments; additional investigation and risk assessments (human health and controlled waters); remedial works scoping and design; regulatory liaison and commercial appraisal of remediation options.

Our Solution

The site history had led to a complex distribution of contamination at the site, which included tars, complex cyanides, cadmium, hydrocarbons and phenols, that were present both in soils and groundwater. These resulted in unacceptable risks to the surrounding environment, including nearby surface waters and future site users. Some form of remediation was required, based most cost-effectively on a thorough understanding of the Significant Pollution Linkages and how to

Project Overview

Client

Bellway Homes (Northern Home Counties) Ltd

Location

Former Reckitt & Colman & BPC Site, Fenny Stratford, Milton Keynes

Project Value

£980k

Services Provided

Desk studies
Contamination investigations
Risk assessments for human health
Groundwater risk assessments
Remedial works scoping & design
Regulatory liaison
Commercial appraisal of remediation options
Remediation contract management
Ground water treatment
Soils treatment (s/s)

Added Value

A more sustainable remediation solution was developed which not only satisfied both client and the LA but which also meant a dramatic reduction in cost of over 40%.



deal with them.

From the outset, Bellway Homes and Milton Keynes Council were keen to ensure that a “sustainable remediation scheme” was developed, including the leaving of contaminants on site where they did not pose an unacceptable risk. Bearing in mind that the remediation required, and its cost, was a material consideration in agreeing Section 106 issues. Hydrock’s answer was to devise a remediation solution which limited off-site disposal in favour of treatment undertaken on site. The Environment Agency were understandably concerned about risks to controlled waters and initially required a level of clean-up in excess of that envisaged by MKC and Bellway. It was established that the EA’s precautionary stance was based on the absence of a risk assessment in accordance with current guidance, especially a sound Conceptual Model, and application of the P20 risk assessment model. Completion of this work led to acceptance by the Agency of cost-effective remediation proposals.

Ensuring Sustainability and Cost Effectivity

Previous remediation at the former Reckitts site to deal with cadmium contamination involved full-scale removal of soil to landfill and earlier proposals intended to follow the same approach. To minimise overall costs, Hydrock examined more innovative and sustainable alternatives to retain materials on site. The basis for this was a detailed understanding of the geological and hydrogeological conditions coupled with a careful assessment of contaminant distributions and geochemistry. Remediation has been targeted only at areas where all components of a Significant Pollution Linkage were located. Off-site removal was minimised by first identifying areas where geological conditions prevented off-site migration such that the material could be left in place. Alternatively, in-situ and ex-situ treatment methods have been specified or engineered barriers are to be installed. The net effect has been the development of a more sustainable solution and a dramatic reduction in costs of over 40%.

As Lead Remediation Adviser, Hydrock undertook the following tasks:

- Detailed Historical Desk Studies
- Data review (by SiLC registered specialists) to filter out useful historic site data;
- Design and implementation of targeted contamination investigations to resolve uncertainties;
- Completion of Detailed Quantitative Risk Assessments for Human Health to the satisfaction of Contaminated Land Officer at MKDC;
- Completion Tiered Quantitative; Groundwater Risk Assessments to the satisfaction of the Environment Agency;
- Scoping & Design of Remedial Works in the form of discrete contracting packages to allow use of leading edge treatment techniques such as thermally enhanced bioremediation, TRAPPs metals stabilisation, and reactive barriers;
- Undertaking all Regulatory Liaison on behalf of Bellway;
- Commercial Appraisal of Remediation Options;
- Remediation Contract Management; and Supervision & Validation of Works

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