Release the value of your land

CASE STUDY

TURNKEY, DESIGN AND BUILD BIOREMEDIATION

PROJECT: Former Goods Distribution and Maintenance Depot

PROJECT VALUE: £240,000

PROJECT TIMESCALES: 18 months

DATE AWARDED: November 2013

CHALLENGE:

This former goods distribution and HGV maintenance depot had discrete areas of hydrocarbon impact associated with fuelling and maintenance activities. The client required a turn-key service to design and deliver a voluntary remediation scheme to protect the Water Environment and manage liability.

PROJECT SCOPE:

The Scope of Works included:

- Review and adopt outline remediation strategy (prepared by others)
- Prepare and agree detailed Remediation Method Statement with stakeholders (Local Authority, SEPA, site owner's advisors, previous occupiers' advisors)
- Undertake further GI
- Break out hardstandings, excavate, screen & crush
- bioremediate hydrocarbon impacted soils,
- backfill, compact and reinstate

REMEDIAL METHODOLOGY:

ERS was appointed as Principal Contractor to deliver a turn-key remediation service at this former distribution depot with discrete areas of impact by middle and heavy range hydrocarbons. Building & Workspace Solutions Ltd were the CDM Co-ordinator.

An outline remediation strategy had been prepared by others, ERS reviewed the available data and adopted the outline proposals for bioremediation for the main areas and in-situ soil flushing beneath a workshop / maintenance building. ERS prepared a detailed Remediation Method Statement and agreed this with the Local Authority, SEPA, the client, the site owner, the site owners' consultant and the previous occupier's consultant.

REMEDIAL METHODOLOGY CTND:

Shortly after contract award the performance specification was amended and ERS were instructed to undertake further ground investigation to understand the implications and revised risks for all parties. This investigation was done with our in-house drilling team, allowing rapid procurement and timely delivery of results so that the overall programme was not affected.

1500m^2 of concrete hardstanding were broken out and crushed to the client specification for reuse as backfill. 1300m^3 of impacted soils were excavated, screened and subjected to bioremediation in covered windrows. The windrows were monitored for bio-remediation parameters, supplemented with organic and inorganic nutrients and turned with ERS' excavator mounted processing bucket to aerate the soils and optimise biodegradation.

Early in the soil flushing phase it was discovered that contamination levels were at variance with the conditions inferred from site investigation information, such that the soil flushing method could not be expected to meet the stringent remedial criteria required to protect a watercourse just beyond the site boundary. Remediation work around the outside of the building had developed a better understanding of the building subsurface construction, and we quickly identified a feasible alternative approach that could deliver certainty on meeting remedial targets without requiring demolition of the building, within the lump sum value of the contract. This variation was accepted by all stakeholders.

During the bioremediation phase, the site owner identified a sale opportunity for the site which was conditional on remediation works being complete. ERS quickly responded to an instruction to remove the bioremediation material from site and backfill with imported material – this was completed in a matter of weeks from instruction, allowing the divestment of site to proceed and complete to the satisfaction of all parties.

The key aspects for this project are ERS ability to understand and deliver on all aspects of contaminated land investigation and remediation, using scientific insight and great flexibility to adapt to changing requirements so that the ambitions of interested parties can be met, whilst managing risks upon those parties.

PROJECT OUTCOMES:

Whilst the remediation aspects were straightforward, many stakeholders were involved in the acceptance and 'sign-off' of this voluntary remediation. ERS delivered investigation, consultancy, remediation design and delivery on-site to the satisfaction of all stakeholders, to the initial budget as supplemented by client instructions for additional works.