

Case Study

Remediation of hydrocarbon impacted soils and water

Client

Kier Construction Ltd

Remediation Value

Confidential

Site

Former city centre bus station undergoing redevelopment. Contamination identified during previous phases of site investigation phase included hydrocarbon impacted made ground and perched water. Remediation was required to mitigate human health risks and prevent contamination of the deeper aquifer.

Contaminants

- Elevated hydrocarbons (TPH and PAH) within made ground and perched water.

Remediation Methods

- Safe excavation and offsite disposal of concrete slab and coal tar impacted tarmac.
- Excavation of impacted made ground for offsite disposal to UK Remediation Exeter Soil Treatment Facility for ex-situ treatment.
- Drilling of boreholes for dewatering and monitoring.
- Onsite water treatment system for treatment of impacted perched water prior to discharge to foul sewer under a discharge consent.

Challenges

- Excavation of hydrocarbon impacted made ground within a highly sensitive area in Exeter city centre.

Limited space and time constraints to consider as part of the remediation options appraisal.

- Close proximity of public access areas and retained bus station operations.
- Facilitating archaeological excavations onsite to uncover Roman fortress.

Approach

- Use of floor sawing to safely excavate concrete slab without damage to potential underground services.
- Use of VacX no dig technology to uncover live services for disconnection
- Mobilisation of a water treatment system to treat impacted water onsite prior to discharge to foul sewer under a discharge consent.
- Ex-situ treatment of impacted made ground at UKRL soil treatment facility.
- Further investigation of underlying soils behind retaining wall.
- Installation of impermeable barrier to prevent water ingress from offsite sources during dewatering.
- Working closely with various sub-contractors onsite to ensure programme delivery.

Result

- Remediation works completed under UK Remediation's Mobile Plant Permit.
- Project delivered on time and within budget



Figure 1: Safe excavation of concrete slab



Figure 2: Excavation of hydrocarbon impacted made ground