

## Remediation of Garage/Fuel Filling Station for Mixed Retail / Residential Use



The site, which extended to about 0.2 ha, comprised a former vehicle servicing and repairs garage. The Client proposed to demolish the existing buildings and construct a six storey structure to provide mixed commercial and residential units.

We carried out a two-phase investigation to meet the planning conditions required by the Local Authority prior to commencing development of the site.

### Phase 1 Desk Study

Our Phase 1 Desk study included a detailed review of the site geology, hydrology and hydrogeology, historic planning records and Ordnance Survey maps. In addition, previous investigation reports and environmental data sets were consulted.

Records indicated that there may have been a garage on the site since 1950. There was a possibility that it once operated as a fuel filling station. Planning records suggested there were a number of underground fuel storage tanks on the site, and it was not known whether or not they had been decommissioned.

The site geology comprised Second Level Terrace Gravels, which are classed as a Secondary A Aquifer, over London Clay, a Non Aquifer. It also fell within an Outer Zone II, Groundwater Source Protection Zone (SPZ). Aquifers provide an important source of drinking water and SPZ's have been defined by the Environment Agency to show the risk of contamination from any activities that might cause pollution in the area.

### Phase 2 Investigation & Risk Assessment

Our initial intrusive investigation works identified hydrocarbon contamination within the underlying shallow soils, although it was noted that further yet undiscovered hydrocarbon contamination associated with the underground fuel tanks was suspected to be located on the northwest corner and towards the centre of the site.

A series of deeper boreholes were drilled and installed with monitoring wells to allow groundwater samples to be collected for laboratory analysis in order to provide data for a detailed Groundwater Risk Assessment.

### Remediation and Verification

On the basis of the findings of our intrusive investigation and subsequent risk assessments, recommendations were made for remediation. We compiled a Remediation Method Statement for submission and approval by the Local Authority.

As part of the remediation works we oversaw the removal of the underground fuel tanks from the site when they were encountered by the demolition contractor. After the removal of each tank, samples of the residual soils were taken for analysis to determine whether the soils were suitable to remain on site post redevelopment.

When the site clearance and remediation works were completed, a verification report was provided which gave details of the works undertaken on site. This was submitted to the regulators in order for them to sign-off the appropriate planning conditions.

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