



PROJECT PROFILES

LAND CONTAMINATION ASSESSMENTS
& REMEDIATION

MILL ROAD

MALDON, ESSEX

Jomas Associates Ltd were commissioned to manage the demolition and remediation of the former petrol filling station, presenting a site suitable for residential development, on completion.

Jomas carried out a Site Reconnaissance, followed by the supplementary Ground Investigation, Remediation and Verification of Remedial works. Jomas were responsible for liaising with the Environmental Health Department at Maldon District Council, to enable the discharge of planning conditions relating to Land Contamination.

Desk Study and Site Investigation

The site comprised a vacant petrol filling station with 3No buildings and several buried fuel tanks, filled with concrete. A previous Environmental Investigation Report identified elevated concentrations of metals, polyaromatic and total petroleum hydrocarbons made ground soils, and groundwater within the site.

Land Contamination Assessment and Remediation

Jomas Associates Ltd worked closely with a demolition team. Buildings on the site were demolished. Jomas' engineers carried out site visits post demolition to assess underside of hardstanding. Trial pits were excavated to delineate areas of contamination. Samples were collected for laboratory testing. These were informed by on-site analysis using a photo ionisation detector, which provides an indication of significant volatiles in the ground.

Jomas Associates subsequently supervised the removal of the underground fuel storage tanks, an oil / water interceptor; and associated contaminated soils.

Verification Report

Upon confirmation that contamination soils were sufficiently removed, the resultant voids were backfilled with clean crushed concrete/brick derived from demolition works, and levelled. A verification report was produced for sign off by Maldon District Council.

Value Added – the critical cost saving achieved by Jomas Associates, was minimising the excavation of soils unless deemed absolutely necessary. Jomas were also able to obtain timely discharge of relevant planning conditions through close contact with the EHO during the process.



MOVERS LANE

BARKING

Jomas Associates Ltd were commissioned to manage the demolition and remediation of the former fuel station, presenting a site suitable for residential development, on completion. The proposed development comprised of demolition of the existing buildings and constructing new residential apartments, with associated areas of public open space. Jomas carried out a Desk Study, Preliminary Risk Assessment and Intrusive Investigation.

Desk Study, Preliminary Risk Assessment

During Jomas' desk study, it was discovered that the site was historically used for vehicle refuelling. Information obtained indicated that there were five underground fuel tanks at the site.

Ground Investigation

Jomas completed windowless sampling and cable percussion holes across the site to enable soil and groundwater sampling as well as soil gas/vapour analysis.

During the ground investigation, evidence of contamination (staining / odour) was reported within several boreholes.

Following generic risk assessments and statistical analysis, elevated concentrations of a number of polyaromatic and total petroleum hydrocarbons were identified, along with the presence of localised asbestos in soil. Quantification of asbestos revealed concentrations below the hazardous waste threshold.

Detailed Quantitative Risk Assessment (DQRA)

Jomas completed a Controlled Waters DQRA, which demonstrated that groundwater remediation was not necessary.

Land Contamination Remediation

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of hardstanding. Trial pits were excavated to delineate areas of contamination. Samples were collected for laboratory testing. These were informed by on-site analysis using a photo ionisation detector, which provides an indication of significant volatiles in the ground.

Jomas Associates subsequently supervised the removal of the underground fuel storage tanks, an oil / water interceptor; and associated contaminated soils.

Verification Report

Upon confirmation that contamination soils were sufficiently removed, the resultant voids were backfilled with clean crushed concrete/brick derived from demolition works, and levelled. A verification report was produced for sign off by London Borough of Barking & Dagenham.

Value Added – the critical cost saving achieved by Jomas Associates, was minimising the excavation of soils unless deemed absolutely necessary. The DQRA demonstrated that groundwater remediation was not necessary. Jomas were also able to obtain timely discharge of relevant planning conditions through close contact with the EHO during the process.



MONIER ROAD

HACKNEY

Jomas Associates Ltd were appointed to undertake a full Site Investigation at the site for Land Contamination and Geotechnical Engineering Purposes.

Desk Study, Preliminary Risk Assessment

During the desk study, it was discovered that the site was a former paint works. Vent pipes noted during the site walkover, indicated the presence of buried fuel tanks.

It was proposed that Land Contamination (human health, controlled waters and soil gas) risk assessments, as well as Geotechnical Engineering Investigations, were undertaken.

Land Contamination Remediation

Remediation comprised the removal of buried fuel tanks and immediately surrounding grossly impacted soils. Detailed Quantitative Risk Assessments (DQRA) were undertaken to demonstrate that full scale groundwater remediation was not necessary across the site. The DQRA showed that the site had elevated concentrations of Benzene and TCE in the groundwater on part of the site, which required remediation. Groundwater remediation comprised the application of chemical oxidation additive directly to the contamination in the dissolved phase groundwater, which reduced the chemical concentrations. Application was via a combination of direct tank void application, existing monitoring wells and direct push application on a 3m x 3m grid in the vicinity of the highest concentrations.

In consideration of the site setting, the remediation 'end point' was not to achieve the target criteria (RTCs) detailed in the Remediation Strategy, but to show a reducing trend of contaminant concentrations in the groundwater during the post application monitoring period.

This was followed by validation testing and production of a verification report for LLDC sign off.

Soil gas risk assessments were also completed by Jomas, and vapour mitigation measures were designed.



WOOLWICH ROAD GREENWICH

Jomas Associates Ltd were appointed to undertake a Site Investigation at the site for Land Contamination and Geotechnical Engineering Purposes.

The proposed development comprised the construction of a five storey structure with a mixed commercial and residential use and associated parking.

Site Investigation

In 2008, a desk study was issued for the site (prior to Jomas' involvement). This desk study highlighted the presence of a number of buried tanks on site, connected with the site's former use as a petrol station. No information was presented relating to the location or condition / contents of these tanks, or whether any decommissioning works had been undertaken. Jomas were commissioned to undertake an updated desk study and site reconnaissance, followed by intrusive investigations.

Jomas Associates Ltd carried out windowless sampling, and cable percussion drilling across the site, with subsequent soil, groundwater and gas sampling. The findings of the investigation enabled the location of the fuel tank farm, to be determined.

Remediation

Remediation comprised the removal of 4 No water filled underground fuel tanks. Samples were taken at the bases and sides of excavations, and screened by photo-ionisation detector as part of the verification process. It was determined that impacted soil removal was not necessary. A clean cover system was recommended in areas of soft landscaping.





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