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Geo-technical and Geo-environmental surveys

In addition to the above Freedom g-map were also asked to perform Geotechnical, Geo-environmental surveys and Flood risk assessments Freedom g-map carried out the following preliminary works at the site:

- Desk study including a review of available information on the site's history, geology etc. This showed that the site was once part of a power station, and also showed that the nearby river once flowed under a corner of the site. This knowledge was combined with information on the proposed building to allow an appropriate drilling investigation to be designed.
- Ecological assessment to identify whether any significant habitat or wildlife could be harmed by the proposed development.
- Flood risk assessment to identify potential sources of flooding and assess whether the site could be vulnerable to flooding.

Freedom g-map then designed and carried out a site investigation including the following works:

- Small diameter boreholes to investigate the ground and recover samples in areas of the site with difficult access. These were drilled using a small tracked rig operated by BESC-certified crew.
- Deeper boreholes to determine ground conditions beneath the new building. These were drilled by BESC-certified crew using a larger cable percussion rig able to penetrate sand and gravel strata.

- Full time supervision of the works by BESC-certified engineer. The engineer was responsible for liaison with Siemens to agree safe methods of working during the ground investigation and for producing records of the soils encountered.
- Monitoring wells were installed in completed boreholes. The engineer made a series of visits to the site after the completion of the works to take measurements with the aim of establishing longer term gas and groundwater levels.
- Chemical testing on samples from the boreholes to determine levels of contamination. The testing was based on the findings of the desk study.
- Geotechnical testing including insitu testing whilst drilling and laboratory testing on samples recovered from the boreholes. The testing provided data to enable suitable foundations to be designed for the new building.

The findings of the above works were brought together into an interpretative report. As well as compiling all the factual data from the investigation, the report provided comments and conclusions on the following:

- Ground conditions likely to be encountered when the new development is constructed, including soil types, depth to rock and likelihood of buried obstructions.
- Surface stability in relation to past mining.
- Groundwater levels in relation to foundations, excavations and the need for dewatering.
- Recommendations for the selection of foundation and floor slab type.
- The risks from ground contamination relating to both soil and groundwater, including remedial measures required to deal with these risks.
- The risks from hazardous gas.



Summary

- Siemens were presented with the survey results 5 days after site work had been completed; these items consisted of the Geotechnical/Geo-Environmental Interpretive Report, 2D Autocad combined Topographical and Utility survey drawing, a CCTV drainage condition report and CCTV DVD.
- The ability of Freedom g-map to provide an all encompassing end to end approach in pre-design and planning suited Siemens as the whole process can be controlled and maintained with just one point of contact. Thus the continuity of each element was a seamless operation and provided Siemens with an efficiently managed "Turnkey" approach for a pre-planning project.
- Siemens highly praised the Freedom Group of Companies for the quality of workmanship and professionalism shown throughout the project and are looking forward to working with Freedom Group again on future projects.

Freedom g-map is now the preferred provider of Topographical Surveys, GSSI/Ground Probing Radar and Electromagnetic Utility Network tracing to the Electricity Alliance North

don't risk it...g-map it

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