CASE STUDY

harrisongroup
GEOTECHNICAL & ENVIRONMENTAL ENGINEERS

PROJECT: GROUND INVESTIGATION

LOCATION: CONSTRUCTION SITE FOR THE OLYMPIC AND PARALYMPIC GAMES 2012, STRATFORD, LONDON

BACKGROUND

HARRISON GROUP ENVIRONMENTAL was appointed as one of three companies to carry out the ground investigation of a number of sites across the Olympic Park. We were the first of the companies to break ground on the project in December 2005, with a cable percussive drilling rig on Hackney allotments.

By working closely with the client, we were able to successfully overcome a number of challenges in order to meet the deadlines set. These involved:

- Unexpected ground conditions
- Liasing with landowners and occupiers
- Access difficulties
- Scheduling fieldworks to cause least disruption to breeding kingfishers

SCOPE OF WORK

A variety of drilling techniques were used on the site, to drill boreholes up to 50m deep. These include the use of:

- Cable percussive rigs
- Hollow stem auger rigs
- Window sampling rigs
- Sonic rigs

Standard soil sampling regimes were followed and in addition to this, piston sampling and continuous undisturbed samples - U100's - were incorporated into the works.
In addition to the drilling crews, we also had a dedicated team on site, to carry out continuous gas and water monitoring, permeability testing and in-situ water quality testing.

Health & Safety

As a result of historical and current site usage, there was the potential for a wide range of contaminants across the Olympic Park area. We therefore agreed that all sites on this project should be assumed to be category 'RED' for ground investigation purposes, and the specific PPE and welfare/ decontamination facilities associated with this were set up on site. More specifically this meant that: -

- Drillers and engineers went through decontamination procedures each time they left site and used clean gloves for all sampling procedures
- Clean method techniques were applied to all drilling operations, drilling initially with 250mm diameter casing, with reductions in diameter at the base of the made ground and again at the base of RTD. In order to prevent cross-contamination a 2.0m bentonite seal was placed at each reduction
- Rigs were checked daily and audited weekly and all tools cleaned between borehole positions. A gas alarm was located at every drilling rig, with both engineer and driller being trained in its use. A head space test using a photo ionisation detector was also carried out on every sample
- All site staff had available personal universal fitted vapour masks as part of their standard PPE
- Occasional monitoring for radiation was required

OUTCOME

This was a high profile project for the industry and has presented an opportunity to fine tune the health and safety standards for industry drilling operations. As a result of working closely with the Health and Safety Executive, we successfully took on board new recommendations to enhance the safety of drilling crews on site. We also commissioned an in-depth assessment of manual handling issues on behalf of the Olympic Delivery Authority which is being reviewed by the Health and Safety Executive.

We are very pleased to report that we had zero reportable incidents in over 1400 drilling, monitoring and surveying days on the Olympic Park Site and - working closely with our clients - all work was carried out successfully.

ISOQAR 0026 UKAS MANAGEMENT SYSTEMS
Certificate Number 5933
ISO 9001, ISO 14001
UKAS TESTING 4031