

TRANSPORT FOR LONDON

SAFETY, HEALTH AND ENVIRONMENT ASSURANCE COMMITTEE

**SUBJECT: CROSSRAIL GROUND INVESTIGATIONS – HEALTH AND SAFETY INITIATIVES**

**DATE: 12 MARCH 2010**

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**1 PURPOSE AND DECISION REQUIRED**

- 1.1 This report provides the Committee with information on health and safety initiatives proposed for Crossrail's ground investigation activities.
- 1.2 The Committee is asked to note the report and the proposals for the involvement of appropriate TfL modes in sharing experiences on groundwork investigations.

**2 BACKGROUND**

- 2.1 Crossrail has been undertaking ground investigation activities to obtain data for design purposes. Three ground investigation contractors have been employed under long term framework contracts since 2005. During this time the health and safety regulatory framework has changed significantly.
- 2.2 The ground investigation industry is comparatively small and as a result there are only three contractors with sufficient resources to undertake the size of ground investigations being specified by Crossrail and other parts of TfL.
- 2.3 Clients traditionally have wanted to spend as little capital as possible on ground investigation. This is particularly true of developers as ground investigation comes very early in projects, usually before capital funding has been obtained. Traditionally, drillers are paid by the metre drilled with a monthly productivity bonus. Health and safety has tended to be seen as an obstruction to productivity and hence earnings.
- 2.4 Three factors have lead to a number of initiatives being introduced to the ground investigation contracts:
  - (a) changing regulatory framework (Construction Design and Management (CDM) 2007, Control of Noise at Work Regulations 2005);
  - (b) incidents of varying degrees of severity; and
  - (c) Crossrail's preparations for main construction.
- 2.5 National Figures obtained from the Health and Safety Executive for the period 2001 to 2009 record two fatalities, over 60 non fatal major injuries and almost 120 over three day injuries. This is from a nationwide workforce that is roughly estimated to number 500 drillers.

- 2.6 Crossrail has held three safety forums to discuss recent incidents, near misses or ongoing issues. Each forum brought together an element of the industry from different companies i.e. contractors' site staff, contractors' management and supervising consultants. Each element brought its own perspective on the practicalities of ground investigation and the forums have resulted in proposals for safer methods of working. A fourth combined forum was held with the three framework contractors for them to present their proposals for safer working practices. In particular, the subjects discussed included:
- (a) eliminating or mitigating the need to climb drill rigs;
  - (b) use of acoustic hoarding systems that reduce manual handling risks; and
  - (c) incentive/deterrent systems that encourage a safety culture.
- 2.7 Crossrail is aware that leadership on health and safety must come from those commissioning the work. Crossrail believes that the sharing of the lessons it has learnt will help others, such as TfL, to reinforce the procedures and make them industry wide.
- 2.8 Crossrail proposes to hold a workshop with representatives from TfL, Department for Transport (Highways Agency) and other large organisations e.g. water companies in order that their experiences of ground investigation health and safety issues can be shared and through mutual understanding improve the standard of health and safety performance.

### **3 INITIATIVES**

- 3.1 Initiatives undertaken by Crossrail over the last six months have included elimination of hazardous activities, incentives to encourage safe practices, regular safety visits and behavioural management observations.
- 3.2 A best practice standard for ground investigations will be issued in early March. Crossrail proposes to run a series of workshops to communicate the work undertaken to date and to develop further the best practice standard and ultimately implement it as a TfL/DfT guide for safe ground-works investigation.
- 3.3 The specific initiatives implemented by Crossrail have included:
- (a) High standard of welfare in accordance with CDM 2007;
  - (b) Permission to mobilise form ensuring:
    - (i) issue of F10 (CDM form for notifiable projects);
    - (ii) issue of PCIP (Pre Construction Information Pack);
    - (iii) approval of construction phase plan; and
    - (iv) approval of environmental management plan.
  - (c) Permission to commence site works ensuring appropriate set up of compound and provision of welfare facilities;

- (d) Permit to dig system for:
  - (i) Inspection pitting; and
  - (ii) Extended to include trial trenches with inspection at start of each shift.
- (e) Working at height:
  - (i) Measures to eliminate rig climbing through modification of both drill rig and working practices; and
  - (ii) Introduction of Interim Permit to climb.
- (f) Borehole specific information packs held by the driller at the borehole site including:
  - (i) Risk Assessments;
  - (ii) Method Statements;
  - (iii) Utility information;
  - (iv) Un-exploded Ordnance (UXO) Risk Assessment information;
  - (v) Permit to dig; and
  - (vi) Licences and access requirements.
- (g) Mandatory safety briefings held daily and prior to individual borehole commencement.

#### **4 RECOMMENDATION**

- 4.1 The Committee is asked to NOTE the report and support the involvement of appropriate TfL modes in sharing experiences on groundwork investigations.

#### **5 CONTACT**

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