

### 2.1.2 Excavation

An archaeological excavation as defined by the Institute for Archaeologists (IFA, 2008c) will:

*examine and record the archaeological resource within a specified area using appropriate methods and practices. These will satisfy the stated aims of the project, and comply with the Code of Conduct, Code of approved practice for the regulation of contractual arrangements in field archaeology, and other relevant by-laws of the IFA. It will result in one or more published accounts and an ordered, accessible archive.*

Excavation is:

*a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the project design.*

- Evidence for mid-19th century site preparation and levelling work associated with the earliest stage of the Goods Yard development;
- Evidence for below-ground remains associated with structures and features shown on historic maps of the goods yard, such as railway sidings and office buildings

## 2.2 Site specific objectives and research questions

This statement sets out the methods used and approaches taken in dealing with the archaeological resource of the site. The detailed methodology is set in the context of the methods and approaches which are considered most appropriate for an Archaeological Watching Brief on sites in Greater London, in accordance with the advice contained in the English Heritage (GLAAS), *Archaeological Guidance Papers 1-5* (revised 1998) and English Heritage Centre for Archaeology *Guidelines* where appropriate.

All research is undertaken within the priorities established in the Museum of London's *A research framework for London Archaeology*, 2002

Any data obtained during the proposed engineering/groundworks will be interpreted alongside other information obtained elsewhere in the northern part of the KXC site to provide a holistic picture of archaeological conditions across the development site.

The archaeological brief seeks to establish where, if at all, archaeological deposits may survive (presence/absence), recording where necessary, and to ensure that the proposed groundworks do not involve the destruction of any archaeological deposits of national significance. In addition, the brief can be used to clarify a number of more general research questions, specifically:

- The level of natural topography;
- Evidence of activity pre-dating the first phase of industrial development in this part of the site and the earliest deposits identified;

### 3 Watching brief methodology

#### 3.1 General site methodology

- 3.1.1 Properly arranged, a watching brief will cause minimal disruption to site works and will take place within agreed constraints. Watching briefs are not recommended in circumstances where important or complex archaeological remains are liable to be discovered, resulting in a risk of conflict between the need to record archaeological finds and the need to allow building works to proceed.
- 3.1.2 Initial location and breaking-out of areas to be monitored in the watching brief will be monitored by MOLA staff.
- 3.1.3 In areas of archaeological interest the excavation and removal of deposits will proceed according to the reasonable advice and guidance given by the attending archaeologist.
- 3.1.4 Archaeologists will be allowed reasonable access in relevant areas of groundworks, so that deposits can be examined and recorded.
- 3.1.5 Trenches may require temporary shoring and groundworks might need to be temporarily re-scheduled in order to provide a safe environment for archaeological recording.
- 3.1.6 Provision will be made, at the earliest stage of development programming, for specified blocks of time to be made available for unrestricted archaeological access to areas of groundworks.
- 3.1.7 In addition to the excavation of man-made deposits, some assessment of any exposed 'naturally deposited' levels will be necessary, especially if these are organically preserved and laid down within archaeological timescales; for example alluvial deposits.
- 3.1.8 If deep cut features are found, such as pits and wells, they may need to be excavated to a greater depth than anticipated in the construction works, provided this is consistent with site safety.
- 3.1.9 Any finds of human remains will be left *in situ*, covered and protected. If removal is essential it can only take place under appropriate Faculty jurisdiction, Ministry of Justice (Coroner's Division) licence, environmental health regulations, coroner's permission, and if appropriate, in compliance with the Disused Burial Grounds (Amendment) Act 1981 or other local Act.. Prior written notice will also be given to the local planning authority. It will be necessary to ensure that adequate security is provided.
- 3.1.10 Where archaeological remains are to be preserved *in situ* they will be adequately protected from deterioration. Normally this involves covering or wrapping the deposits and features in a geo-textile such as Terram and sealing this with a layer of sand or other suitable soft materials.

- 3.1.11 All finds of gold and silver, or other objects definable as 'treasure', will be removed to a safe place and reported to the local Coroner according to the procedures of the Treasure Act 1996 and the Treasure (Designation) Order 2002. Where removal cannot be effected on the same working day as the discovery suitable security measures will be taken to protect the finds from theft.
- 3.1.12 The contractors will inform MOLA at least one week in advance of the start of the proposed groundworks.
- 3.1.13 A MOLA Site Supervisor will monitor the work and record any archaeological remains revealed in the appropriate manner (plans, sections, field notes and/or pro-forma 'context sheets'). Observations will be transformed onto the Ordnance Survey National Grid Projection and heights measured in metres above Ordnance Datum, by direct measurement from verified Ordnance Survey control points. Any necessary photographic records will be made using digital or conventional media as deemed appropriate. All recording will be carried out to the format and standards detailed in the *Archaeological Site Manual* (MoLAS, 1994).
- 3.1.14 If significant archaeological deposits survive in any area of the proposed groundworks, the contractors will allow the MOLA archaeologist(s) to record deposits as required.
- 3.1.15 On completion of the fieldwork a *Watching Brief Report* will be written. Where appropriate, the report will include specialist reports from, for example, Environmental and Finds team members. A short summary of the results of the work will be submitted to the Greater London SMR and NMR (using the appropriate OASIS archaeological report form) and for publication in the appropriate academic journal. It may only be necessary, in fact, for the excavation to be reported in the 'Excavation Round-up' of the *London Archaeologist*. Such summary publication will meet the "minimum standards" set out in Appendix 7 of English Heritage's document *The Management of Archaeological Projects* (1991) and derive from a "phase 2 review" as defined therein.

#### 3.2 Site-specific methodology

- 3.2.1 There will be four principal components of the watching brief:

- Watching brief during initial ground reduction
- Watching brief during probing for the sheet piles
- Watching brief during construction of the ring beam
- Watching brief during landscaping to final levels

##### ***Watching Brief during ground reduction and ring beam construction***

- 3.2.2 A watching brief will be maintained during initial ground reduction and excavations associated with the ring beam construction.

- 3.2.3** If significant archaeological remains are encountered during the excavation works, these will be exposed as far as is practicable within the area of the groundworks. A team of MOLA archaeologists will be mobilised to clean the area using appropriate hand tools and the remains will be excavated and recorded.
- 3.2.4** Where necessary, a local grid or baselines will be set up and tied into the Ordnance Survey by the MOLA Geomatics team.
- 3.2.5** Further investigation of archaeological levels will be carried out by hand unless the use of machines is specifically requested by MOLA. Manual recording in the form of measured plans, sections and record sheets will be undertaken.
- 3.2.6** In areas of archaeological interest, the excavation and removal of deposits will proceed according to the reasonable advice and guidance of the attending archaeologist who will be allowed time and access to record archaeological remains when reasonable and safe to do so.
- 3.2.7** Any temporary works associated with the excavation and recording activity will be supplied by the Principal Contractor. This includes safety guard rails, access equipment, lighting, duckboards and any shoring/battering required within the excavation areas to provide a safe environment for archaeological work.

#### ***Watching brief during probing for sheet piles***

- 3.2.8** Archaeological monitoring of pile probing is unlikely to provide the same quality of archaeological results as the watching brief during ground reduction, ring beam construction and landscaping. However, useful archaeological results can be recovered during such works.
- 3.2.9** The monitoring archaeologist will maintain a safe distance from any operating machinery but will be allowed reasonable access to the relevant areas of groundworks, including any excavated material to allow the examination and recording of any significant structures or deposits of interest.

#### ***Watching brief during landscaping to final levels***

- 3.2.10** It has not yet been confirmed whether this will be undertaken as part of this package of works. However, it is noted that the archaeological potential will be limited to any excavations extending below 24.5m OD, ie the reduction of external levels in the south-western part of the site. The watching brief methodology will be the same as that for the initial ground reduction and ring beam construction.

## **4 General methodology**

### **4.1 Recording systems**

A unique-number site code will be agreed with the Museum of London Archaeological Resource Centre.

The recording systems adopted during the investigations will be fully compatible with those most widely used elsewhere in London, and those required by the Archive Receiving Body, the Museum of London.

The site archive will be so organised as to be compatible with other archaeological archives produced in the Museum of London. It will follow the Museum of London, *General Standards for the preparation of archaeological archives deposited with the Museum of London*, (2009). This requirement for archival compatibility extends to the use of computerised databases.

A 'site plan', based on the Ordnance Survey 1:1250 map (reproduced with the permission of the Controller of HMSO), will be prepared.

Plans and sections will be drawn on polyester based drawing film at a scale of 1:10 or 1:20. 'Single context planning' is preferred on deeply stratified sites.

### **4.2 Survey (Geomatics)**

MOLA Surveying Standards: Standards of *precision* and accuracy are derived from the accepted standards of accuracy as used by chartered surveyors and defined by the Royal Institution of Chartered Surveyors. The implementation and maintenance of survey standards within MOLA is the responsibility of the Geomatics Manager and the Geomatics team. MOLA Geomatics is responsible for the capture and processing of all survey data, both on and off-site.

Establishment and maintenance of Grids: Planned archaeological data will be recorded with reference to a horizontal MOLA site grid or to baselines, and a vertical temporary Ordnance Datum OD point, implemented and maintained by the Geomatics team. The Site Supervisor(s) will be responsible for relating all planned records to these.

Tying in to National Grid: Sites where significant archaeological remains are uncovered will be tied in to the Ordnance Survey National Grid (OSGB36) by GPS or by establishing or tying-in to existing OS control networks. Tying site grids to features identified on OS mapping will only be used for sites without significant archaeological remains and where no qualitatively preferable survey solution is possible.

Survey Data: collection to archive: Survey data is collected using total stations and differential GPS receivers. Survey data is processed using the following software: LGO, SCC, SDRMap, TGO, GeoSite, AutoCAD, ArcGIS and Oracle.



### 4.3 Photographic records

The overall site record will include photographs made using, as appropriate, high end digital, 35mm, medium and large format cameras. The photographic record will illustrate all significant phases, structures, important stratigraphic and structural relationships, and individual items of interest, including artefacts.

All site photographs, except 'working shots', will include a photographic scale of appropriate size.

When film is used, originals will be archivally processed and stored, contact prints will be produced and mounted on contact cards. Cards will be returned to the site supervisors for annotation during the excavation programme. Colour transparencies will be mounted and stored in archival conditions.

A computerised index will be compiled, relating image number, site photograph number, context numbers, excavation area, and other relevant information.

At the request of the client a file of site photographs may be produced and copied digitally to DVD or similar for them.

### 4.4 Treatment of finds and samples

It is unlikely that there will be many finds or samples removed from the site. Treatment, analysis and subsequent handling of all finds and samples will be carried out by MOLA Specialists.

Where necessary, the strategy for sampling archaeological and environmental deposits and structures (which can include soils, timbers, animal bone and human burials) will be developed by MOLA in accordance with English Heritage and IFA guidelines. Advice will be sought from the LPA Archaeological Advisor and the Regional Archaeological Science Advisor throughout the project, as appropriate. Subsequent on-site work and analysis of the processed samples and remains will be undertaken by MOLA Specialists.

Any organic samples will be subject to appropriate specialist analysis. There may be a requirement to submit timbers to dendrochronological analysis and to process some samples to provide C14 dating. Other forms of specialist analysis may also be appropriate.

The finds retrieval policies of the Museum of London will be adopted. All identified finds and artefacts will be retained, although certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained. No finds will, however, be discarded without the prior approval of the curatorial departments of the Museum of London.

All finds and samples will be treated in a proper manner and to standards agreed in advance with the Museum of London. They will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in the United Kingdom Institute for *Conservation's Conservation Guidelines No. 2* and the Museum of London's *Standards for the Preparation of Finds to be permanently retained by the Museum of London*. Metal objects will be x-rayed and appropriate objects then selected for conservation.

The programme of ceramic dating and analysis will be undertaken by MOLA Specialists.

Before commencing site works, MOLA will confirm in writing to the Local Authority that arrangements are in hand to cover all necessary processing, conservation and specialist analysis and storage of finds and samples.

### 4.5 Ownership of finds

Whereas ownership of any finds on the site lies with the landowner, it is necessary that the landowner gives the necessary approvals, licences and permissions to donate the finds to the Museum of London, to enable that body to carry out its obligations to curate the finds, in perpetuity, as part of the archaeological Archive from this site.

These approvals, licences and permissions shall be *either* confirmed in the Agreement and Contract regulating the archaeological works and/or confirmed by the completion of the relevant Deed of Transfer form (draft appended).

The client (or their agent) will make arrangements for the signing of the Deed of Transfer Form by the client or, if the landowner is different to the client, by the landowner.

Notwithstanding the above, subsequent arrangements may be made if required between the landowner and/or the client and the Museum for the conservation, display, provision of access to or loan of selected finds in or near their original location.

### 4.6 Reports and archives

The integrity of the site archive will be maintained. All finds and records will properly be curated by a single organisation, and be available for public consultation. The finds from excavations provide an immensely valuable research archive, but the bulk of the material is of little or no financial worth.

Appropriate guidance set out in the Museums and Galleries Commission's *Standards in the Museum Care of Archaeological Collections* (1992), and the Society of Museum Archaeologists' draft *Selection, Retention and Dispersal of Archaeological Collections* (1992), will be followed in all circumstances.

The minimum acceptable standard for the site archive is defined in the *Management of Archaeological Projects* (1991) Section 5.4 and Appendix 3, and discussed in detail in the Museum of London, *General Standards for the preparation of archaeological archives deposited with the Museum of London*, (2009). The archive will include all materials recovered (or the comprehensive record of such materials as referred to above) and all written, drawn and photographic records relating directly to the investigations undertaken. It will be quantified, ordered, indexed and internally consistent before transfer to the Museum. It will also contain a site matrix (if generated), a site summary and brief written observations on the artefactual and environmental data. Copyright of the written archive will be vested in the Museum.

The Museum of London's guidance on the needs of digital storage and archival compatibility will be sought and followed. United Kingdom Institute for Conservation *Guidelines for the preparation of excavation archives for long term storage* (1990), and the Museum of London, *General Standards for the preparation of archaeological archives deposited with the Museum of London*, (2009) will be followed.

Pursuant to these agreements the archive will be presented to the archive officer or relevant curator of the Museum within 12 months of the completion of fieldwork (unless alternative arrangements have been agreed in writing with the local planning authority).

After the completion of the fieldwork a period of off site analysis of the records and photographs will be undertaken, along with a programme of documentary archive research to an appropriate level. The findings from the fieldwork and the archive research will be given in detail in the subsequent report, to be issued eight weeks after the completion of the site work, which will then be issued to the client.

A short summary of the results of the work will be submitted to the Greater London SMR and NAR (using the appropriate archaeological report forms), and for publication in the 'Excavation Round-up' of the London Archaeologist.

It is possible that there will be a requirement by the Local Planning Authority's designated representative/advisor that the results of the survey are to be made available to the academic world in two ways.

First, by means of basic database completion; MOL Archaeology stores details of all sites it excavates in a digital form, to permit inclusion of the site data in any future academic researches into the development of London.

Second, by means of publication in either a dedicated site-based monograph report (produced by MOL Archaeology), or in one of the relevant national or period-based archaeological journals, and/or as a site summary in the London Archaeologist, within one year (or as near as possible subject to availability of space in appropriate journal) of the completion of work on site.

It is likely that the local planning authority and / or English Heritage will require the results of this work, and the results of any analysis arising from this phase of work, to be integrated into a publication combined with other development plots at Kings Cross Central.

## 5 Timetable of works, staffing and attendances

### 5.1 Timetable and staffing

The timing and overall duration of the archaeological watching brief on the groundworks will be determined by the contractor's programme and the nature and extent of any surviving remains. It is envisaged that one archaeologist will monitor the groundworks, with up to three more coming in to assist with any recording work if required. Other archaeological specialists may be called in if necessary.

### 5.2 Attendances

For watching briefs, the degree of contractor attendance required by MOLA tends to be minimal as archaeologists are in fact attending the on-site works. However, some provision for welfare and working conditions will need to be anticipated. Some or all of the following attendances may be required.

- Shoring in all excavations which exceed 1.20 metres in depth, installed in accordance with Safety Regulations and maintained throughout the occupancy of the area in question.
- Safety guard-rails and suitable access points into the site and areas of excavation, away from any site traffic and machinery.
- Ladders into all areas of excavation when the excavated depth requires such access.
- If ground-water is encountered in the trenches, adequate pumps will be required to remove it in order to complete the excavations.
- A suitable security system to operate overnight, weekends and holidays.
- If necessary, an appropriate number of tungsten halogen lamps (500W minimum) with 110-volt transformer, adequate cabling, and power supply.
- Labourers to assist in the removal of spoil from deeper areas of excavation.

## 6 Funding

The resources required by MOLA to undertake the archaeological works will be agreed following confirmation of the construction design, methodology and programme.

## 7 Welfare, Health & Safety Method Statement

A Welfare, Health & Safety Method Statement has been prepared by MOLA to accompany this Written Scheme of Investigation but will be printed out and supplied separately as appropriate.

## 8 Bibliography

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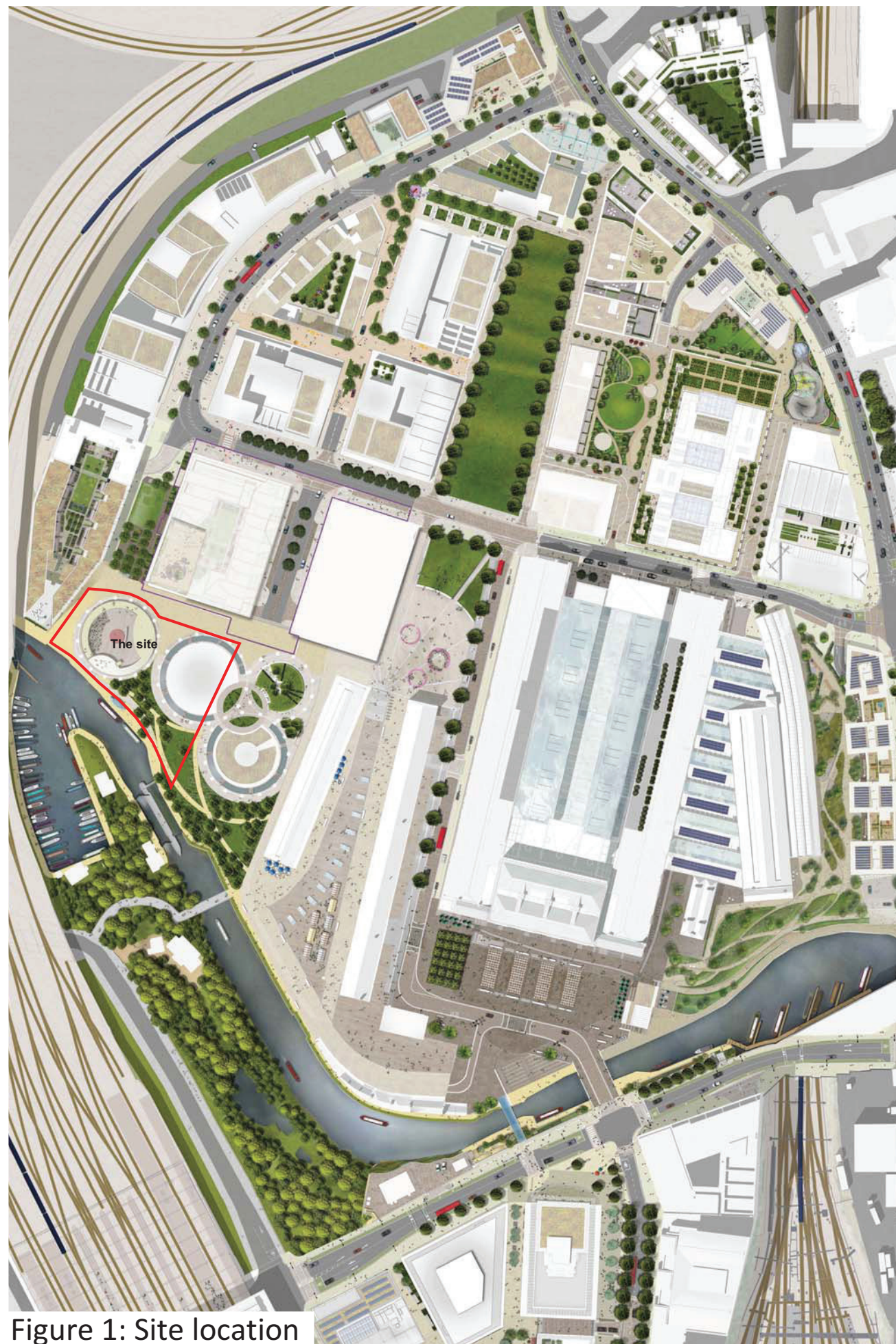


Figure 1: Site location

