



C123 – Intermediate Shafts

Addendum to SSWSI: Trial Trench Evaluation and Detailed Excavation – Stepney Green Shaft

Document Number: C123-JUL-T1-RGN-CR094_SH005_Z_00001

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1 Introduction

This document provides details of the programme of archaeological investigation required to evaluate and mitigate the impact of the construction of the Stepney Green Shaft on heritage assets, primarily archaeological remains. It sets out the location and recording activities required at the Stepney Green Shaft worksite prior to the main works phase.

The document is an addendum to the Stepney Green Shaft Site Specific Written Scheme of Investigation (C123-JUL-T1-TPL-CR094_SH005_Z-00001 Revision 7) and should be read in conjunction with that document. It outlines the roles of the Main Contractor (C252) and the Archaeological Contractor (C261).

2 Scope of works

2.1 Aims of the proposed investigations

The overall aim is to identify the extent and survival of archaeological remains that would be removed by excavation of the shaft and to mitigate the impact of the construction works. Archaeological remains identified within the site footprint include Roman pottery and glass, and the remains of the 16th century Worcester House. The aims will be achieved through a programme of archaeological evaluation by trial trenching followed by archaeological excavation. The proposed trench locations are shown on Figure 1 (C123-JUL-T1-DDL-CR094_SH005-00060 rev. P05.1). The approximate location of Worcester House overlaying Rocque's 1746 map and the 1870 OS data is included on Figure 2 (C123-JUL-T1-DDL-CR094_SH005-00061 P05.1) and Figure 3 (C123-JUL-T1-DDL-CR094_SH005-00062 P04.1) respectively. Figure 4 (C123-JUL-T1-DDL-CR094_SH005-00063 rev. P03.1) also shows the location of monitoring wells that are in use.

2.2 Site Specific Aims and Objectives

The general aims of the archaeological investigations at Stepney Green are:

1. To gain an understanding of the development of the landscape from prehistory to the medieval period.
2. To gain an understanding of the development of Worcester House and the later buildings that incorporated the structure.

The objectives of the investigations are:

1. Identify the presence or absence of Roman activity within the scheme footprint by trial trench evaluation. This should also identify if archaeological remains of Worcester House or later buildings survive.
2. Mitigate by archaeological excavation the impact of the scheme.
3. Identify archaeological remains that can be preserved in-situ where possible.

There may be a requirement for watching brief during construction, however, this is dependant on the results of the above archaeological investigations.

The site specific aims of the archaeological mitigation will be informed by the results of the trial trenching evaluation.

3 Specific Requirements for the Main Contractor (C252) – Trial Trenching

3.1 Archaeological Trial Trench Evaluation

Nine trial trenches are required to evaluate the presence or absence of archaeological remains within the upper 2 to 3m depth below ground level (BGL) of the site of the Stepney Green Shaft. The trenches will measure 20m in length and will be up to 6m in width dependant on the requirement to step the trenches (C123-JUL-T1-DDL-CR094_SH005-00060).

Trial trench evaluation is defined in the Generic WSI (CR-PN-LWS-EN-SY-00001) as *'targeted or sample-based mechanical or hand excavated trial trench based investigation used to record the character and/or extent of known or potential archaeological remains identified through desk based assessment.'*

The Main Contractor (C252) will excavate the nine trial trenches using a mechanical excavator fitted with a toothless ditching bucket. If solid surfaces, e.g. tarmac or concrete, are identified they will be removed using suitable machinery or hand tools that would not disturb the standing buildings on the site; specifically the Congregational Chapel and Baptist Chapel. The machine will be under constant archaeological supervision by the Archaeological Contractor (C261).

3.1.1 Archaeological Trial Trench Procedure

The Main Contractor (C252) will ensure the following:

- That there are no live underground services within the trench footprint;
- That all excavated material is stored in spoil heaps at a safe distance from the trenches;
- Provide earthworks support if the sides of the trenches are considered to be unstable and are therefore unsafe if access to the trenches is required;
- Determine the requirement to step the trenches;
- Provide Heras mesh fencing (or a similar product) around the working area, including suitable edge protection where necessary;
- Allow for localised machine excavation within the trial trenches to remove material after having been recorded by C261. The estimated depth of the trenches is 2 to 3m (BGL) dependant on the archaeological remains identified within the trenches;
- All excavation using mechanical excavators or other types of plant will be undertaken in agreement and under the constant supervision of a C261 Archaeologist;
- Provision of the following services:
 - Welfare
 - Plant
 - Equipment to dewater trenches if required.
- Provision of safe access and egress for archaeological personnel into the working area;
- Allow for two archaeologists per trench at any one time (six in total on site);
- Allow for occasional visits by a photographer;
- Provision of further technical advice to C261 as may be required to safely complete the works;
- Undertake temporary reinstatement of the trenches on receipt of approval by PDP.

3.1.2 Site Accommodation and Facilities

The Main Contractor (C252) shall provide the following site accommodation facilities for the use of archaeological personnel, inclusive of hardstanding and services required:

- Site accommodation with suitable furniture and provision of drying areas for work clothing and secure storage;
- Toilets with washing and drying facilities;
- Temporary office facilities for use by C261 (one archaeologist) complete with suitable furniture and provision of drying areas for work clothing;
- First Aid facilities and fire stations.

3.2 Trench data

The following setting out details are proposed for the trial trenches (all co-ordinates are in relation to the project grid):

| Trench no. | East/north point | West/south point | Length | Depth (BGL) |
|------------|------------------------------|-----------------------------|--------|-------------|
| 1 | E:886167.052 N: 36301.586 | E:86156.927 N:36314.832 | 17m | 2-3m |
| 2 | E:86171.208 N:36294.419 | E: 86164.015 N:36279.954 | 15m | 2-3m |
| 3 | E:86137.598 N:36299.829 | E:86136.200 N:36283.734 | 15m | 2-3m |
| 4 | E:86117.064 N:36303.795 | E:86104.309 N:36287.382 | 20m | 2-3m |
| 5 | E:86118.759 N:36291.934 | E:86117.128 N:36271.023 | 20m | 2-3m |
| 6 | E:86101.855 N:36254.091 | E:86099.149 N:36234.279 | 20m | 2-3m |
| 7 | E:86177.933 N: 36249.099 | E:86129.110 N:36245.839 | 15m | 2-3m |
| 8 | E:86143.762 N:36234.743 | E:86149.856 N:36214.558 | 20m | 2-3m |
| 9 | E:86153.739 N:36200.233 | E:86138.282 N:36195.535 | 15m | 2-3m |

All points are taken from the end of each trench. The setting out of the trenches will be undertaken by C261. The width of the trench is dependant on the stability of the material; initially they will be 2m wide, but if stepped could measure 6m in width, see Drawing C123-JUL-T1-DDL-CR094_SH005-00060.

4 Specific Requirements for the Main Contractor (C252) – Excavation

4.1 Archaeological Excavation

Archaeological excavation is defined in the Generic WSI (CR-PN-LWS-EN-SY-00001) as ‘*the process of exposure, recording and recovery of archaeological remains. This may be targeted at specific locations or a sample range of locations (e.g. specific investigation trenches)*’.

An assessment of the results of the archaeological trial trenching will inform the requirement for archaeological mitigation excavations. If archaeological excavation is required it will be undertaken shortly after completion of the trial trenching, with completion before the C305 work begins.

The Main Contractor (C252) will undertake mechanical excavation of the material within a defined area based on the results of the evaluation.

The overburden (topsoil) will be removed by mechanical excavator by C252. The mechanical excavator will be fitted with a toothless ditching bucket. All excavation will be done under constant supervision by the Archaeological Contractor (C261). Following removal of this material any identified archaeological deposits will be recorded and sampled by C261. Archaeological excavation will be undertaken by C261 using hand tools.

4.1.1 Archaeological Excavation Procedure

The Main Contractor (C252) will ensure the following:

- That there are no live underground services within the excavation footprint;
- That all excavated material is stored in spoil heaps at a safe distance from the excavation area;
- Provide earthworks support if the sides of the trenches are considered to be unstable and are therefore unsafe if access to the trenches is required;
- Provide Heras mesh fencing (or a similar product) around the excavation area, including suitable edge protection where necessary;
- Allow for localised machine excavation within the excavation area to remove material after having been recorded by C261;
- All excavation using mechanical excavators or other types of plant will be undertaken in agreement with and under the supervision of a C261 Archaeologist;
- Provision of the following services:
 - Welfare
 - Plant
 - Equipment to dewater if required.
- Provision of safe access and egress for archaeological personnel into the working area;
- Allow for a team of up to 20 archaeologists at any one time within the excavation area;
- Allow for occasional visits by photographer; and
- Provision of further technical advice to C261 as may be required to safely complete the works.



Safety, Health and Environmental information is provided on Drawing C123-JUL-T1-DDL-CR094_SH005-00060. The Main Contractor (C252) will hold a DCDM Risk Register for the main works.

5 Instructions to Archaeological Contractor (C261) and Specification

5.1 Archaeological Evaluation and Excavation

It is proposed that a programme of archaeological investigation comprising evaluation by trial trenching and potentially excavation be undertaken at the site of Stepney Green Shaft. Further details on the requirements of the Archaeological Contractor are to be found in Stepney Green Shaft Site Specific Written Scheme of Investigation (C123-JUL-T1-TPL-CR094_SH005_Z-00001 Revision 7). The design for any detailed excavation, or preservation in-situ, will be produced by C123 and issued as an addendum SSWSI.

The Archaeological Contractor shall:

- Provide a team of suitably qualified and experienced archaeologists to cover the range of archaeological investigation to be undertaken;
- Provide a method statement, risk assessment and safe method of working for carrying out the works;
- During trial trenching and excavation all archaeological features will be hand cleaned and defined to allow determination of their plan form, type, function, phasing and relationship with any other archaeological features. Each feature will be recorded as defined in the Stepney Green Shaft Site Specific Written Scheme of Investigation (C123-JUL-T1-TPL-CR094_SH005_Z-00001 Revision 7).

Safety, Health and Environmental information is provided on Drawing C123-JUL-T1-DDL-CR094_SH005-00060. The Main Contractor (C252) will hold a DCDM Risk Register for the main works.

5.2 Deliverables

Within seven calendar days of completion of a fieldwork event the Archaeological Contractor (C261) will submit an Interim Statement to the Project Archaeologist.

Further deliverables with respect to trial trenching and excavation are presented in Stepney Green Shaft Site Specific Written Scheme of Investigation (C123-JUL-T1-TPL-CR094_SH005_Z-00001 Revision 7).

5.3 Site Archives

The site archive shall be organised to be compatible with other archaeological archives in London as described in Section 8.2 in the Stepney Green Shaft Site Specific Written Scheme of Investigation (C123-JUL-T1-TPL-CR094_SH005_Z-00001 Revision 7).

5.4 Post-excavation

The requirements of the post-excavation programme are presented in CRL/Crossrail Archaeological Contract and Stepney Green Shaft Site Specific Written Scheme of Investigation (C123-JUL-T1-TPL-CR094_SH005_Z-00001 Revision 7).

6 Provisional timetable

The following provisional timetable has been developed to provide an indication of the timeframes required to undertake the work set out above:

| Activity | Responsibility | Construction Phase |
|--|----------------------------------|---|
| Excavation of nine trial trenches (estimated time period is 4 weeks) | Main Contractor (C252) | Enabling works – November 2010 |
| Interim Statement | Archaeological Contractor (C261) | Enabling works – November/December 2010 |
| Undertake excavation (allows a 4 week window) | Main Contractor (C252) | Enabling works – December 2010 |



Appendix A – Archaeological Mapping Information

| Drawing title | Drawing number | Revision |
|--|-----------------------------------|----------|
| Archaeology Trench Plan Figure 1 | C123-JUL-T1-DDL-CR094_SH005-00060 | P05.1 |
| Trenches located over buildings on Rocque's 1746 map and extrapolated extent of Worcester House Figure 2 | C123-JUL-T1-DDL-CR094_SH005-00061 | P05.1 |
| Archaeology trench overlying OS map (1870) Figure 3 | C123-JUL-T1-DDL-CR094_SH005-00062 | P04.1 |
| Trench locations and Ground Water Monitoring Locations Figure 4 | C123-JUL-T1-DDL-CR094_SH005-00063 | P03.1 |

Safety, Health and Environmental Information
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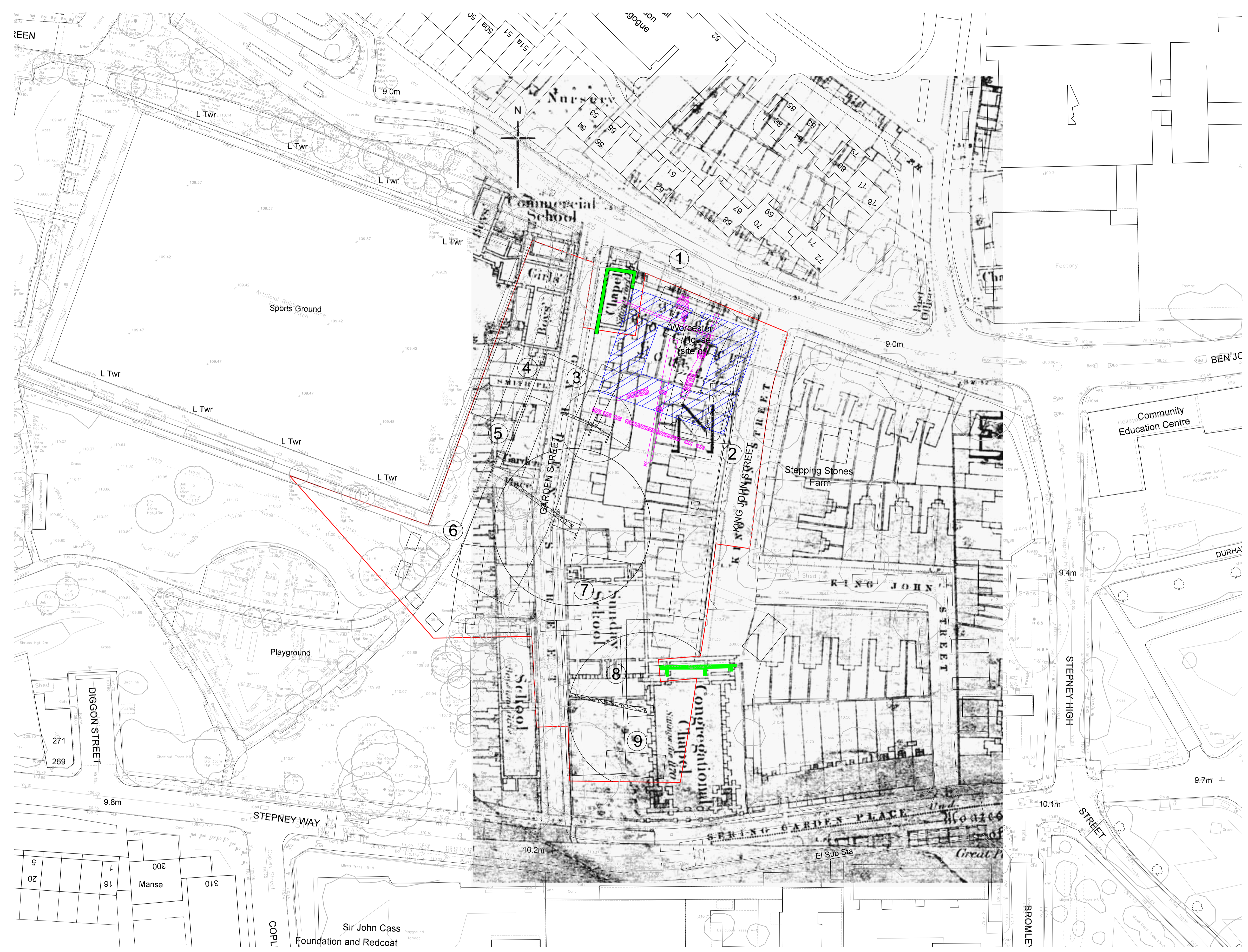
Construction
 Ci. Available data on contaminated land is limited & may not be reliable. Contaminated land report to be consulted on issue.
 Cii. Available data on buried services is limited and may not be reliable. Surveys prior to excavation have been instructed under the contract
 Ciii. Take precautions against possible voids from abandoned basements
 Civ. Take precautions against risk of UXO in excavations

Operations
 Oi. N/A

Maintenance
 Mi. N/A

Dismantling/Demolition (Future)
 Di. N/A

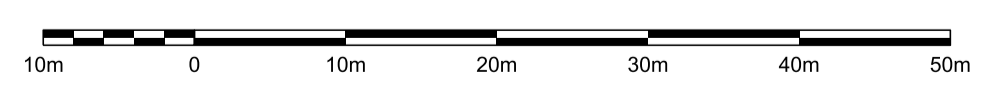
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- Notes**
1. This drawing to be used in conjunction with information contained in the following report: Addendum to SWSI: Trial Trench Evaluation and Detailed Excavation Stepney Green Shaft (Document Reference: C123-JUL-T1-RGN-CR094_SH005_Z_00001)
 2. Refer to drawing number C123-JUL-T1-DDL-CR094_SH005-00060 for size and setting out of trenches.
 3. Dimensions are in millimeters unless noted otherwise.
 4. Dimensions should not be scaled from this drawing.
 5. The coordinate system relates to London Survey Grid.

Key

- Boundary
- Extant Wall
- Scheme design
- Proposed Trial Trench Location
- ① Trench Number
- Approximate location of Worcester House
- DGLA trenches dug in 1985. Cross hatch indicates structural elements found in 1985 trenches



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 25 Canada Square
 Canary Wharf
 London
 E14 5LQ

Contract: Intermediate Shaft Design
 Originator: Jacobs UK Limited
 Location: Stepney Green Shaft
 Title: Archaeology Trench Overlaying OS Map (1870) Figure 3

By: P.MARCHANT
 CHK: R.SMART
 App: R.ANDREWS
 Auth: ...

Scale: 1:500@A1
 Drawing and CAD file No: C123-JUL-T1-DDL-CR094_SH005-00062
 Rev: P04
 Suitability: S4

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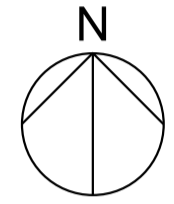
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Operations
 Oi. N/A.

Maintenance
 Mi. N/A

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 Di. N/A

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| | Proposed Trial Trench Location |
| | Trench Number |
| | Approximate location of Worcester House |
| | DGLA trenches dug in 1985. Cross hatch indicates structural elements found in 1985 trenches |

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| P01 | 06/08/2010 | Issued for IDR | TE | RS | RS | |
| P02 | 16/09/2010 | Issued for Inclusion in Document No. C123-JUL-T1-RGN-CR094_SH005_Z_00001 | TE | RS | RS | |
| P03 | 16/09/2010 | Issued for Inclusion in Document No. C123-JUL-T1-RGN-CR094_SH005_Z_00001 | TE | RS | RS | |
| P04 | 24/09/2010 | Trench Locations Revised | PM | RS | RA | |
| P05 | 03/11/2010 | Trench Size and Locations revised | PM | RS | RA | |

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Contract: Intermediate Shaft Design
 Originator: Jacobs UK Limited
 Location: Stepney Green Shaft

By: P.MERCHANT
 Chk: R.SMART
 App: R.ANDREWS
 Auth: ...

Scale: NTS@ A1
 Drawing and CAD file No: C123-JUL-T1-DDL-CR094_SH005-00061
 Rev: P05
 Suitability: S4

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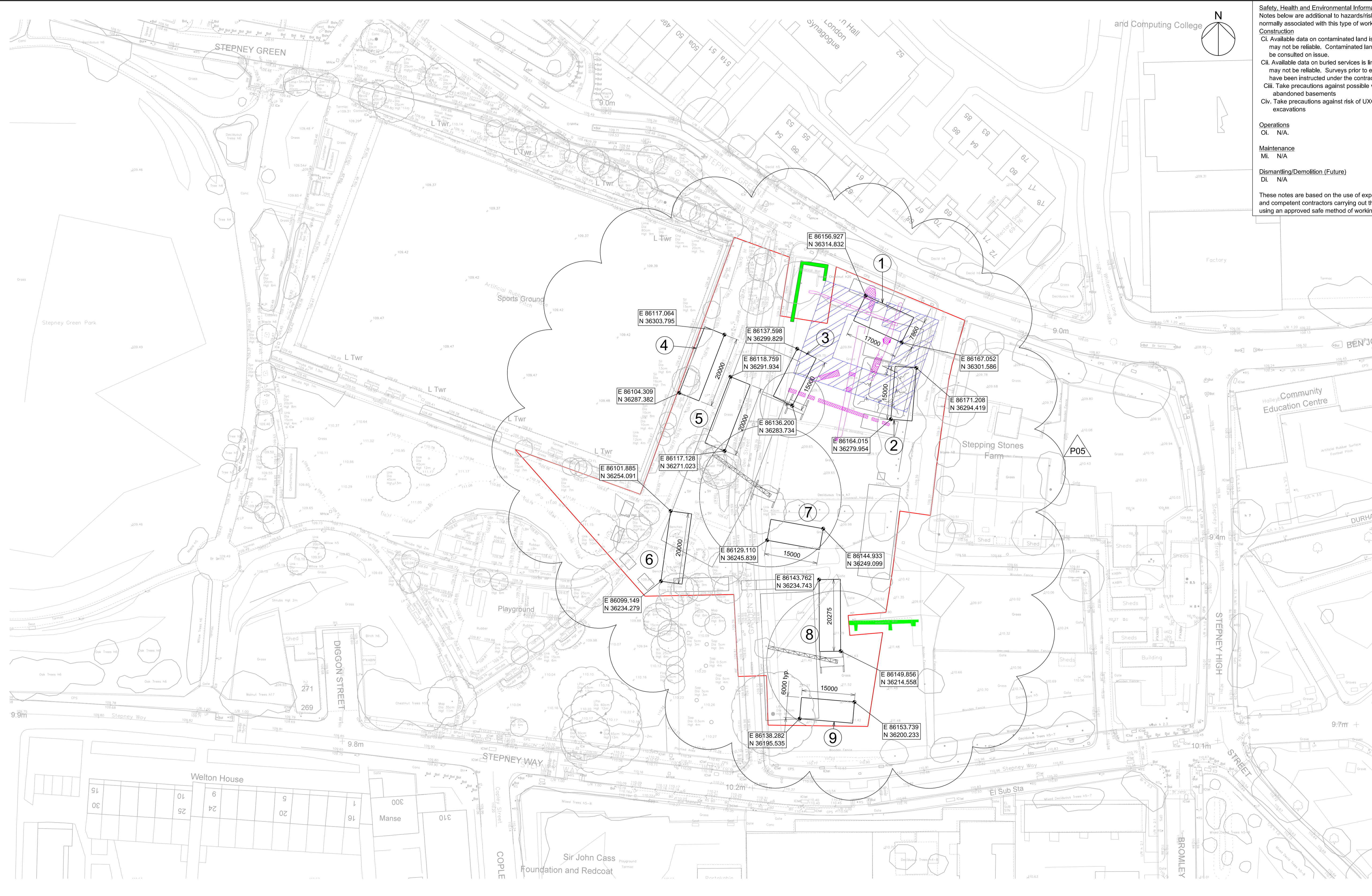
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Dismantling/Demolition (Future)
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| Rev. | Date | Description | By | Chkd | App | Auth |
|------|------------|--|----|------|-----|------|
| P01 | 06/08/2010 | First Issue | TE | RS | RS | |
| P02 | 16/09/2010 | Issued for Inclusion in Document No. C123-JUL-T1-RGN-CR094_SH005_Z_00001 | TE | RS | RS | |
| P03 | 24/09/2010 | Trench Locations Revised | PM | RS | - | |
| P04 | 28/09/2010 | Trench Locations Revised | TE | RS | RA | |
| P05 | 03/11/2010 | Trench Size and Locations Revised | PM | RS | RA | |

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 Auth: ...

Scale: 1:500 @ A1
 Drawing and CAD file No: C123-JUL-T1-DDL-CR094_SH005-00060
 Rev: P05
 Suitability: S4

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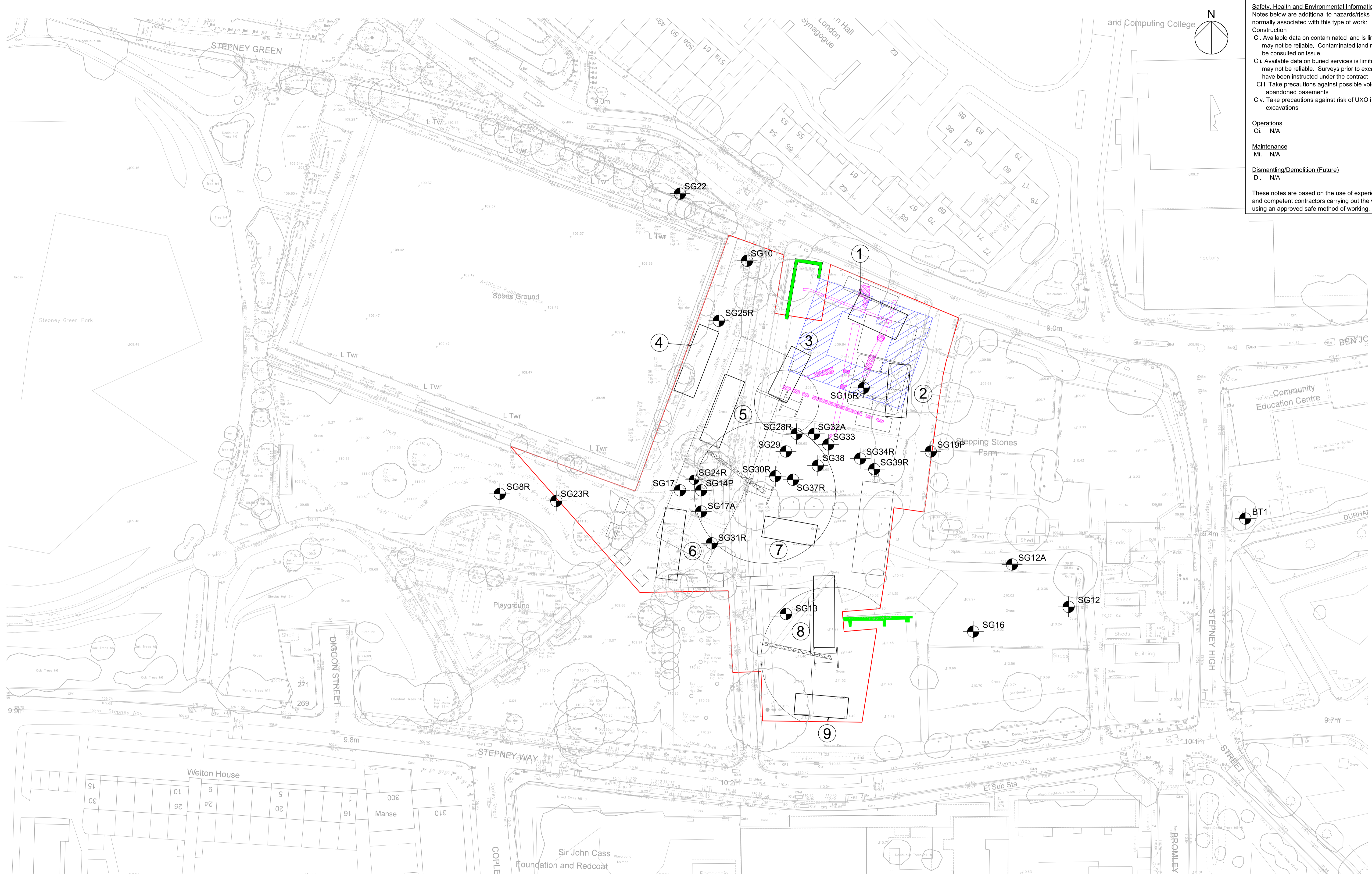
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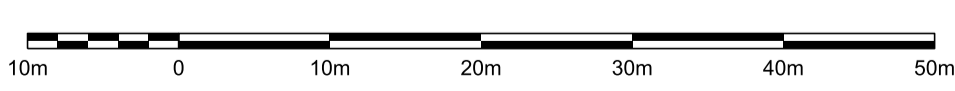


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- Proposed Trial Trench Location
- 1 Trench Number
- Approximate location of Worcester House
- DGLA trenches dug in 1985. Cross hatch indicates structural elements found in 1985 trenches
- Monitoring Well Location



Copy Approved for Design - Created: 03-NOV-2010

| Rev. | Date | Description | By | Chkd | App | Auth |
|------|------------|-----------------------------------|----|------|-----|------|
| P01 | 24/09/2010 | First Issue | PM | RS | | |
| P02 | 28/09/2010 | First Issue | TE | RS | RA | |
| P03 | 03/11/2010 | Trench Size and Locations revised | PM | RS | RA | |

Contract: Intermediate Shaft Design
 Originator: Jacobs UK Limited
 Location: Stepney Green Shaft

Crossrail Limited
 25 Canada Square
 Canary Wharf
 London
 E14 5LQ

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 www.crossrail.co.uk

Scale: 1:500 @ A1
 Drawing and CAD file No: C123-JUL-T1-DDL-CR094_SH005-00063
 Rev: P03
 Suitability: S4

By: P.MARCHANT
 Chk: R.SMART
 App: R.ANDREWS
 Auth: ...

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