Remediation & Verification Strategy

River House, Riverside Way, Uxbridge

Presented to: **Bridge Development Partners LLC**

Issued: May 2022

Delta-Simons Project No: 21-0329.02

Protecting people and planet

Report Details

Client	Bridge Development Partners LLC
Report Title	Remediation & Verification Strategy
Site Address	River House, Riverside Way, Uxbridge, UB8 2YF
Report No.	21-0329.02_REP_Riverside Way, Uxbridge_RVS_22-05-19
Delta-Simons Contact	Tom Horner (tom.horner@deltasimons.com)

Quality Assurance

Issue No.	Status	Issue Date	Comments	Author	Technical Review	Authorised
01	**Final**	**19/05/2022**	**-**		T Horner	T Horner
				Emma Painter **Senior Consultant**	**Tom Horner** **Associate Director**	**Tom Horner** **Associate Director**

About Us

Delta-Simons is a trusted, multidisciplinary environmental consultancy, focused on delivering the best possible project outcomes for customers. Specialising in Environment, Health & Safety and Sustainability, Delta-Simons provide support and advice within the property development, asset management, corporate and industrial markets. Operating from across the UK we employ over 180 environmental professionals, bringing experience from across the private consultancy and public sector markets.

As part of Lucion Services, our combined team of 500 in the UK has a range of specialist skill sets in over 50 environmental consultancy specialisms including asbestos, hazardous materials, ecology, air and water services, geo-environmental and sustainability amongst others.

Delta-Simons is proud to be a founder member of the Inogen Environmental Alliance, enabling us to efficiently deliver customer projects worldwide by calling upon over 5000 resources in our global network of consultants, each committed to providing superior EH&S and sustainability consulting expertise to our customers. Through Inogen we can offer our Clients more consultants, with more expertise in more countries than traditional multinational consultancy.

Delta-Simons is a 'Beyond Net-Zero' company. We have set a Science-Based Target to reduce our Scope 1 and Scope 2 carbon emissions in line with the Paris Agreement and are committed to reducing Scope 3 emissions from our supply chain. Every year we offset our residual emissions by 150% through verified carbon removal projects linked to the UN Sustainable Development Goals. Our consultancy services to you are climate positive.

If you would like support in understanding your carbon footprint and playing your part in tackling the global climate crisis, please get in touch with your Delta-Simons contact above who will be happy to help.

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1.0 Introduction

1.1 Appointment

Delta-Simons Limited ("Delta-Simons") was instructed by Bridge Development Partners LLC (the "Client") to undertake the preparation of a Remediation and Verification Strategy (RVS) for River House, Riverside Way, Uxbridge, UB8 2YF (the "Site").

1.2 Context & Purpose

The purpose of this document is to

- Present a summary of remediation requirements;
- Contribute to a sustainable development "*which meets the needs of the present without compromising the ability of future generations to meet their own needs*" as advocated by, for example, GPLC2[1]
- Provide a formal statement for the likely scope of remediation requirements to facilitate the proposed development at the Site and
- Support the discharge of planning conditions relating to land contamination.

Planning Permission has been granted for re-development of the Site to a commercial / industrial end-use (London Borough of Hillingdon Council Ref. 35755/APP/2021/4136).

1.2.1 Previous Reports

For information on the Site setting and full details of intrusive investigation undertaken at the Site, this Remediation and Verification Strategy should be read in conjunction with the following previous report:

- *'Geo- Environmental Assessment'*, River House, Riverside Way, Uxbridge, UB8 2YF, (Ref. 21-0329.02), dated October 2021; and

1.3 Scope of Works

The scope of works undertaken for this assessment was to:

- Summarise the site setting and confirmed contaminant linkages;
- Establish the remediation objectives and metrics;
- Complete an initial remediation screening exercise;
- Select a preferred remediation approach; and
- Present the remediation and verification strategy.

1.4 Limitations

This document sets out the measures that will be carried out during the construction to mitigate potentially significant risks as identified by the Site investigations in the context of the proposed end-use of the Site, it does not provide a verification or completion statement for the works. The standard limitations associated with this assessment are presented in Appendix A. In addition, there are the following specific limitations that apply to this assessment:

- This document is a strategy document and more detailed documentation in terms of a Contractor's Remediation Method Statement may need to be prepared.

[1] https://assets.publishing.service.gov.uk/GPLC2

2.0 Site Context

2.1 Site Information

<table>
<tr><th colspan="4">Site Overview</th></tr>
<tr><td colspan="4"> 

Contains OS data © , Crown Copyright and Database Right (2021)

Contains Data from, © 2021 Landmark Information Group Ltd</td></tr>
<tr><td rowspan="2">Co-ordinates</td><td rowspan="2">Centred approximately at National Grid Reference 504810, 184040.</td><td>Elevation (approx.)</td><td>31 - 33 m AOD</td></tr>
<tr><td>Area</td><td>0.93 Ha</td></tr>
<tr><td>Site Address and Location</td><td colspan="3">River House, Riverside Way, Uxbridge, UB8 2YF.
The Site is located off Riverside Way, approximately 500 m south-west of Uxbridge town centre, in west London.
Google Maps Link
[Google, Imagery©2022 Bluesky, Getmapping plc, InforterraLtd & Bluesky, Maxar Technologies, The GeoInformation Group, Map data ©2022]</td></tr>
<tr><td>Site Description</td><td colspan="3">The Site currently comprises a warehouse in the central area of the Site, with two-storey office accommodation in the south and west. At the time of previous Site investigation works the Site was occupied by Starlight Design, with small areas of the building sublet to other tenants including MJF Group. External areas predominantly comprised hardstanding of asphalt or concrete in the south, east and west. Areas of soft landscaping comprising grass are present in the north and southeast of the Site.</td></tr>
<tr><td>Site History</td><td colspan="3">The Site appears to have been undeveloped land from the earliest available mapping, dated 1868. There were no significant changes on the Site until 1963, when a cricket ground was shown to occupy the Site, with a small pavilion in the north-western corner. By 1981 mapping, the current building was present in the centre of the Site and was labelled as a warehouse. Aerial mapping from 1999 shows hardstanding areas including car parking in the south and west of the Site,</td></tr>
</table>

	and storage yard areas in the north of the Site. There have been no significant changes to the Site since.
Proposed Development Description	The proposed development comprises demolition of the existing building and construction of an industrial unit with an associated service yard and staff parking areas. Areas of soft landscaping are proposed around the peripheries of the Site and to the south-east of the proposed building, the locations of which are clearly shown on Drawing 1 (attached).

2.2 Planning

Planning permission has been granted for the redevelopment of the Site for commercial / industrial end use (London Borough of Hillingdon Ref. 35755/APP/2021/4136, *'Demolition of existing buildings and the construction of a Class E(g)ii, E(g)iii, B2 and B8 use employment unit with ancillary office accommodation, including new vehicular access, associated external yard areas, HGV and car parking, servicing, external lighting, landscaping, infrastructure and associated works*).

The Decision Notice issued by the London Borough of Hillingdon (dated November 2021) imposes one condition (Condition 15) relating to assessment, remediation and verification of land contamination.

Condition 15 states:

(i) The development shall not commence until a scheme to deal with asbestos contamination has been submitted to and approved by the Local Planning Authority (LPA). All works which form part of the remediation scheme (i.e., the provision of suitable soil cover to encapsulate asbestos) shall be completed before any part of the development is occupied or brought into use unless the Local Planning Authority dispenses with any such requirement specifically and in writing. The scheme shall include the following measures unless the LPA dispenses with any such requirement specifically and in writing: (a) A written method statement providing detailed specification of the materials and final placing/s of the selected soil cover scheme, and how the completion of those remedial works will be verified, shall be agreed in writing with the LPA prior to commencement of work, along with the details of a watching brief to address undiscovered contamination. No deviation shall be made from this scheme without the express agreement of the LPA prior to its implementation.

(ii) If during remedial or development works contamination not addressed in the submitted remediation scheme is identified an addendum to the remediation scheme shall be agreed with the LPA prior to implementation.

(iii) Upon completion of the approved remedial works, this condition will not be discharged until a comprehensive verification report has been submitted to and approved by the LPA. The report shall include the details of the final remediation works and their verification to show that the works for (each phase) have been carried out in full and in accordance with the approved methodology.

(iv) No contaminated soils or other materials shall be imported to the site. All imported soils for landscaping purposes shall be clean and free of contamination. Before any part of the development is occupied, all imported soils shall be independently tested for chemical contamination, and the results of this testing shall be submitted and approved in writing by the Local Planning Authority.

2.3 Summary of Land Contamination Assessment

Delta-Simons GEA (October 2021)	The Delta-Simons 2021 intrusive investigation concluded the following: Human Health No elevated concentrations of heavy metals, PAHs or petroleum hydrocarbons were identified within the soils above their respective GAC. Asbestos fibres were detected within three samples of Made Ground. However, given that the majority of the Site is likely to be covered by a building and hardstanding, this will mitigate the risk of future Site users coming into contact with asbestos fibres within the soil. Where landscaped areas are proposed, it was recommended that a clean cover system (450 mm), underlain by a geotextile membrane, is placed in order to break the pollutant linkage. Similarly, ACM may be present within the existing building and it was recommended that an asbestos survey should be undertaken prior to the demolition of the existing structures. Controlled Waters Although marginally elevated concentrations of copper, nickel and zinc were identified within the groundwater across the Site, it was considered that the marginal exceedances do not pose a risk to controlled waters given that the Site is not located within a groundwater Source Protection Zone. Furthermore, given that no on-Site source of metal contamination has been identified, it was considered likely that the concentrations are representative of background concentrations. The risk to controlled waters was therefore considered to be very low and no further action was recommended. Ground Gas The results of the ground gas monitoring indicated that the Site could be classified as Characteristic Situation (CS) 1 – Very Low Risk. Based on this, no gas protection measures are required in the construction of new buildings at the Site. Built Environment The ground investigation was not designed to assess ground conditions in full accordance with the UKWIR guidance for water supply pipes. However, based on the general absence of petroleum hydrocarbons including hydrocarbons in the ground, the use of standard plastic infrastructure is likely to be suitable in the event that new water supply pipes are required.

2.4 Conceptual Site Model

The following linkages have been previously confirmed as being relevant to the proposed development and warranting mitigation.

Confirmed Linkages	Source Descriptions	Pathway	Receptor
Linkage 1	Asbestos in shallow Made Ground	Direct contact, ingestion, and/or inhalation of soil/dust	End Users of the Site
Linkage 2			Construction-phase operatives

3.0 Remediation Strategy

3.1 Introduction

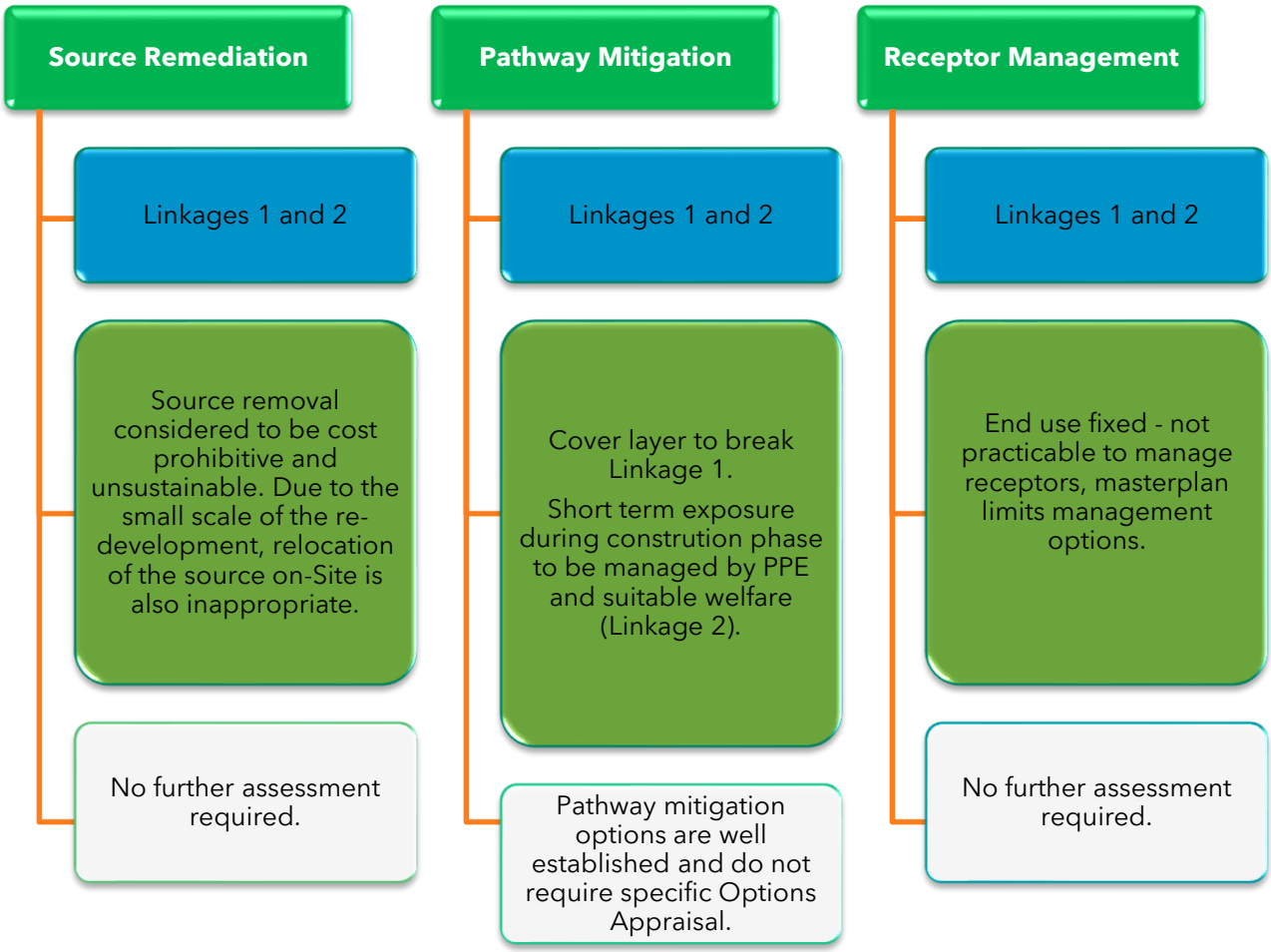
The presence of land contamination is generally only of concern if an actual or potentially unacceptable risk exists to either the health of living organisms (i.e. humans, flora, fauna), ecological systems, property and controlled waters (i.e. rivers, aquifers etc.). Planning policy states that the Site should be 'suitable for use' and that, 'after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990'.

London Borough of Hillingdon Council have recommended that development should not commence at the Site until a scheme of remediation measures has been submitted to and accepted by the LPA.

3.2 Remediation Options

Current UK guidance requires due consideration of sustainability indicators in the appraisal of remediation options. Reference has been made to LCRM and the SURF UK framework and this strategy broadly reflects the approach in those documents at the scale appropriate for the Site, scale of issues, and proposed development. Remediation options fall into one of three categories: Undertaking remediation of the contamination source; Mitigation of migration pathways; or, Receptor management.

Remediation strategies may incorporate a combination of techniques across the three categories to achieve the most effective and sustainable solution. The table below provides a high-level screen of remedial approaches to the identified linkages.



3.3 Stakeholders

Parties Anticipated to be Involved	**Function / Interest / Likely Timing of Involvement**
Bridge Development Partners LLC	Developer
Principal Contractor (TBC)	Delivery of Development Construction Environmental Management Plan (CEMP)
Geo-Environmental Consultant (Delta-Simons Limited)	Land quality risk assessment
Contaminated Land Officer (London Borough of Hillingdon Council)	Regulation relating to Land Contamination

3.4 Overview

The Site remediation strategy had been devised based on the intrusive investigation undertaken in October 2021 to mitigate the risks posed by the identified contaminants of concern and break potential contaminant linkages allowing the redevelopment of the Site for a commercial end use. The key features of the remedial strategy are summarised below:

- Provision of a clean cover system in soft landscaped areas of the Site;
- Verification of the clean cover system by an environmental consultant to confirm depth and chemical / physical suitability of the clean cover system; and
- A verification report to be produced upon completion of the remedial works to confirm that the work was undertaken in accordance with this remediation strategy, relevant legislation and planning conditions.

4.0 Addressing Previously Unidentified 'Hotspots' of Contamination

4.1 Background

As with any 'Brownfield' development, there is a possibility that unknown localised areas of soil contamination (a 'Hotspot') may be encountered during development works. As such, a 'hotspot' protocol is required during the construction phase of the development. The purpose of the protocol is to provide a ready reference should such an area of contamination be identified by visual or olfactory means during the works.

4.2 Protocol

Should an area of contamination be identified by visual or olfactory means during development works, the following procedure shall be followed:

- Immediately stop all works in the area where contamination is suspected;
- Immediately inform the Site Agent who should then contact the Environmental Consultant;
- The Environmental Consultant shall provide a verbal response outlining immediate actions with regard to Site Health and Safety and to limit the potential for contaminants to migrate;
- The Environmental Consultant shall judge each occurrence on merit and should it be deemed necessary the Environmental Consultant shall attend Site to oversee the removal of the 'hotspot' and collect validation samples;
- Any excavated material should be isolated from all other material at the Site, on plastic sheeting and covered with plastic sheeting until the material can be tested for contamination and an appropriate disposal route can be identified;
- Any 'hotspot' stockpiles and excavations should be fenced off, have appropriate signage and their locations recorded on a Site drawing;
- Should any excavated material be required to be disposed of at an off-Site location, the material shall be isolated from all other material at the Site prior to disposal at a suitably licensed facility. All documentation associated with the movement and disposal of any such material shall be supplied to the Environmental Consultant shall, including waste transfer documentation;
- Subject to appropriate Site Health & Safety controls (typically comprising fencing off the excavation) the excavation will remain open until the validation has been completed. Alternatively, for Site Health & Safety reasons, it may be necessary to backfill the excavation with Site derived material. In this case, the location of the excavation will be accurately recorded and the excavation reopened if required, based on the validation results; and
- The Regulatory Authorities shall be informed by the Environmental Consultant shall of any remedial activities required and associated validation testing results. Representatives of these organisations may also wish to visit the Site.

Implementation of appropriate measures to deal with such finds remain the Contractor's responsibility.

A copy of the protocol is also presented in Appendix B to be extracted and used on-Site.

5.0 Asbestos in Soils

The intrusive investigation identified asbestos in three samples of shallow Made Ground at the Site.

Reference to the proposed development plan (Drawing 1) indicates that after re-development the majority of the Site will be overlain by a building and hardstanding, severing the pathway to future Site users. However, given the history of the Site (including demolition of former buildings), the potential for asbestos fibres to be present in other areas of the Site not investigated to date cannot be discounted. Therefore, it is recommended that a cover layer system comprising imported soils and a geotextile membrane is placed over the Made Ground deposits in all areas of soft landscaping to break the contaminant pathway. The requirement for a clean cover layer across the Site is detailed further in Section 6.0.

The groundworks Contractor should be made aware of the possibility of encountering potential Asbestos Containing Materials (ACM) within the Made Ground across the Site and an appropriate protocol to mitigate exposure of the workforce and general public should be in place with due respect to his duties under the Control of Asbestos Regulations 2012 and with reference to the Joint Industry Working Group Asbestos in Soil and Construction & Demolition (C&D) Materials guidance (published by CL:AIRE) titled "Control of Asbestos Regulations 2012: Interpretation for Managing and Working with Asbestos in Soil and Construction & Demolition materials: Industry Guidance" (shortened name CAR-SOILTM). The document was prepared with the support of the Health and Safety Executive and presents the definitive explanation of how the legal requirements of the CAR 2012 have been interpreted to apply to work with asbestos contaminated soil and construction & demolition materials. The guidance is underpinned by the fundamental requirements expressed in the Regulations, in relation to the protection of employees from risks related to exposure to asbestos but is set within a carefully considered framework designed specifically for soil and C&D materials contaminated with asbestos.

The Contractor will need to prepare a risk assessment which identifies a safe system of work to handle the asbestos containing soils which is likely to include asbestos awareness training, a protocol for unexpected finds (should gross asbestos material be identified) as well as safe working procedures such as damping down of excavations and stockpiles in line with general dust generation mitigation. The Contractor should determine the need for appropriate levels of PPE and/or RPE and any associated air monitoring as required.

The Contractor shall be responsible for providing appropriate documentation for inclusion within the Verification Report including details of any significant asbestos material encountered.

6.0 Construction-Phase Remediation Works

6.1 Certified Clean Topsoil / Subsoil Layer - Cover System

Delta-Simons consider that a clean cover system should be placed in all areas of soft landscaping to break the identified pollutant linkage and facilitate the growing of flora, as Made Ground was identified across the Site.

For areas where a clean cover system is required (anticipated to be areas of soft landscaping at the Site as shown on Drawing 1 attached), the following criteria are recommended:

- A high visibility membrane should be installed on top of Made Ground upon which the cover layer will then be placed. This is to provide a physical break of a potential pathway between Made Ground and the cover system and also a clear visual barrier between the two strata;
- Within proposed landscape areas, the clean cover layer shall be a minimum thickness of 450 mm; and
- Where trees are to be planted as part of landscaping, the cover system will be deepened to accommodate the root-ball.

In areas where the Made Ground has been removed in its entirety, the requirement for a clean cover is negated and a suitable growing medium of at least 150 mm of Topsoil should be provided. Based on the depth of the Made Ground encountered during the Delta-Simons Site investigation, this is not anticipated to be likely at the Site.

6.1.1 Cover Systems and Other Potentially Interacting Site Works

Careful consideration should be given to the programming of in-ground Site works with the potential to disturb the cover system once it has been placed. For example:

- Erection of fencing (where post holes are to be created and arisings generated);
- Planting of trees; and
- Services installation.

Ideally, these works (or similar), which would result in Made Ground being brought to surface, should be programmed to occur before installation of the cover system to avoid disturbance/cross-contamination of the cover soils.

In the event such works occur after placement of the cover system, care should be taken to control arisings to avoid such cross-contamination. Evidencing of the absence of cross contamination may be required.

6.2 Pre-Importation Testing

It is anticipated that imported soils will be required at the Site for use in the cover systems. A detailed understanding of the provenance of such materials is to be provided to the Environmental Consultant ahead of any further investigation or import. As a minimum, this should include:

- The materials source location;
- The supplier details and proposed quantities for import; and
- A description of how the soils have been generated (e.g. stockpiled for removal from a site or manufactured at a recognised supplier).

Soil materials being considered for importation shall be sampled at their source or manufacture location prior to import to Site. The soil samples shall be analysed at a UKAS accredited laboratory for the required laboratory chemical analyses and the results of these analyses (as detailed in Appendix C) shall be provided to the Environmental Consultant. Written approval from the Environmental Consultant shall be obtained prior to importing the soil to Site.

Some soil materials that are suitable for use on Site may also be wastes (not products). Examples of such soils may include soils stripped from other developments prior to construction, soils sourced from third

party sites and some manufactured soils. Care is needed when considering these materials for import. Further understanding of the provenance of these materials, additional laboratory chemical analyses and an exemption, permit or other form of regulatory control are likely to be required to be able to utilise these materials within the cover system. Adherence to the Duty of Care Regulations will also likely be required if waste soils are to be recovered in the scheme. The Environmental Consultant should be consulted well in advance of when these types of material are to be utilised. The Environmental Consultant will advise on the acceptability or otherwise of such materials and agree the pathway to be followed.

If chemical data for the soil cannot be provided, then the Contractor shall procure the Environmental Consultant to undertake appropriate testing **prior to importation**:

Samples shall be analysed for a minimum suite of:

- Asbestos screening;
- pH;
- Heavy metals;
- Total petroleum hydrocarbons; and
- Speciated Polyaromatic Hydrocarbons (16 PAH).

The samples shall be truly representative of the soil to be offered. The sampling frequencies recommended for imported or Site-won materials utilised for the cover layer from various sources is shown in the following table.

Type	**Number of Samples**	**Testing Suite**	**Acceptance Criteria**
Virgin quarried material	1 or 2 depending on the type of stone utilised, to confirm the inert nature of the material	Standard metals suite (As, Cd, Cu, Cr / CrVI, Pb, Hg, Ni, Zn)	Verified in accordance with Delta-Simons adopted Human Health Generic Assessment Criteria which are presented in Appendix C
Crushed hardcore, brick, concrete	Minimum 1 per 1,000m^3	Standard metals suite 16 PAHs Asbestos screen	
Greenfield / manufactured topsoil (off-Site source)	Minimum 3 or 1 per 250m^3 (whichever is greater)	Standard metals suite 16 PAHs Asbestos screen TPHCWG	
Brownfield / Site-won soils	Minimum 6 or 1 per 100m^3 (whichever is greater)	Standard metals suite 16 PAHs Asbestos screen TPHCWG	

The chemical criteria against which any imported soils shall be assessed is based on relevant Generic Assessment Criteria applicable at the time of the works (regardless of the intended use as materials should be free from contamination), alternatively, Delta-Simons Human Health Generic Assessment Criteria as presented in Appendix C shall be used.

The verification information shall be included within the verification report.

6.3 Post-Placement Verification

6.3.1 Cover Layer Depth

Following the placement of the clean cover system in soft landscaped areas, the depth of cover must be physically inspected to confirm the minimum thicknesses detailed in Section 6.1 have been achieved.

The inspection is to be undertaken by the Environmental Consultant and will comprise (at least):

- Inspection pits on a 25 m grid in soft landscaped areas.

The locations of the inspection pits are to be determined by the Environmental Consultant to ensure a good spatial coverage. The Environmental Consultant will record the overall depth of the clean cover along with the thickness of Topsoil and subsoil, and the presence of a membrane. A photographic record of the excavation, with suitable scale, will be obtained for the Cover System Validation Report.

The inspection pit and testing frequencies required are summarised in Table 1 below. A copy is also presented in Appendix D; it is recommended that this is distributed to the Contractor for use on-Site during the groundworks.

	Soft Landscaping Requirements (required in all soft landscaping areas)
Clean cover thickness where Made Ground is present (must comprise chemically and physically validated subsoil and topsoil)	**450 mm minimum cover**
Inspection Pit frequency (to confirm cover thickness and membrane depth, where required)	**25 m grid:** A minimum of 1 inspection pit per 25 m grid is required in soft landscaped areas
Testing frequency (coverage to be determined by Environmental Consultant)	**Topsoil and subsoil:** Samples required from each inspection pit on a 25 m grid in soft landscaped areas
If Made Ground is present at surface (Made Ground identified Site-wide)	**Membrane required:** Where Made Ground is present, a high visibility membrane or hard-dig layer should be installed to break a potential pathway to asbestos containing materials
If Made Ground is not present at surface (considered unlikely– contact Delta-Simons if no Made Ground is considered present)	**No membrane required:** Where the Made Ground has been removed in its entirety, the requirement for a clean cover system is negated and a suitable growing medium of at least 150 mm of topsoil should be provided

6.3.2 Post-Importation Chemical Testing

Regardless of the pre-importation testing, in order to confirm the materials placed on-Site meet the requirements of this strategy, post placement testing to prove the absence of contamination must be undertaken.

One sample shall be taken, dependent on the source and receptor, between 1 per 50 m^3 and 1 per 250 m^3 of imported Topsoil and subsoil, with a minimum of three samples of each soil type tested.

The chemical criteria against which any imported soils shall be assessed is based on relevant Generic Assessment Criteria applicable at the time of the works (regardless of the intended use as materials should be free from contamination), alternatively, Delta-Simons Human Health Generic Assessment Criteria as presented in Appendix C shall be used.

Should soils fail the applied criteria, then they shall be replaced by the Contractor with alternatively sourced soils and retested.

7.0 Verification Reporting & Regulatory Approvals

7.1 Verification Requirements

Following completion of the work detailed in Sections 4.0 to 6.0, an Environmental Consultant shall prepare an Environmental Verification Report for submission to the Local Authority to satisfy Condition 15.

The Verification Report will comprise:

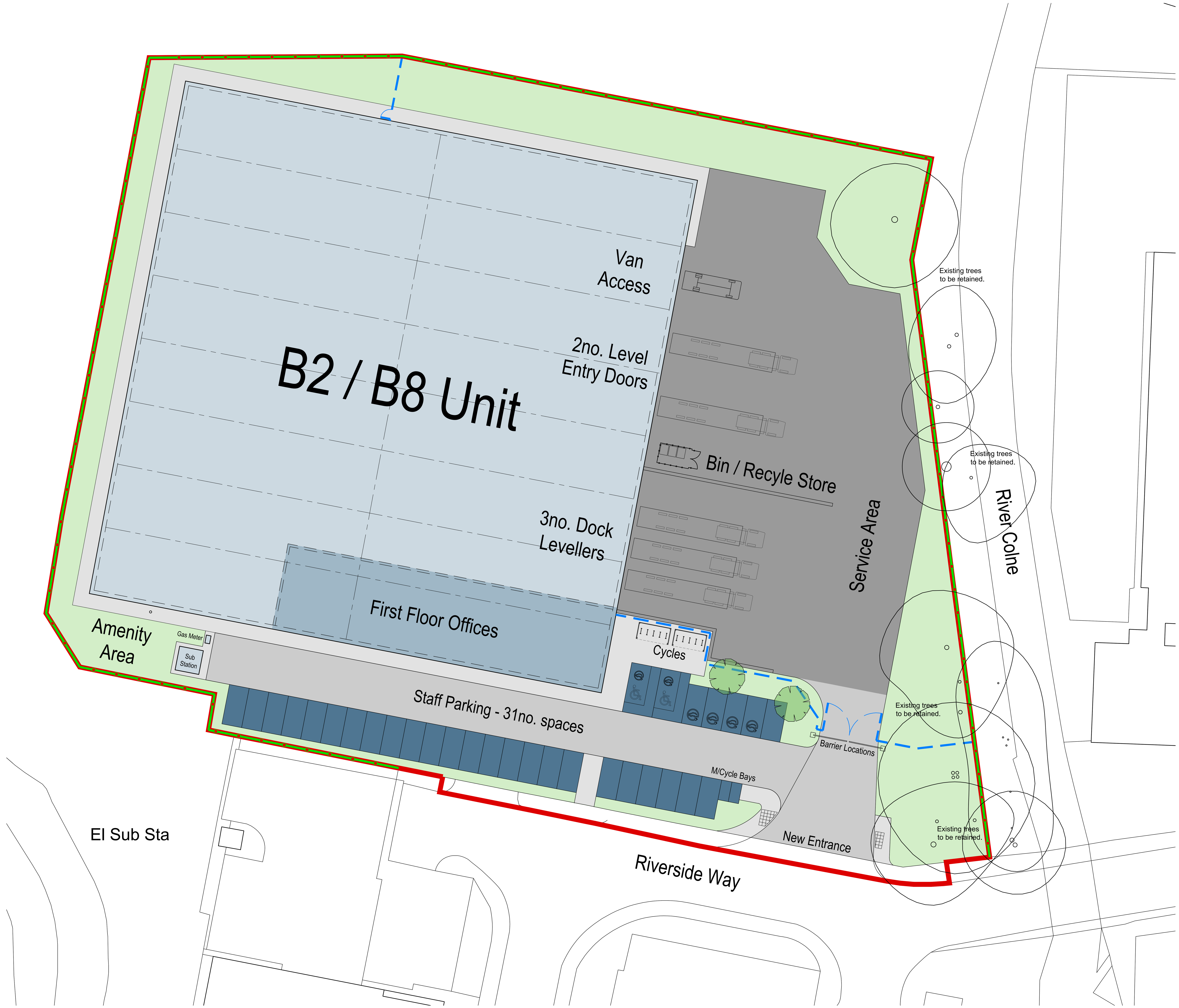
- Details of waste disposal of any material from the Site including waste transfer documentation and details of the receiving treatment/landfill facility;
- Details of the placement of clean cover including the placement of geotextile, Topsoil and subsoil through a verification record as described in this strategy;
- Confirmation of the chemical results, and transfer notes detailing the place of origin of any imported Topsoil/subsoil; and
- Details of any hotspots of contamination encountered and the works undertaken to address these.

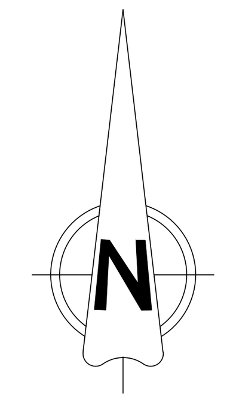
7.2 Regulatory Approvals and Planning Condition Discharge

It is intended that this report be submitted to London Borough of Hillingdon Council to support the discharge of contaminated land planning conditions.

Drawings

Drawing 1 – Proposed Development Plan





Schedule of Accommodation

B2 / B8 Facility	44,000 sq.ft.g.i 4,088 sq.m.g.i	45,475 sq.ft.g.e 4,225 sq.m.g.e
First Floor Offices	4,400 sq.ft.g.i. 409 sq.m.g.i	4,840 sq.ft.g.e 450sq.m.g.e
Total	48,400 sq.ft.g.i 4,497 sq.m.g.i.	50,315 sq.ft.g.e 4,675 sq.m.g.e
Parking	31no. spaces incl. 2no. disabled bays 6no. EV bays 20no. cycle spaces 2no. motorcycle bays	
Application Site Area	2.31 acres 0.94 hectares	

no.	date	revision	by
E	12/05/22	Cycle and motorcycle parking updated.	mjl
D	28/10/21	Landscaping updated.	mjl
C	22/10/21	Scale bar added.	sih
B	13/10/21	Scheme updated to reflect arboricultural information.	mjl
A	15/09/21	Site entrance amended.	kt

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client

Bridge Development Partners

project

Riverside Way
Uxbridge

drawing

Proposed Site Layout Plan

scale 1:250 @ A1 drawn kt

checked mjl date 02/09/21

no

6844 - 020 Rev E

PLANNING

0m 10 20m

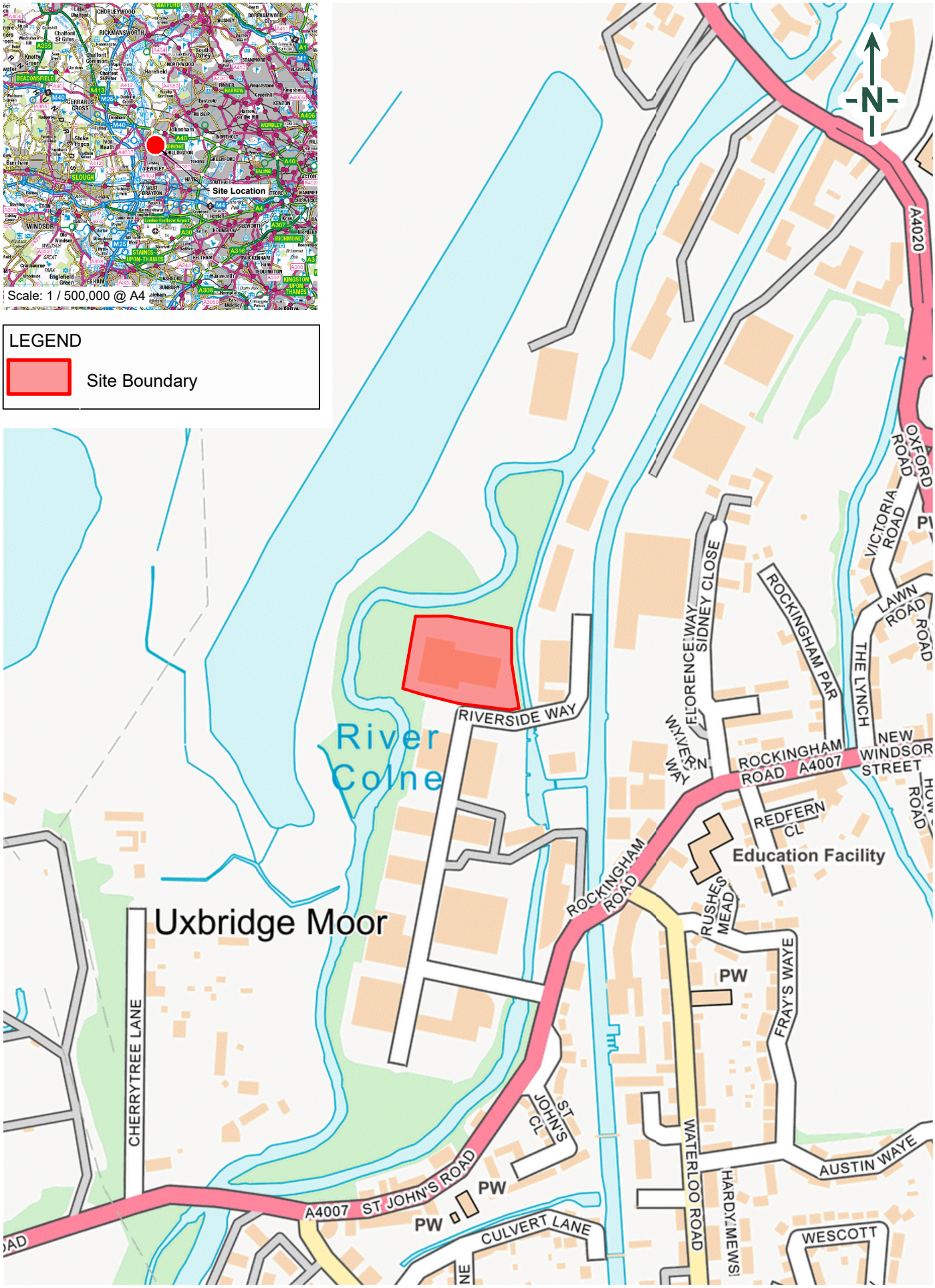
Scale Bar 1:250

Figures

Figure 1 – Site Location Map

LEGEND

Site Boundary



Scale: 1 / 5,000 @ A4

deltasimons
Environment - Health & Safety - Sustainability

TITLE:
Site Location Map
Riverside Way
Uxbridge

DRAWN BY: YA	SCALE: To Scale@A4
CHECKED BY: MBP	REVISION: 1
DATE: 12 October 2021	

PROJECT NO: 21-0392.02

FIGURE NO: 1

Appendices

Appendix A – Limitations

Limitations

This Report was prepared by Delta-Simons Ltd (Delta-Simons) for the sole and exclusive use of the Client and for the specific purpose for which Delta-Simons was instructed. Nothing contained in this Report shall be construed to give any rights or benefits to anyone other than the Client and Delta-Simons, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. Delta-Simons does not intend, without its written consent through a formal letter of reliance or warranty, for this Report to be disseminated to any party other than the named Client or to be used or relied upon by any party other than the named Client. Use of the Report by any other party is unauthorised and such use is at the sole risk of the user. Any party using or relying upon this Report, other than the Client, agrees by virtue of its use to indemnify and hold harmless Delta-Simons from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by Delta-Simons. Unless explicitly agreed otherwise, in writing, this Report has been prepared under Delta-Simons' Standard Terms and Conditions as included within our proposal to the Client.

The recommendations contained within this Report represent Delta-Simons professional opinions, based upon the information detailed within the Report, exercising the reasonable skill and care to be expected of a professional consultant holding itself out as having the competence, experience and resources necessary for the purpose of carrying out similar work in scope and character to the services performed. The Report needs to be considered in the light of the proposal and associated limitations of scope. The Report needs to be read and considered in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the Report.

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No aspect of this Report constitutes a design. Where this information is used in design, the designer should verify the information has been used appropriately.

Where budgets are prepared and presented within the Report, these are for information only to indicate the likely magnitude of a cost and do not represent an invitation to treat for the works. All budgets and programmes presented should be reviewed and verified by appropriately qualified and experienced independent Project Managers and Cost Consultants.

Appendix B – 'Hotspot' Protocol

Protocol for Addressing Previously Unidentified 'Hotspots' of Contamination

As with any Brownfield development, there is a possibility that an unknown area of soil contamination may be encountered during excavation works. Should an area of contamination be identified by visual or olfactory means the following procedure will be followed:

- Immediately stop all works in the area where contamination is suspected;
- Immediately inform the Site Agent who should then contact the Environmental Consultant;
- The Environmental Consultant will provide a verbal response outlining immediate actions with regard to Site Health and Safety and to limit the potential for contaminants to migrate;
- The Environmental Consultant will judge each occurrence on merit and should it be deemed necessary. The Environmental Consultant will attend Site to oversee the removal of the 'hotspot' and collect validation samples;
- Any excavated material should be isolated from all other material at the Site, on plastic sheeting and covered with plastic sheeting until the material can be tested for contamination and an appropriate disposal route can be identified;
- Any 'hotspot' stockpiles and excavations should be fenced off, have appropriate signage and their locations recorded on a Site drawing;
- Should any excavated material be required to be disposed of at an off-Site location, the material will be isolated from all other material at the Site prior to disposal at a suitably licensed facility. All documentation associated with the movement and disposal of any such material will be supplied to The Environmental Consultant, including waste transfer documentation;
- Subject to appropriate Site Health & Safety controls (typically comprising fencing off the excavation) the excavation will remain open until the validation has been completed. Alternatively, for Site Health & Safety reasons, it may be necessary to backfill the excavation with Site derived material. In this case, the location of the excavation will be accurately recorded and the excavation reopened if required, based on the validation results; and
- The Regulatory Authorities shall be informed by the Environmental Consultant of any remedial activities required and associated validation testing results. Representatives of these organisations may also wish to visit the Site.

Appendix C – Imported Soils Assessment Criteria

The following Generic Assessment Criteria shall apply as absolute limits for all soils imported for re-use as clean cover **regardless of the end use of the Site**.

The criteria selected are based on Residential with Plant Uptake land use scenario on the basis that imported clean cover soils should be 'clean' and not result in an increase in contaminant loading. It may be possible, in some circumstances, to agree alternative, higher criteria with the appropriate regulatory body, however, this is outside of the scope of this assessment.

Soils shall be tested for a suite of contaminants appropriate to the source land use but as a minimum for the contaminants stated below unless otherwise stated within this strategy. The below criteria assume a minimum of 1% Soil Organic Matter.

In addition to meeting the criteria below, imported materials shall be free from deleterious inclusions and shall be free from invasive weeds (Japanese Knotweed).

Any testing for asbestos must be from a UKAS accredited laboratory and the only acceptable criteria is 'Not Detected'. Any detected asbestos, even is reports as <0.001% is not acceptable. Asbestos containing soils must not be used for clean cover materials.

Criteria for Imported Materials			
Compound	**GAC**	**Source**	**Comment**
Arsenic	37	C4SL	
Cadmium	11	LQM	
Chromium (III)	910	LQM	
Chromium (VI)	6	LQM	
Copper	2400	LQM	
Lead	200	C4SL	
Mercury (inorganic)	40	LQM	
Nickel	130	LQM	
Selenium	250	LQM	
Zinc	3700	LQM	
Acenaphthene	210	LQM	
Acenaphthylene	170	LQM	
Anthracene	2400	LQM	
Benzo[a]anthracene	7.2	LQM	
Benzo[a]pyrene	2.2	LQM	
Benzo[b]fluoranthene	2.6	LQM	
Benzo[ghi]perylene	320	LQM	
Benzo[k]fluoranthene	77	LQM	
Chrysene	15	LQM	
Dibenz[ah]anthracene	0.24	LQM	
Fluoranthene	280	LQM	
Fluorene	170	LQM	
Indeno[123-cd]pyrene	27	LQM	
Naphthalene	2.3	LQM	

Criteria for Imported Materials			
Compound	**GAC**	**Source**	**Comment**
Phenanthrene	95	LQM	
Pyrene	620	LQM	
Benzene	0.2	C4SL	
Toluene	130	LQM	
Ethylbenzene	47	LQM	
Xylene – m/p	56	LQM	
Xylene - o	60	LQM	
Total Petroleum Hydrocarbons (TPH)	500		Professional judgement.
Aliphatic EC5-EC6	42	LQM	
Aliphatic >EC6-EC8	100	LQM	
Aliphatic >EC8-EC10	27	LQM	
Aliphatic >EC10-EC12	130	LQM	
Aliphatic >EC12-EC16	500	LQM	Capped at 500 - professional judgement
Aromatic >EC5-EC7	70	LQM	
Aromatic >EC7-EC8	130	LQM	
Aromatic >EC8-EC10	34	LQM	
Aromatic >EC10-EC12	74	LQM	
Aromatic >EC12-EC16	140	LQM	
Aromatic >EC16-EC21	260	LQM	
Aromatic >EC21-EC35	500	LQM	Capped at 500 - professional judgement
Asbestos	Not Detected		

The respective sources are:

- Soil Guidance Values (**SGV**) published by the EA;
- Category 4 Screening Levels (**C4SL**s) published by DEFRA;
- The 2014 Land Quality Management (**LQM**) / Chartered Institute of Environmental Health (CIEH) Suitable for Use Levels for Human Health Risk Assessment (S4ULs);
- The guidance values produced by the Environmental Industries Commission (**EIC**), the Association of Geotechnical and Geoenvironmental Specialists (AGS) and Contaminated Land: Application in Real Environments (CL:AIRE) in December 2009; and
- In house Generic Screening Values (**DS-GAC**s) derived by Delta-Simons.

Appendix D – Inspection Pit and Testing Frequencies

Inspection pit and testing frequencies required are summarised below.

It is recommended that this is distributed to the Contractor for use on-Site during the groundworks.

	Soft Landscaping Requirements (required in all soft landscaping areas)
Clean cover thickness where Made Ground is present (must comprise chemically and physically validated subsoil and topsoil)	**450 mm minimum cover**
Inspection Pit frequency (to confirm cover thickness and membrane depth, where required)	**25 m grid:** A minimum of 1 inspection pit per 25 m grid is required in soft landscaped areas
Testing frequency (coverage to be determined by Environmental Consultant)	**Topsoil and subsoil:** Samples required from each inspection pit on a 25 m grid in soft landscaped areas
If Made Ground is present at surface (Made Ground identified Site-wide)	**Membrane required:** Where Made Ground is present, a high visibility membrane or hard-dig layer should be installed to break a potential pathway to asbestos containing materials
If Made Ground is not present at surface (considered unlikely– contact Delta-Simons if no Made Ground is considered present)	**No membrane required:** Where the Made Ground has been removed in its entirety, the requirement for a clean cover system is negated and a suitable growing medium of at least 150 mm of topsoil should be provided