



Preliminary Risk Assessment

Cray House, 3 Maidstone Road, Fooks Cray, Sidcup, DA14 5HU

Presented to Kames Capital Active Value Property Unit Trust

Issued: July 2021

Delta-Simons Project No. 14-0440.05



Delta-Simons Environmental Consultants Limited
Head Office: 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR
Tel: 01522 882555 | www.deltasimons.com



Report Details

Client	Kames Capital Active Value Property Unit Trust
Report Title	Preliminary Risk Assessment
Site Address	Cray House, 3 Maidstone Road, Foots Cray, Sidcup, DA14 5HU
Project No.	14-0440.05
Delta-Simons Contact	Jayne Trevelyan (jayne.trevelyan@deltasimons.com)

Quality Assurance

Issue No.	Status	Issue Date	Comments	Author	Technical Review	Authorised
02	Final	09/07/2021	Minor Project Wording Amendments			
				Jilly Edwards Consultant	Joanne Dickinson Principal	Alan Crossfield Divisional 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 120 environmental professionals, bringing experience from across the private consultancy and public sector markets.

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. Inogen Environmental Alliance offers its clients more consultants, with more services in more countries than the 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.

Therefore, our consultancy services to you are carbon positive.

If you would like support in calculating 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.

Executive Summary

<p>Brief</p>	<p>Delta-Simons was instructed by Capella Estates on behalf of Kames Capital Active Value Property Unit Trust to produce a Preliminary Risk Assessment for the Site, located at Cray House, 3 Maidstone Road, Foots Cray, Sidcup, DA14 5HU, to support the submission of a prior approval application for the proposed change of use from commercial offices to residential accommodation over ground floor communal areas (with no residential units proposed at ground level).</p>
<p>Site Use</p>	<p>The Site comprises of a part three/ part four-storey office building with an undercroft area in the west of the building, currently a waste storage area. Hardstanding car parking is present to the north and south of the building and areas of landscaping are present in the southern area and along the periphery of the south-eastern Site boundary.</p>
<p>Environmental Sensitivity</p>	<p>The Site is considered to be of a moderate environmental sensitivity given the underlying Secondary A Aquifer (which contains some clays) protecting the Principal Aquifer, the location in a Zone II Groundwater SPZ and distance to the nearest sensitive abstraction, the proximity and nature of the nearest surface water, and the mixed commercial and residential uses of the surrounding area.</p>
<p>Contamination Potential Sources</p>	<p>There is considered to be limited potential for contamination from the current Site use. Historically, the Cray Works (wireless radio works) on-Site between the 1930's and 1970's, represent a potential on-Site source of contamination. Also, potential historical and current sources of contamination have been identified in the surrounding area, including the historical wider works, bus depot, garage, laundry, photographic works, and the current council depot/ waste transfer site, and generators.</p> <p>While there is considered to be potential for residual contamination to remain beneath the Site, the Site is covered with the building and hardstanding with underlying low permeability deposits, resulting in restricted infiltration of rainwater and limited leaching of contaminants and ground gasses, the risk to future site users is considered to be Low.</p>
<p>Recommendations</p>	<p>It is understood that there are no proposals to break ground as part of the proposed change of use, therefore, intrusive investigation works are not considered to be required prior to the proposed conversion works.</p> <p>It is understood that asbestos containing materials (ACMs) are present within the building fabric. An appropriate asbestos survey should be completed prior to commencement of the proposed works. Safe working procedures should be implemented, good standards of personal hygiene should be observed, and appropriate levels of personal protective equipment (PPE) provided and utilised to reduce the potential risks from ACMs.</p>
<p>This is intended as a summary only. Further detail and the limitations of the assessment is provided within the main body of the Report.</p>	

Table of Contents

1.0 INTRODUCTION.....	1
1.1 Appointment.....	1
1.2 Context & Purpose	1
1.3 Scope of Works	1
1.4 Limitations.....	2
2.0 SITE CONTEXT & DATA REVIEW.....	3
2.1 Site information.....	3
2.2 Environmental Setting	5
2.3 Historical Use of the Site & Surrounding Area	6
2.4 Environmental Database Review	7
2.5 Planning Review/ Regulatory Enquiries	8
3.0 CONCEPTUAL SITE MODEL	10
3.1 Introduction	10
3.2 Potential Contamination Sources	10
3.3 Potential Receptors	10
3.4 Potential Pathways	10
4.0 CONCLUSIONS & RECOMMENDATIONS	14

Appendices

Appendix A	Limitations
Appendix B	Proposed Development Plans
Appendix C	Site Photographs
Appendix D	Historical Maps
Appendix E	Landmark Envirocheck Report
Appendix F	Local Authority Response
Appendix G	Risk Definitions

1.0 Introduction

1.1 Appointment

Delta-Simons Environmental Consultants Limited (“Delta-Simons”) was instructed by Capella Estates on behalf of Kames Capital Active Value Property Unit Trust (the “Client”) to prepare a Preliminary Risk Assessment for a commercial property known as Cray House, 3 Maidstone Road, Foots Cray, Sidcup, DA14 5HU (the “Site”).

1.2 Context & Purpose

The proposed development for the Site is the change of use of a commercial office block into residential flats with ground floor communal and ancillary areas.

The aim of this report is therefore to support the submission of a prior approval application for the proposed change of use/ development. To that end this study assesses the likely environmental issues associated with soil and groundwater conditions that may affect the proposed development of the Site. This report is designed in general accordance with guidance on Land Contamination: Risk Management pages of the [GOV.UK](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf) web pages, the relevant requirements of the National Planning Policy Framework 2019 (NPPF) (paragraphs 170 & 178-180)¹ and the Planning Practice Guidance (Land Affected by Contamination)².

1.3 Scope of Works

- ▲ Review of the environmental setting of the Site, including the current use/ status of the Site and surrounding area, and review of the geology, hydrogeology and hydrology;
- ▲ Review of the historical activities of the Site and surrounding area;
- ▲ Review of regulatory information relating to the Site;
- ▲ Review of the online planning records for the Site;
- ▲ Consult and review information from the Local Authority in relation to Part 2A of the 1990 Environmental Protection Act;
- ▲ Complete a Site reconnaissance by undertaking a visual inspection of readily accessible areas of the Site;
- ▲ Complete an interview with a Site representative;
- ▲ Review of provided relevant third-party reports relating to the Site or surrounding area;
- ▲ Develop an outline Conceptual Site Model and undertake a Preliminary Risk Assessment with respect to potential contamination focussed on the proposed land use; and
- ▲ Provide commentary on potential land contamination constraints in the context of the proposed development.

The Scope of works did not include a review of flood risk information associated with the Site and a separate Flood Risk Assessment has been prepared by Delta-Simons.

In completing this Assessment, Delta-Simons has utilised the following data sources and third-party information:

- ▲ British Geological Survey (BGS) data; clarification
- ▲ Environment Agency (EA) online data;
- ▲ A Landmark Envirocheck Report for the Site (Ref. 281075148_1_1), dated June 2021;
- ▲ Current and historical Ordnance Survey (OS) Maps included as part of the Envirocheck Report;
- ▲ Information from kbmuseum.org.uk;
- ▲ Information from gracesguide.co.uk;

¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

² <https://www.gov.uk/guidance/land-affected-by-contamination>

- ▲ Information from bombsight.org; and
- ▲ Information provided by London Borough of Bexley.

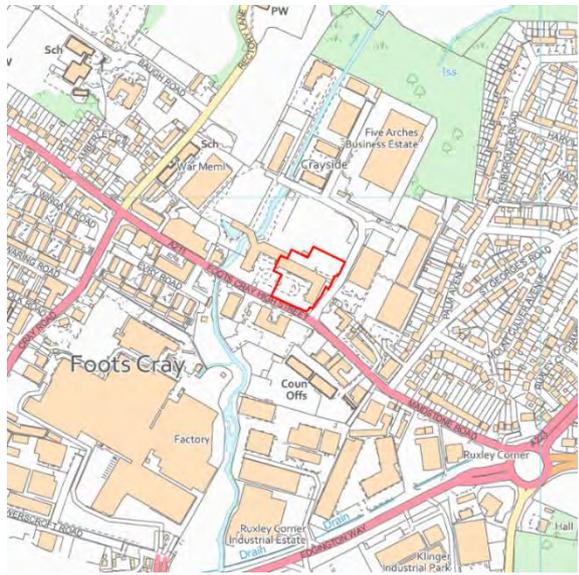
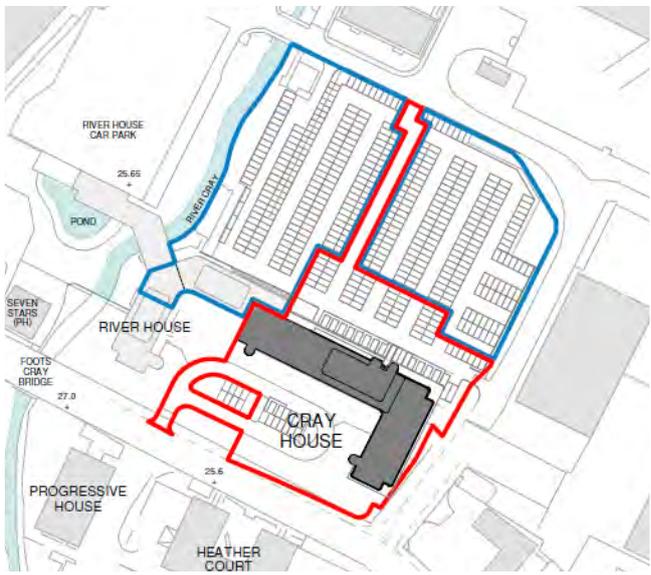
1.4 Limitations

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:

- ▲ The Consultant undertaking the Site inspection will observe for evidence of invasive species, particularly Japanese Knotweed. It should be noted however that the Consultant is not a trained ecologist and a separate survey undertaken by an experienced Ecologist at an appropriate time of year should be completed to provide a robust assessment;
- ▲ The report includes a preliminary assessment for the potential for radon gas hazards. A detailed radon assessment falls outside of the scope of this report, and the requirement for radon mitigation measures in the proposed development should be identified separately to the satisfaction of The London Borough of Bexley Building Control;
- ▲ A commentary has been provided regarding existing Site services in the context of assessing environmental issues, however a detailed review of all overhead or underground services is outside the scope of this assessment;
- ▲ A commentary on flooding issues associated with the proposed change of use/ development is outside the scope of this assessment; and
- ▲ A commentary on geotechnical issues associated with the proposed change of use/ development is outside the scope of this assessment.

2.0 Site Context & Data Review

2.1 Site information

 <p>Contains OS data ©, Crown Copyright and Database Right (2021). Contains Data from, © 2021 Landmark Information Group Ltd</p>		 <p>Taken from Location Plan provided by The Bush Consultancy</p>	
Site Location		Site Layout	
Co-ordinates	Centred approximately at National Grid Reference 547650, 170880.	Elevation	Approximately 25 m to 26 m AOD.
		Area	0.7 Ha
Site Location	The Site is located at the junction of Maidstone Road/ Foots Cray High Street (A211) and an unnamed estate road, in the Foots Cray suburb of Sidcup, approximately 2.1 km south-east of Sidcup railway station.		
Current Site Use	<p>The Site comprises of a part three/ part four-storey office building with an undercroft area in the west of the building, currently a waste storage area.</p> <p>Car parking is located in the north and south of the Site. The southern area is laid to asphalt and brick paving used for visitors. The northern area is laid to asphalt in good condition and includes an access route northwards joining the estate road to the north.</p> <p>Areas of soft landscaping are present in the southern area and the periphery of the south-eastern Site boundary.</p>		
Proposed Development Description	<p>The proposed development is strictly for the change of use from office to residential apartments with communal and ancillary areas at ground floor level. It is understood that no external alterations are proposed.</p> <p>Residential apartments are proposed for first to third floor levels and the undercroft at ground level in the west is proposed for retention. No residential accommodation is proposed at ground floor level.</p> <p>No major alterations are proposed for external car parking and landscaping areas.</p> <p>Drawings of the development proposals are presented in Appendix B.</p>		

<p>Site Reconnaissance</p>	<p>Delta-Simons conducted a Site visit on 24th June 2021. A series of Site photographs are presented as Appendix C, and pertinent information that was observed or reported on-Site is summarised as follows:</p> <ul style="list-style-type: none"> ▲ Two plant rooms are located on the roof of Cray House one of which contains numerous water pumps and ventilation plant as well as a small container (< 2 litres) of coil cleaner and the other contains a large water tank and lift motor room. The lifts were observed to be electronically powered. Air conditioning, ventilation plant and condenser units were also stored on the roof; ▲ A battery room, gas boilers, air handing equipment are located in a plant room on the ground floor in the north of the building; ▲ Remnant gas pipes were observed to be capped in the ground floor plant room, likely associated with the former tenant use; ▲ Small scale maintenance materials (< 5 litres paints, sealants and cleaning solution) were observed within the plant room on the ground floor as well as a 10 kg bag of mortar; ▲ Adjacent to the north-west of the building within the northern car park area were two diesel powered back-up generators located in a sealed, banded housing and are used by the Site. Fuel is stored in an integral 'belly tank' underneath each generator, each with an approximate capacity of 750 litres. The tank appeared to be single skinned, limited evidence of staining was observed on the hardstanding, which was noted to be in good condition. No additional fuel is stored on-Site or within the immediate area, and the tanks are reportedly refuelled by a tanker, with the fill points located within the container. A 5-litre container of anti-freeze was observed to be stored informally; ▲ Waste generated on-Site appears to be general and recyclable waste. Arising from the off-Site canteen but stored on-Site is food waste wheelie bins and waste oil which is collected in 5 litre containers and stored in the undercroft waste area; ▲ During the walkover, an asbestos survey was identified (Type 3 Asbestos Survey by Tetra Consulting dated 2009). This report identified seven areas containing asbestos (mostly confined to gaskets within pipework in the plant room). The materials were recommended for removal, however, documentation to evidence the removal of the asbestos was not provided; and ▲ No evidence of a drainage interceptor was observed on-Site. <p><i>While the storage of small quantities of maintenance chemicals and fuel for diesel generators were evident on-Site, no significant contamination concerns were observed.</i></p>	
<p>Current Surrounding Area</p>	<p>North</p>	<p>Further car parking, beyond which is the estate road and commercial units and a driving test centre beyond. A retaining wall was noted in the north-western area of the parking area.</p>
	<p>East</p>	<p>Access road beyond which are commercial units (timber delivery, food service and construction trade supplies, and a vets).</p>
	<p>South</p>	<p>Footh Cray High Street/ Maidstone Road beyond which are commercial offices, and a hand car wash to the south-east with a recycling centre and the River Cray beyond.</p>
	<p>West</p>	<p>A canteen and commercial office units within River House with small commercial units, a supermarket and the River Cray beyond.</p>

2.2 Environmental Setting

Published Geology	From Geology Mapping within the Envirocheck® Report, the Site is indicated as being underlain by superficial deposits of Alluvium comprising clay, silt, sand and gravel. The underlying bedrock of the Lewes Nodular Chalk, Formation, Seaford Chalk, Formation and Newhaven Chalk Formation (Undifferentiated) comprises chalk. Given the current development, there is potential for Made Ground to be present overlying the Alluvium at the Site, also an area of Made Ground comprising artificial deposits is mapped adjacent to the east of the Site.
Specific Ground Conditions	<p>From a BGS borehole TQ47SE557 from 1977 located approximately 70 m west of the Site, the geology encountered in the investigation area comprised the following generalised sequence:</p> <ul style="list-style-type: none"> ▲ Made Ground comprising sandy clay with flints and brick fragments to a depth of 1.5 metres below ground level (m bgl); ▲ Made Ground comprising peat and brick fragments to a depth of 1.8 m bgl; ▲ Sandy gravel with flints to depth to a depth of 4.8 m bgl; ▲ Gravel with flints to 9.1 m bgl; over ▲ Chalk with some flints and gravel proven to a depth of 12.5 m bgl.
Hydrogeology	<p>The EA classifies the Alluvium as a Secondary Aquifer and the Chalk bedrock as a Principal Aquifer.</p> <p>The EA data also indicates that the Site is located in a Zone II (outer) groundwater Source Protection Zone, which appear to be associated with abstractions at a soft drinks manufacturers 370 m to the south-west and other sensitive abstractions located over 1 km to the north-east. According to the Envirocheck Report, there are eleven licensed abstraction records from groundwater located within 1 km of the Site, several of which appear to be variations of the same licences. The closest of these are located approximately 370 m west (south-west), associated with non-evaporative cooling and water bottling at a drinks manufacturer.</p> <p>The above-mentioned BGS borehole reported a groundwater strike at 2.4 m bgl, with a standing water level recorded at 1.2 m bgl..</p>
Hydrology	<p>The nearest surface water feature is the River Cray located approximately 40 m north-west of the Site at its closest point.</p> <p>According to the Envirocheck Report, within 1 km of the Site, there is one licensed abstraction record from surface water (a pond) located approximately 360 m south-west of the Site associated with industrial cooling at a soft drinks manufacturer.</p>
Coal Mining	The Site is not with a Coal Mining Reporting Area, consequently a Coal Mining Risk Assessment (CMRA) should not be required under the planning regime.
Radon Gas	The Site lies within an area where less than 1% of homes are above the Public Health England recommended “action level” for radon. BRE211 (2015) indicates that no radon protective measures are necessary in the construction of new buildings at the Site.
Ecological Receptors	It is understood from information provided within the Envirocheck® Report, the following statutory ecological receptors are located within 1 km of the Site: areas of Ancient Woodland located approximately 450 and 890 m south-east (Ruxley Wood) and 920 m north of the Site (North Cray Wood), a Local Nature Reserve (Foots Cray Meadows) approximately 340 m north of the Site, a Site of Special Scientific Interest (Ruxley Gravel Pits, also noted as a Local Wildlife Site), located approximately 420 m south.

Heritage Interest	According to historicengland.org.uk the closest area of Heritage Interest is associated with a Grade II Listed Building (The Seven Stars Public House) located approximately 70 m west of the Site.
Environmental Sensitivity	<i>The Site is considered to be of a moderate environmental sensitivity given the underlying Secondary A Aquifer (which contains some clays) protecting the Principal Aquifer, the location in a Zone II Groundwater SPZ and distance to the nearest sensitive abstraction, the proximity and nature of the nearest surface water, and the mixed commercial and residential uses of the surrounding area.</i>

2.3 Historical Use of the Site & Surrounding Area

Approach	The historical development of the Site and surrounding area has been assessed through a review of available historical OS maps and Google Earth historical satellite imagery. A summary of the key historical Site uses and developments in the surrounding area is presented below. Copies of pertinent historical maps are included as Appendix D.
Historical Features On-Site	<p>On the earliest reviewed mapping dated 1870, the Site appears to be undeveloped agricultural land. Between 1895 and 1909, the south of the Site is gradually developed with residential properties with gardens.</p> <p>By 1933, structures associated with the Cray Works (wireless receivers) has been developed in the centre of the Site with part of the main works building in the north. By 1959 the main building in the north had extended further onto the Site and five small buildings were clearly shown in the centre of the Site. A small building likely associated with an adjacent factory encroached the north-west of the Site. 1976 mapping shows some of the buildings/ features in the centre have been cleared.</p> <p>Between 1976 and 1981, the majority of the residential properties had been cleared from the southern area of the Site, and the southern area of the Site redeveloped with the current building by 1986. Between 1991 and 1995 the eastern side of the former Cray Works (in the north) had been cleared, with the remaining building noted as Sidcup Technology Centre. This building had been cleared by 1999 historical aerial photography with the area shown as car parking. No significant changes are shown on historical aerial imagery or mapping.</p>
Additional Sources of Information	<p>From an internet search (kbmuseum.org.uk and gracesguide.co.uk), the Site was initially occupied by Brandes Ltd who took occupation of a former silk factory at Foots Cray in 1928 and produced headphones and loudspeakers. In 1930 the company was merged to form Kolster Brandes Ltd producing Bakelite radios, and became part of ITT's British subsidiary Standard Telephones and Cables Ltd (STC) in the late 1930s.</p> <p>The Foots Cray site was reportedly shared with another STC company founded in 1933 to manufacture American pattern valves for the British market.</p> <p>It is noted that in later years Kolster-Brandes also produced mid-range electronics such as radios, radiograms, televisions, tape recorders, amplifiers, gramophones and record players some of which were valve operated. It is understood that production of transportable radio receivers continued until at least the mid-1970s.</p>
Potentially Contaminative Historical Features Off-Site	<p>Potential sources of contamination within 100 m of the Site includes:</p> <ul style="list-style-type: none"> ▲ Foots Cray Paper Mill located approximately 70 m north-west of the Site from 1870 to 1895 mapping. The building is noted as a laundry in 1897, and as a photographic film manufactory from 1909. By 1933 the building has been extended to within approximately 40 m north-west of the Site, its use is unspecified, although a tank is noted approximately 30 m north-west. The building use may have changed by 1959 when a swimming pool was present to the north of the building. The building

	<p>appears to have been redeveloped with a single unspecified building (likely commercial/ light industrial) between 1981 and 1988 which is no longer present by historical aerial photography dated 1999;</p> <ul style="list-style-type: none"> ▲ A cluster of small buildings approximately 40 m south-east of the Site from 1870 to 1933, including a saw pit approximately 40 m south-east of the Site noted from 1897 to 1909, and a smithy approximately 50 m south-east of the Site noted in 1909; ▲ The wider Cray Works extending to the north, north-east and north-west. By 1959 mapping, the building to the north-west was extended northwards and noted as a factory, and the building to the north-east noted as offices. Between 1981 and 1998 the offices were cleared with remaining buildings cleared between in the late 1990's and the area shown as car parking. The current generator housing adjacent to the north-west of the Site is evident by 1999 historical aerial photography. ▲ A bus depot (Sidcup Garage) located approximately 25 m south of the Site from circa 1933 mapping (labelled from 1959 mapping) to 1991. By 1995 the area had been redeveloped with the current commercial offices; ▲ A large factory located approximately 80 m north of the Site from 1960 mapping which had been cleared by 1999 historical aerial photograph; ▲ Small factories noted approximately 80 m south-east of the Site from 1959, (some noted as warehouses from 1976), to at least 1995 mapping. The buildings remain to current mapping and 2021 Google Streetview imagery shows them to be occupied by an automotive repair garage and a small printer; ▲ A council depot located approximately 80 m south of the Site from 1959 to current mapping (currently a reuse and recycling centre); and ▲ The current commercial units are developed approximately 80 m north and north-east and approximately 20 east of the Site between 1999 historical aerial photography and 2003 historical Google Earth aerial imagery. <p>In the wider area, a large garage with entry and exit features indicative of a petrol filling station is present approximately 125 m west of the Site from 1974 mapping to 2003 historical Google Earth aerial imagery (redeveloped with apparently residential apartments).</p>
<p>Unexploded Ordnance (UXO)</p>	<p>Online interactive mapping from bombsight.org indicates that the Site does not appear to have been directly impacted by bombing raids during WWII between 7th October 1940 to 6th June 1941.</p>

2.4 Environmental Database Review

<p>Approach</p>	<p>The Landmark Envirocheck® Report provides a database of environmental information held by various bodies including the EA, Local Authority (LA), Health & Safety Executive (HSE) and the British Geological Survey (BGS) amongst others. A full copy of the Envirocheck® Report is provided in Appendix E and the most relevant information is summarised below.</p>
<p>Features On-Site</p>	<p>There are no relevant entries included within the Landmark Envirocheck® Report relating to the Site.</p>
<p>Potentially Contaminative Features Off-Site</p>	<p>There are several pertinent entries included within the Landmark Envirocheck® Report located within 100 m from the Site which are summarised as follows:</p> <ul style="list-style-type: none"> ▲ A revoked Discharge Consent located approximately 65 m north-west of the Site associated with the discharge of trade effluent from April 1991 to revocation in November 1994;

	<ul style="list-style-type: none"> ▲ A Part B Permit (formerly Local Authority Pollution Prevention and Control) for the respraying of road vehicles located approximately 100 m east of the Site from January 2004; ▲ Four Pollution Incidents to Controlled Waters: approximately 50 m west of the Site in February 1997 comprising oils; approximately 70 m south-west of the Site in September 1993 when the River Cray was noted to be a milky white colour; approximately 100 m west of the Site in April 1989 comprising sewage and June 1992 comprising oils. All four incidents were classed by the EA as Category 3 Minor Incidents; ▲ Two entries for Registered Radioactive Substances, located approximately 10 m south-west of the Site in March 1991 and November 1992 listed as Nortel Networks Optical Components Ltd. The authorisation is noted to be revoked or cancelled, and is, therefore, not considered to represent a significant concern; ▲ A Historical Landfill Site (noted as a depot) located approximately 50 m south of the Site. No indication of the operational period or fill material was noted; and ▲ Fourteen active and inactive Contemporary Trade Directory Entries, the closest of which were associated with Commercial Cleaning Services located approximately 20 m north-west of the Site (listed as four entries for River House). Other entries are associated with: engineering services; printers; scrap metal merchants (approximately 45 m south-west); recycling centre (approximately 90 m south-east); a gas supplier (approximately 90 m south-east); laundries and laundrette; garage services (approximately 95 m south); and car body repairs (approximately 95 m east). <p>The following have been identified in the surrounding area:</p> <ul style="list-style-type: none"> ▲ A further Historical Landfill Site located approximately 230 m north-west of the Site from December 1967 and December 1991. No indication of the fill material was noted; ▲ A Licenced Waste Management Facility/ Waste Transfer Site located approximately 110 m south of the Site operated by Bexley London Borough Council and licenced from June 1977 to accept Civic Amenity/Refuse Amenity Waste (licence superseded); from May 1983 to accept: construction and demolition wastes, gully emptying's, and road sweepings/ litter (licence superseded). Also from September 1992 to accept lead/ acid batteries, non-putrescible and putrescible wastes, difficult general waste, mineral, asbestos (licence noted as being operational). The last entry notes that the area is a household waste amenity site from September 1992 with a modification noted in June 2018; and ▲ A BGS Recorded Mineral Site (Clubs Farm) located approximately 240 m south of the Site where Alluvium of sand and gravel were extracted by opencast methods.
--	---

2.5 Planning Review/ Regulatory Enquiries

On-line Planning Portal	London Borough of Bexley	Date Accessed	29/06/2021
Planning Findings	<p>Several applications have been identified for the Site/ wider area, whilst documents were not available to view to confirm if these cover the Site itself, applications pertinent to this assessment are summarised below:</p> <ul style="list-style-type: none"> ▲ 79/00731/FUL - Installation of liquid nitrogen vessel, granted in July 1971; ▲ 79/02039/FUL - Extension to Building 54 to provide single-storey oil store, granted in December 1979. This application appears to be associated with the area to the south of the building, although no new buildings are noted on historical mapping associated with this area; 		

	<ul style="list-style-type: none"> ▲ Cray House and River House are understood to have been constructed under: 83/01333/OUT - Outline application for Phased Redevelopment of Site incorporating Offices, Production Factories, Warehousing, Car Parking and two new Vehicular Accesses granted in January 1984. Full planning for Phase one of the redevelopment was granted under application 83/01333/FUL01 in March 1984; ▲ Applications associated with the formation of car parking granted in November 1989 (89/01436/FUL – 22 additional car parking spaces) and April 1990 (89/01649/FUL); ▲ 90/01856/FUL - Erection of new boiler house, granted in April 1991; ▲ Various applications for minor alterations were granted between August 1990 and March 1999, including 98/02676/FUL for the addition of a new passenger lift, modifications to external cladding and addition of a glazed link to restaurant at Cray House granted in March 1999; and ▲ 99/01700/FUL - Retention of a back-up generator in rear car park area (off-Site to the north-west) granted in August 1999. Supporting documents show these are consistent with the current generator units noted during the walkover. Proposed plans do not show any underground pipework or fuel storage associated with the generators.
<p>Part 2A of the Environmental Protection Act (EPA) 1990</p>	<p>The Contaminated Land Officer (CLO) at the London Borough of Bexley confirmed in July 2014 that the Site is not on their list of prioritised sites under Part 2A of the Environmental Protection Act (EPA) 1990, and they do not have any previous intrusive investigation and/or remediation information for the Site.</p> <p>Delta-Simons has recently contacted the CLO to enquire whether there have been any changes to the above, at the time of writing a response was yet to be received.</p> <p>A copy of their response from July 2014 is provided in Appendix F.</p>

3.0 Conceptual Site Model

3.1 Introduction

A Conceptual Site Model (CSM) represents the relationships between contaminant sources, pathways and receptors, to support the identification and assessment of Possible Contaminant Linkages (PPL).

3.2 Potential Contamination Sources

Identified potential contamination sources are presented in the following table:

Reference	Source	Location	Dates Present	Potential Associated Contaminants of Concern
S1	Potential Made Ground	Across the Site	1870 to present	Asbestos, inorganic and organic contaminants, hazardous ground gases
S2	Former works	Across the north Site	1928 to the late 1990s.	Asbestos (Bakelite), inorganic and organic contaminants, metals, polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbons (TPH) etc.
S3	Potentially contaminated soil and groundwater from off-Site sources (including wider historical works, bus depot, garage, laundry, photographic works, the current council depot/ waste transfer site, and generators)	Within 100 m of the Site	1870 to present	Inorganic and organic contaminants, metals, polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbons (TPH) etc. and hazardous ground gases

* Based on UK Department of the Environment Industry Profiles

3.3 Potential Receptors

Relevant potential receptors are considered to include:

- ▲ R1 - Construction workers;
- ▲ R2 - Third parties during construction (nearby users/ residents);
- ▲ R3 - Future Site users and maintenance workers;
- ▲ R4 - The underlying groundwater;
- ▲ R5 - The built environment (existing buildings and infrastructure/ utilities); and
- ▲ R6 – The River Cray approximately 40 m north-west of the Site.

3.4 Potential Pathways

The potential pathways are considered to be as follows:

- ▲ P1 - Direct contact, ingestion or inhalation of soil bound contaminants/ dust during or following redevelopment;
- ▲ P2 - Inhalation of organic vapours associated with contamination;
- ▲ P3 - Migration of ground gas/ vapours into on-Site buildings causing asphyxiation or risk of explosion; and
- ▲ P4 - Leaching of contamination into groundwater followed by migration of groundwater to the wider groundwater environment or discharge to surface waters.

Contaminant Linkage Assessment					
Source(s)	Pathway(s)	Receptor(s)	Risk Rating*	Justification & Mitigation (if required)	Requires Investigation
S1 Potential on-Site Made Ground Deposits	P1, P2, P3, P4.	R1, R2, R3, R4, R5, R6	Low Risk	<p>Given the presence and subsequent clearance of the former Cray Works and residential properties, Made Ground deposits are likely to be present beneath the Site. However, development of the building in the 1970s/ 80s is likely to have involved some excavation of shallow soils to form the development platform and install foundations for the building. In consideration of the proposed change of use to residential flats (involving the upper floors only with no residential units at ground floor), the Site is largely covered with the current building, with communal areas and the retention of the existing undercroft proposed at ground level and therefore, the risk posed to future residents is considered to be low.</p> <p>It is understood that there are no proposals to break ground as part of the proposed change of use. Therefore the risk to workers undertaking the conversion/ refurbishment works from contact with Made Ground is considered to be low.</p> <p>Significant sources of potential ground gas generating material have not been identified, whilst ground gases could be present associated with any Made Ground, there are no apartments proposed for ground floor level with communal, ventilated and less frequently occupied areas at ground level, the risk to future residents from hazardous ground gases is considered to be low.</p> <p>The buildings and hardstanding cover across the Site and the presence of clays within the superficial deposits will restrict the infiltration of rainwater and limited leaching of contaminants offer some protection to the underling Chalk Aquifer and the proximate watercourse (40 m west). Also, contamination sources are historical (circa 35 years old), and any mobile fraction is considered likely to have already migrated and/ or degraded. The risk to controlled waters is considered to be low to moderate.</p>	N
S2 Former on-Site works uses	P1, P2, P3, P4	R1, R2, R3, R4, R5, R6	Low Risk	<p>Asbestos materials are understood to be present within the fabric of the building.</p> <p>A pre-demolition survey should be undertaken and referred to prior to any works involving changes to the fabric of the building.</p>	N

Contaminant Linkage Assessment					
Source(s)	Pathway(s)	Receptor(s)	Risk Rating*	Justification & Mitigation (if required)	Requires Investigation
				Workshop sessions for Site workers should be implemented for early identification of previously unidentified asbestos containing materials. Specialist contractors may be required for the removal and encapsulation (if required) of any asbestos containing materials on-Site. Safe working procedures will be implemented, with good standards of personal hygiene, appropriate levels of personal protective equipment (PPE) provided and utilised, and measures to reduce dust formation.	
S3 Potentially contaminated soil and groundwater from off-Site sources	P1, P2, P3, P4	R1, R2, R3, R4, R5, R6	Low Risk	Whilst potential sources of contamination have been identified in the surrounding area, these are historical and have been redeveloped and are, therefore, unlikely to be significant in relation to the proposed change of use, (given there are no residential units proposed for the ground floor). The Site and surrounding area are covered with buildings and hardstanding, resulting in restricted infiltration of rainwater and limited leaching of contaminants.	N

- Risk definitions are provided in Appendix G.

4.0 Conclusions & Recommendations

<p>Contamination Risks Associated with Ownership (Proposed Use)</p>	<p>There is considered to be a Low risk of enforcement action by the regulatory authorities under Part 2A of the Environmental Protection Act, the Water Resources Act or the Environmental Damage Regulations, given the Sites proposed change of use from office space to residential accommodation (with communal areas and no proposed residential units at ground floor level), and with the recommendations mentioned below. The potential for legal action by surrounding landowners / Third Parties based on the potential for contamination to migrate off-Site (ongoing or historically) is considered to be Low.</p>
<p>Potential Contaminated Land Development Risks</p>	<p>Whilst the presence of contamination associated with the historical uses of the Site cannot be completely discounted and the preliminary risk assessment has identified a Low to Moderate risk of soil/ groundwater contamination and hazardous ground gas at the Site, given the presence of the building and hardstanding across the Site and the underlying lower permeability superficial clay deposits, which will result in restricted infiltration of rainwater and limited leaching of contaminants and ground gasses, the risk to future site users is considered to be Low.</p>
<p>Recommendations</p>	<p>It is understood that there are no proposals to break ground as part of the proposed change of use, therefore, intrusive investigation works are not considered to be required prior to the proposed conversion works.</p> <p>It is understood that asbestos containing materials (ACMs) are present within the building fabric. An appropriate asbestos survey should be completed prior to commencement of the proposed works. Safe working procedures should be implemented, good standards of personal hygiene should be observed, and appropriate levels of personal protective equipment (PPE) provided and utilised to reduce the potential risks from ACMs.</p>

Appendix A – Limitations

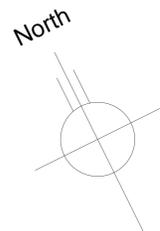
Limitations

The recommendations contained in this Report represent Delta-Simons professional opinions, based upon the information listed in the Report, exercising the duty of care required of an experienced Environmental Consultant. Delta-Simons does not warrant or guarantee that the Site is free of hazardous or potentially hazardous materials or conditions.

Delta-Simons obtained, reviewed and evaluated information in preparing this Report from the Client and others. Delta-Simons conclusions, opinions and recommendations has been determined using this information. Delta-Simons does not warrant the accuracy of the information provided to it and will not be responsible for any opinions which Delta-Simons has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

This Report was prepared by 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. In particular, Delta-Simons does not intend, without its written consent, for this Report to be disseminated to anyone other than the Client or to be used or relied upon by anyone other than the Client. Use of the Report by any other person is unauthorised and such use is at the sole risk of the user. Anyone 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 the Consultant.

Appendix B – Proposed Development Plans



COPYRIGHT © THE BUSH CONSULTANCY
 Please use this drawing under strict control to avoid duplication.
 Contractors, subcontractors and suppliers must verify all dimensions on site before commencing any work to avoid any risk of error.
 The drawings shall be used in conjunction with structural, mechanical and electrical engineers drawings, and all discrepancies are to be reported to the architect.

SUMMARY SOA

APARTMENTS

1 bed	39
2 bed	15
3 bed	03
TOTAL	57

PARKING SPACES

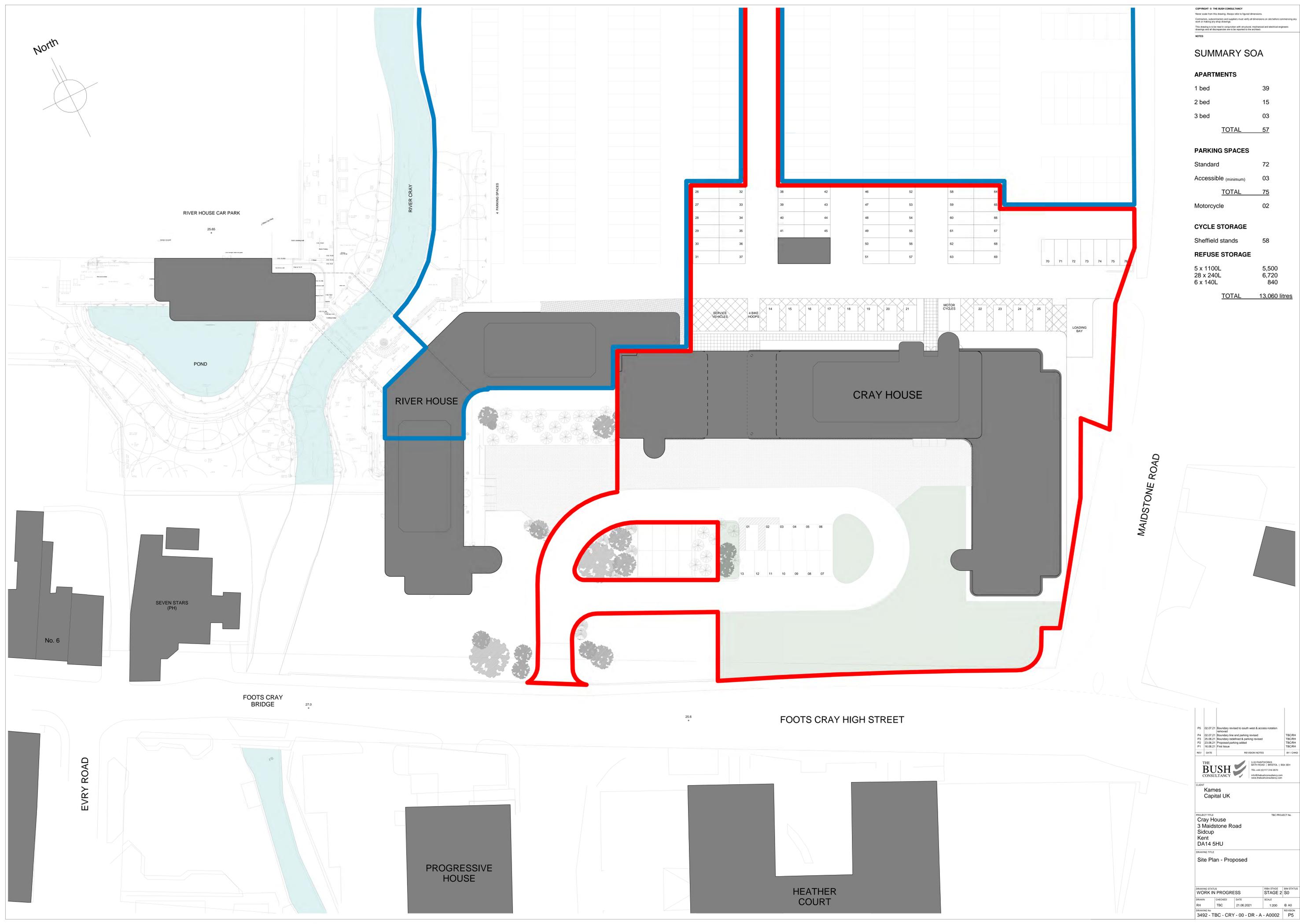
Standard	72
Accessible (minimum)	03
TOTAL	75
Motorcycle	02

CYCLE STORAGE

Sheffield stands	58
------------------	----

REFUSE STORAGE

5 x 1100L	5,500
28 x 240L	6,720
6 x 140L	840
TOTAL	13,060 litres



PS	02.07.21	Boundary revised to south west & access location removed	
PA	02.07.21	Boundary line and parking revised	TBCRH
PA	05.06.21	Boundary revised & parking revised	TBCRH
PA	23.06.21	Proposed parking added	TBCRH
PA	16.06.21	First Issue	TBCRH
REV	DATE	REVISION NOTES	BY: CHRD

THE BUSH CONSULTANCY
 5/12 PAINTWORKS BATH ROAD | BRISTOL | BS4 3BH
 TEL: +44 (0)117 316 0000
 info@bushconsultancy.com
 www.bushconsultancy.com

CLIENT: **Kames Capital UK**

PROJECT TITLE: **Cray House**
 3 Maidstone Road
 Sidcup
 Kent
 DA14 5HU

DRAWING TITLE: **Site Plan - Proposed**

WORK IN PROGRESS	STAGE 2 SO			
DRAWN: RH	CHECKED: TBC	DATE: 21.06.2021	SCALE: 1:200	BY: AD

DRAWING NO: **3492 - TBC - CRY - 00 - DR - A - A0002**

Appendix C – Site Photographs

Site Photographs



Photograph 1 – Ventilation plant on roof.



Photograph 2 - Water pumps, roof plant room.



Photograph 3 – Lift Motor, roof plant room.



Photograph 4 – Battery storage in the ground floor plant room in the north of the Site.



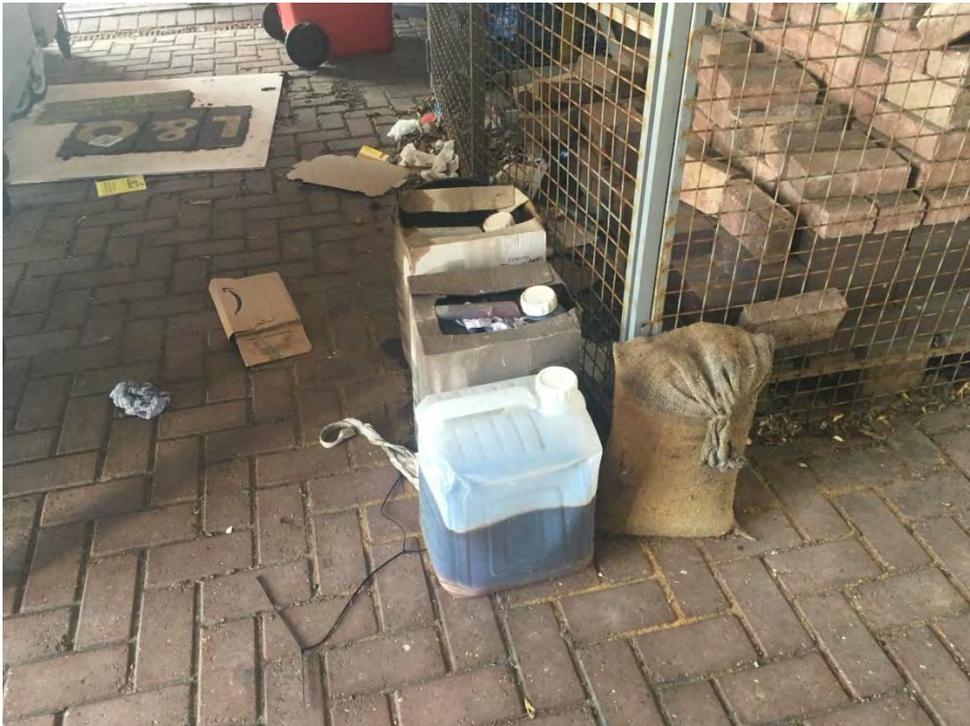
Photograph 5 – Gas boiler, ground floor plant room in the north of the Site.



Photograph 6 – Maintenance materials in the ground floor plant room in the north of the Site.



Photograph 7 – Waste storage area in the undercroft under the west of the building.



Photograph 8 – Waste oil from off-Site canteen stored in the undercroft waste storage area.