LANMOR Consulting

Civil Engineers & Transport Planners

Kingston Bridge House

Environment Statement

November 2020

201345/ES/JR/KBL/01

LANMOR Consulting

Civil Engineers & Transport Planners

LANMOR Consulting Ltd,
Thorogood House, 34 Tolworth Close
Surbiton, Surrey, KT6 7EW

Tel: 0208 339 7899 Fax: 0208 339 7898
E-mail: info@lanmor.co.uk
Internet: www.lanmor.co.uk

DOCUMENT STATUS

Project:	Kingston Bridge House
Title:	Environment Statement
Client:	Westcombe Group
Reference:	201345/ES/JR/KBL/01

Produced by:	TS	----------	Date:	----------
Checked by:	KTP	----------	Date:	----------
Approved by:	KBL	----------	Date:	----------

Issue/revision	Date	Status	Issued by
First	03/11/2020	For Approval	KBL

CONTENTS

TABLES

FIGURES

APPENDICES

1 INTRODUCTION

1.1 Abstract

1.1.1 Lanmor Consulting has been commissioned to review the contamination risk to the proposed development posed by the previous uses on site.

1.1.2 A desktop Phase 1 Environmental Assessment has been conducted into the past and present usage of the site at Kingston Bridge House, Church Grove, Kingston-Upon-Thames, KT1 4AG. The purpose of the study was to conduct an appraisal of the property and its immediate surroundings and to research available data regarding chemical constraints that may impinge upon the client's proposal to redevelop the site for residential use. The study comprised a walkover survey followed by examination of historic map records. In addition, searches were made of various databases held by the Environment Agency and others. The information obtained from these sources is summarised herein.

1.1.3 The principal aims of a Phase I Environmental Assessment are to obtain information to:

- Evaluate the environmental setting of the Site and to identify sensitive receptors;
- Provide information from which possible contaminant-pathway-receptor relationships can be identified; and
- Formulate a Conceptual Site Model (CSM) to consider the significance of the contaminant-pathway-receptor relationships and identify whether further investigation is required.

1.1.4 The Phase 1 contaminated land assessment has been undertaken based upon the source pathway-receptor model as defined in Part 11A of Environmental Protection Act 1990. This assessment adheres to these principal aims and has also been undertaken in accordance with current relevant guidance and best practice as set out within Contaminated Land Report (CLR) 11.

1.1.5 This report provides an assessment of the potential contamination status of the ground below the site based upon the available information. In preparing this report from information provided by the Client, environment agency, landmark and others, any conclusions, opinions and recommendations which have been determined using this information cannot be warranted as to the accuracy of this information and opinions expressed, or conclusions which are reached in reliance upon this information which is subsequently proven to be inaccurate.

2 DEVELOPMENT PROPOSALS

2.1.1 The Site is centred on the National Grid Reference 517490, 169400 it is located within the Borough of Richmond. The site is located at the junction of Church Grove and Hampton Court Road, opposite the Kings Field..

2.1.2 Kingston Bridge House is currently made up of student living facilities which spans over 7 floors. Drawings FLU.1191.2.03 – 09 in Appendix A show the plans for the existing development.

Figure 2.1 – Site Location Plan

2.1.3 The proposed development will consist of the conversion of the existing student living accommodation to residential apartments a total of 89 units will be provided with additional floors constructed on the roof of the existing building. The development will consist of 7 x studio, 45 x 1-bed, 26 x 2-bed and 11 x 3-bed units.

2.1.4 The development proposals are to convert the existing building to residential accommodation. The

2.1.5 The age of the building dates back to 1950-60's when contain asbestos in a variety of forms was used in building construction, the office building was converted to student accommodation recently so it is unlikely the refurbishment would have incorporated asbestos but it is not known if any was left in the original building fabric.

2.1.6 Under current legislation (The Control of Asbestos Regulations 2012), asbestos is presumed present unless confirmed otherwise. Given the proposed change of use of the site (understood to involve internal alterations), a formal Demolition / Refurbishment Asbestos Survey should be conducted prior to any demolition work commencing.

3 HISTORIC LAND USE ON THE SITE

3.1 Abstract

3.1.1 There is currently a single building on site the building is constructed in an L-shape. The front building fronting Hampton Court Road is 7 stories high the section of the building to the north is 4 stories high with ground floor being under croft used for storage etc.

3.1.2 To the east of the site is the River Thames, south are open fields and to the north there is mix of residential and commercial properties. To the east there are playing fields and allotments.

3.2 Review of Historical Maps

3.2.1 Historical OS mapping for the area was obtained and reviewed to identify any potentially contaminative former land uses at the Site or the surrounding area.

3.2.2 The earliest historic ordnance Survey Maps of 1869 show that the site was developed with a number of buildings fronting Hampton Court Road. By this times the road networks is established there is a bridge over the River Thames to Kingston upon Thames. To the north of the site is St John's Church with a number of buildings to the north and east.

3.2.3 The 1896 maps shows additional buildings on the site fronting on to Church Grove. A Foundry is noted approximately 200m to the north and a gas works and sewage works are noted to the northeast approximately 4m away.

3.2.4 The maps show the area remains largely unchanged but buildings on the site have been replaced with the current buildings. A timber yard is also recorded to the northeast of the site just south of the railway line. By 2006 the timber yard has been replace with residential buildings and the most recent drawing shows the gas works has been redeveloped with residential accommodation.

3.2.5 There are several current or recent operations that may have the potential to cause contamination in the vicinity of the site, Table 3.1 below lists the type of operation and distance from site.

Source	Location	Potential Contaminants
Timber Yard (until 1987)	91m to the northeast	Paints and chemicals
Metal casting foundry (until 1934)	226m North	Heavy meatless, solvents and chemicals
Transport and cargo handing	179m to the northeast and 250m to the east	Hydrocarbons and oils.

Table 3.1 – Key Off-Site Potentially Contaminative Land Uses

3.2.6 There are also a number of other potentially contaminating sources further from the site and these are all listed in appendix A. Given the historic and current uses on site the risk of contamination to the site is considered to be low, the risk from historic uses in the surrounding area is considered to be low to moderate.

4 GEOLOGY AND HYDROGEOLOGY

4.1 Geology

4.1.1 The British Geological Survey indicates that the site sits on a sedimentary bedrock formation of London Clay, the rock layers or drift deposits have a low permeability that have negligible significance for water supply or river base.

4.1.2 Superficial deposits have also been recorded at the site. The superficial geology consists of Kempton Park Gravel Member, which is made up of sand and gravel. These deposits were formed between 1.6 and 1.8 million years ago during the Quaternary period.

4.1.3 An assessment of the potential for radon and coal mining issues was reviewed, the site has been assessed as being in a low probability radon area and not in a coal mining area as indicated by the British Geological Survey and National Geoscience Information Service.

4.2 Flood Risk

4.2.1 The Site is located in Flood Zones 1 and 2 land assessed as having a 1.0% to 0.1% probability of river flooding in any year. The site is not at risk from any forms of flooding, including groundwater or surface water flooding, nor has it been affected by any known historic flood events. For full detail please refer to report 201345/FRA/JR/KBL/01.

4.3 Site Hydrogeology

4.3.1 From the Groundwater Vulnerability Map, the aquifer designation for the bedrock is classified as unproductive, with low permeability.

4.3.2 The bedrock is classified as unproductive stratum (deposits of negligible permeability) (U). The site lies on the boundary of superficial deposits which are classified as principal aquifer and a secondary undifferentiated.

4.3.3 The site is not in a ground water protection zone, the nearest abstraction licences are from the River Thames within 350m of the site. The nearest water course is the River Thames to the east of the site.

4.4 Environmentally Sensitive Areas

4.4.1 Environmentally Sensitive Areas include Nitrate Sensitive Area on the other side of the River Thames, Sites of Special Scientific Interest (SSSI's) of Hampton Court and Bushy Park. Overall the area is considered to have a moderate to high environmental sensitivity.

5 CONTAMINATION RISK CONCEPTUAL SITE MODEL

5.1 Risk Assessment

5.1.1 Risk classification is designed to consider environmental risk in the context of alternative use strategies where redevelopment or a change of use may be required. This must be set in the context of the following hierarchy of risks as follows:-

5.1.2 Low: Little risk of contamination where all development options are likely to be possible with little or no remediation measures. Little potential for environmental pollution. Confirmatory site investigation required.

5.1.3 Medium: Risk of contamination but allowing non-sensitive development such as commercial for reasonable costs of remediation. More sensitive development such as housing may require substantial remedial measures. Potential for environmental pollution. Site investigation required.

5.1.4 High: Significant risk of contamination without remediation. Precludes all but the least sensitive of development such as car parking. Significant potential for environmental pollution. Remediation measures

5.1.5 At the preliminary risk assessment stage, which is usually based upon desk top information, the decision on whether a possible pollutant linkage poses a potentially unacceptable risk is based upon judgement. The significance of the possible pollutant linkage will also be determined dependant on the context of the land use and the purpose of the assessment. Assessing risks from land contamination underpins the “suitable for use” approach adopted for Part 2A of the Environmental Protection Act 1990 regulatory regime.

5.1.6 A conceptual exposure model represents the relationships between contaminant sources, pathways and receptors, to support the identification and assessment of possible pollutant linkages (PPL) - and an assessment of known pollutant linkages, where identified from existing information.

5.2 Conceptual Model

5.2.1 The existing site comprises of a part 4 / 7 storey building for student accommodation with parking around. The geology of the land is known to be London Clay Formation. The hydrogeology beneath the Site is classified as unproductive and superficial deposits are classified as a principal aquifer. The nearest water feature is a River Thames located 140m from the site. The overall environmental sensitivity of the site setting is considered to be moderate to high.

5.2.2 A Preliminary Conceptual Model is therefore presented at Figure 1 below.

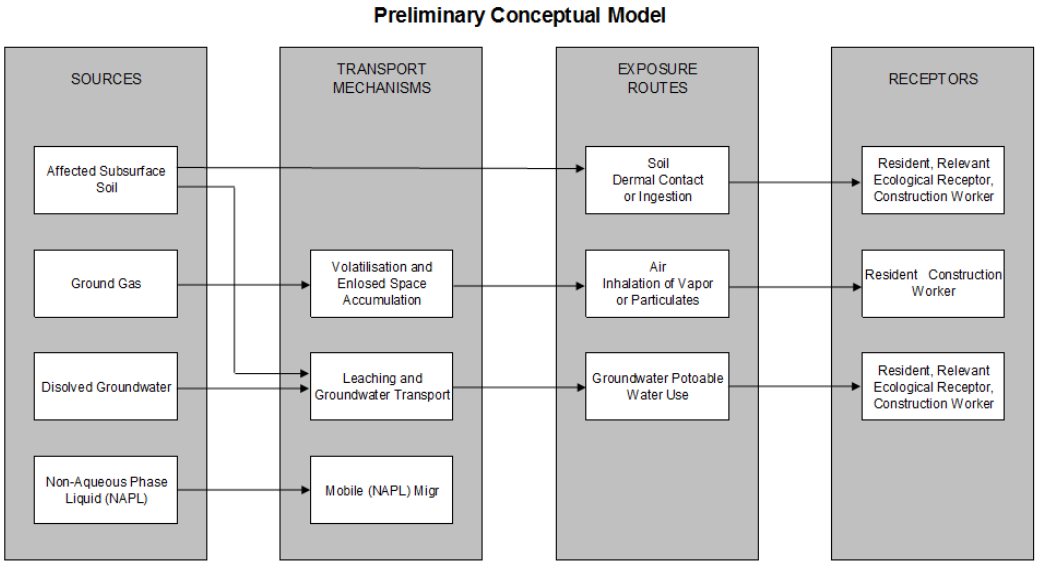

Figure 5.1 – Conceptual Model

5.2.3 Tabulated below are the potential sources of contamination identified as part of this study both on and off site.

Onsite potential pollution sources	
None	
Offsite potential pollution sources	
Timber Yard	Paints, solvents and chemicals
Metal casting foundry	Heavy meatless, solvents and chemicals
Transport and cargo handing	Hydrocarbons and oils.
Dry Cleaners	Solvents
Garage repair services	Hydrocarbons and oils.

Table 5.1 – Potential Pollution Sources

5.2.4 Potential receptors to any contamination which may be present across the site are identified as follows,

a) Current and future Site workers and visitors,
b) Maintenance workers during any future sub surface works undertaken at the site,
c) Service conduits, especially potable water supply pipes,
d) Groundwater and
e) Water course

5.2.5 The main pathways include,

a) Exposure via direct contact, ingestion and inhalation of contamination,
b) Leaching of contamination from soils into the Aquifer,
c) Migration of contamination through drains and service runs, pipes etc and
d) Vertical and lateral migration of ground gas.

Source(s)	Receptor(s)	Pathway(s)	Pollutant Linkage?
Potential contaminated soils and/or groundwater	Current and future Site users.	Direct contact, ingestion and inhalation of dust and vapours.	**Unlikely**
	Construction/ maintenance workers during any future redevelopment or sub surface works.	Direct contact, ingestion and inhalation of dust and vapours.	**Unlikely**
	The groundwater beneath the Site.	Leaching of soils and vertical migration into the underlying groundwater.	**Unlikely**
	The Aquifer beneath the Site.	Leaching of soils and vertical migration into the underlying groundwater.	**Unlikely**
	Water supply pipes.	Permeation of hydrocarbons through plastic pipework.	**Unlikely**
Potentially contaminated soil and groundwater from off-site sources.	Current and future Site users.	Lateral migration of water soluble contaminants and inhalation of volatile vapours	**Unlikely**
Ground gas.	Current and future Site users.	Accumulation of gas in enclosed spaces and sub-floor voids, and subsequent inhalation.	**Unlikely**
Asbestos containing materials (ACM's) within the fabric of the buildings.	Current and future Site uses and construction workers.	Inhalation of asbestos Fibres	**Possible**

Table 5.2 – Materials Linkage

6 SUMMARY AND CONCLUSION

6.1.1 The current use of the site change from student accommodation to residential dwellings, the buildings are to be convert and there will be only limited excavations associated with the changes to the external parking. The proposals comprise of the conversion of the current property to 89 dwellings. Following a review of the available environmental data the overall environmental sensitivity of the site is considered to be moderate to high as it is located next to SSSI sites.

6.1.2 Based on the information gathered as part of the desk study, it is considered that in the site's current use, the risk of statutory and third party liability associated with the potential for soil and groundwater contamination to be present at the site is low.

6.1.3 Information obtained during the course of this assessment has indicated there is likely to be a low risk of contamination from the site. The recommendation is therefore that additional widespread intrusive investigation of the site in its current state is not considered necessary for the change of use. It the proposals are for widespread demolition and or major excavation activities then intrusive investigations are recommended to establish any potential contamination of the site from neighbouring uses. A pre demolition asbestos survey should be undertaken before any construction activities are undertaken to convert the building to a residential use.

6.1.4 It is recommended that a hot spot protocol should be implemented for any excavations on site to identify any "unusual" material that may be encountered which can be identified by its colour, odour or physical nature is notified to site management so that the appropriate action can be taken. This Phase 1 contaminated land assessment has been undertaken based upon the source pathway-receptor, the information collect as part of the desktop study found no evidence of contaminates associated with the previous uses of the site that would present a significant harm or potential to cause harm nor pollute controlled ground waters as a result building being converted to a residential use.

APPENDIX A

Enviromental Data and Historical Maps