

Phase 1 Desk Study

Land rear of The Hollies, Reading Road, Burghfield Common, Reading, Berkshire, RG7 3BH

On behalf of Ta Fishers & Sons Limited

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Issue	Prepared By	Checked By	Verified By
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	Anna Smaje BSc (Hons) Engineer	Miltiadis Mellios MSc(Eng) GMICE Principal Engineer	Francis Williams MGeol (Hons) FGS CEnv AGS CGeol Director

Site Investigations | Environmental Consultants | Geotechnical Engineers

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk groundandwater.co.uk

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EXECUTIVE SUMMARY

PROPOSED DEVELOPMENT	At the time of reporting, October 2021, the proposed development was understood to comprise of the construction of 27No. residential dwellings with associated private rear areas of soft landscaping and hardscaping. A Proposed multi- occupancy building with 5No. privately contained apartments to be constructed in the eastern corner. A proposed area of open space and an attenuation pond was to be constructed within the northern corner of site.
GEOLOGY	The British Geological Survey Solid and Drift Geology Map for the Burfield area (Reading Sheet No.268) revealed that the site was underlain by superficial deposits of the Silchester Gravel Member within the eastern portion of the site of site, underlain by bedrock deposits of the London Clay Formation. No areas of Made Ground or Reworked Ground were noted within a 250m radius.
HYDROGEOLOGY	A study of the aquifer maps on the DEFRA website revealed the site was underlain by a Secondary (A) Aquifer comprising the Silchester Gravel Member along the south-eastern portion of the site. The large majority of the site was noted to be underlain by Unproductive Strata comprising bedrock deposits of the London Clay Formation.
RADON	BRE 211 (2015) Map 4 of the Hampshire, Berkshire and South Oxfordshire area indicated that the site was not located within an area where mandatory protection measures against the ingress of radon were likely to be required. A review of the freely available Public Health England radon database, UK Radon, indicated that the site was located within a 1km grid square, where the maximum radon potential of less than 1% was recorded. The neighbouring 1km grid square was noted to have a maximum radon potential of 1 - 3%. Basic radon protection measures are required in areas where more than 3% of houses are at or above the Action Level. The site was in an area where a risk assessment was not required.
POTENTIAL SOURCES OF CONTAMINATION	Full details can be seen in section 6.3 and 6.4 of this report. Onsite – The Desk Study has revealed the following potential sources of contamination onsite: <ul style="list-style-type: none"> • Past construction/ demolition onsite Offsite – The Desk Study has revealed the following potential sources of contamination within the sites environs: <ul style="list-style-type: none"> • Nearby historical tanks/garages/smithy/ Horticultural Research Laboratory • Nearby Old Gravel pits/Old Clay Pits
RECOMMENDATIONS/ PHASE 2 OBJECTIVES	On the basis of the Phase 1 Site Assessment the following contaminants of concern have been identified and should be included in the chemical analysis suite for the ground investigation: <ul style="list-style-type: none"> • Asbestos • Semi-metals and heavy metals; • Poly-cyclic aromatic hydrocarbons (PAHs); • Speciated TPH including full aliphatic/aromatic split; • Volatile/semi-volatile organic compounds – BTEX Used as marker compounds for on-site; • Sulphates; • Cyanide; • Pesticides; • Herbicides and; • Ground-gasses.

1. INTRODUCTION

1.1. General

Ground and Water Limited were instructed by TA Fisher & Sons Limited on the 29th September 2021 to conduct a Desk Study on the site at Land rear of The Hollies, Reading Road, Burghfield Common, Reading, Berkshire, RG7 3BH. The scope of the investigation was detailed within the fee proposal GW-0010, dated the 29th July 2021.

1.2. Aims of the Investigation

This Phase 1 Desk Study was undertaken to advise the client on risk factors pertaining to the site with special reference to former and present day potential contaminative uses and their impact on sensitive receptors, these being human health, controlled waters, buildings, building materials and services.

1.3. Conditions and Limitations

This report has been prepared based on the terms, conditions and limitations outlined within Appendix A of this report.

2. SITE SETTING

2.1. Site Location

The site comprised a ~18,200m² irregular shaped plot of land orientated in a north-east to south-west direction, located to the rear of The Hollies Care Home along the western side of Reading Road. The site was located in Burghfield Common, a small village to the south of Reading in the western portion of Berkshire.

The national grid reference for the centre of the site was approximately SU 66057 67539. A site location plan is given within Figure 1. A plan showing the site area is given within Figure 2.

2.2. Site Description

A Site Walkover was undertaken on the 15th October 2021. A description of the site, as noted during the Site Walkover, is tabulated below. An aerial view of the site, showing an approximate site boundary, is given within Figure 3.

Site Description Sheet	
Use of site	At the time of the time of the site walkover visit, October 15 th 2021. The site comprised a large area of undeveloped land.
Site topography	The site was noted to be steeply sloping upwards to the north-west.
Area topography	The site was located on a steep embankment forming the upward slope to Burghfield Common. The general area where the site was located was noted to be sloping upwards from the west to the towards the south-east.
Structures onsite	A wooden shed was noted to the south of site.
Structures off-site	The site was located to the northwest of The Hollies Care home. The east and west of site was surrounded by several residential dwellings.
Use of surrounding ground	A care home was located to the south of site. The southeast and west of site was occupied by residential dwellings with associated access and areas of hardscaping. To the north of site was occupied by a large area of undeveloped land.
Boundary features	Northern Boundary: An open boundary to a large area of undeveloped land. Eastern Boundary: Various species of large overgrown shrubs and trees. Southern Boundary: General access into the nearby residential development. Western Boundary: Various species of large overgrown shrubs and trees.
Site covering	The majority of the site was covered in undeveloped grassland.
Contamination sources onsite	None noted.
Contamination sources off-site	None noted.
Vegetation onsite	Approximately 7m - 12m tall semi-mature/mature trees surrounding the sites boundaries. Overgrown grass and shrubs were noted to cover most of the site.
Vegetation off-site	Approximately 10m – 15m tall trees sporadically placed adjacent to the site boundaries. Several overgrown shrubs and grass surrounding the site.
Services	None noted.

2.3. Proposed Development

At the time of reporting, October 2021, the proposed development was understood to comprise of the construction of 27No. residential dwellings with associated private rear areas of soft landscaping and hardscaping. A Proposed multi- occupancy building with 5No. privately contained apartments to be constructed in the eastern corner. A proposed area of open space and an attenuation pond was to be constructed within the northern corner of site. The proposed development plan can be seen within Figure 4.

2.4. Geology

The British Geological Survey Solid and Drift Geology Map for the Burfield area (Reading Sheet No.268) revealed that the site was underlain by superficial deposits of the Silchester Gravel Member within the eastern portion of the site of site, underlain by bedrock deposits of the London Clay Formation. No areas of Made Ground or Reworked Ground were noted within a 250m radius.

Superficial deposits (Drift) are the youngest geological deposits formed during the most recent period of geological time. They rest on older deposits or rocks referred to as bedrock (Solid), which are the main mass forming the Earth. Bedrock is present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Silchester Gravel Member

The Silchester Gravel Member, formerly named as Plateau Gravel, largely comprise gravel, variably clayey and sandy. The deposits range in thickness from 1-8m and are generally encountered between Reading and Newbury.

London Clay Formation

The London Clay Formation comprises stiff grey fissured clay, weathering to brown near surface. Concretions of argillaceous limestone in nodular form (Claystones) occur throughout the formation. Crystals of Gypsum (Selenite) are often found within the weathered part of the London Clay Formation, and precautions against sulphate attack to concrete are sometimes required. The lowest part of the formation is a sandy bed with black rounded gravel and occasional layers of sandstone and is known as the Basement Bed.

A BGS borehole (SU66NE50) located ~157m south-west of the site revealed a capping of drift deposits consisting of a loamy red clay and gravel. These deposits were underlain by blue clay with stones and sand then underlain by deposits described as grey sandy clay with shells and chalk flints for the remainder of the borehole a depth of approximately 29m bgl. No groundwater was recorded within the borehole.

2.5. Hydrogeology and Hydrology

A study of the aquifer maps on the DEFRA website revealed the site was underlain by a **Secondary (A) Aquifer** comprising the Silchester Gravel Member along the south-eastern portion of the site. The large majority of the site was noted to be underlain by **Unproductive Strata** comprising bedrock deposits of the London Clay Formation.

Secondary aquifers include a wide range of drift deposits with an equally wide range of water permeability and storage capacities. Undifferentiated Secondary Aquifers are assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both a minor aquifer and non-aquifer in different locations due to the variable characteristics of the rock type.

Unproductive Strata are rock layers with low permeability that have negligible significance for water supply or river base flow. These were formerly classified as non-aquifers.

Examination of the Environment Agency records showed that the site **did not** fall within a Groundwater Source Protection Zone (SPZ) as classified in the Policy and Practice for the Protection of Groundwater.

The nearest surface water feature was a stream ~100m north likely associated with the Burfield Brook River ~900m south of the site.

From analysis of hydrogeological and topographical maps the actual groundwater table was anticipated to be encountered at depth below the London Clay Formation. Some groundwater may be encountered at shallow to moderate depth within the Silchester Gravel Member within the south-eastern portion of the site. Some amounts of groundwater however may be present at shallower depths within Made ground/Topsoil, or silty/sandy pockets of the London Clay Formation. It was considered that groundwater was flowing in a north-easterly direction toward the River Kennet in line with local topography.

Examination of the Environment Agency records showed that the site was located within a Flood Zone 1, i.e. an area with a very low probability of flooding.

2.6. Radon

BRE 211 (2015) Map 4 of the Hampshire, Berkshire and South Oxfordshire area indicated that the site **was not** located within an area where mandatory protection measures against the ingress of radon were likely to be required.

A review of the freely available Public Health England radon database, UK Radon, indicated that the site was located within a 1km grid square, where the maximum radon potential of less than 1% was recorded. The neighbouring 1km grid square was noted to have a maximum radon potential of 1 - 3%. Basic radon protection measures are required in areas where more than 3% of houses are at or above the Action Level.

The site was in an area where a risk assessment was not required.

2.7. Internet Search (Site Setting)

2.7.1. Available Unexploded Ordnance (UXO) Map Review

A review of the data available on www.zeticauxo.com/ revealed the site was located within a low -risk area associated with unexploded ordnance (UXO), as indicated by having <15 bombs dropped per 1000 acres.

2.7.2. Historical Landfill Tool Review

A review of the data available on www.groundsure.io/ revealed that no historical landfills were recorded within a 250m radius.

2.7.3. LIDAR Tool review

A review of the data available on www.lidarfinder.com showed no features of concern (e.g. potential infilled ground or potential indication for dissolution related features

3. HISTORICAL REVIEW

3.1. Historical Map Review

The object of this search was to report on the history of the site and its environs from available County Series and Ordnance Survey Maps dating from the mid to late 19th Century to the present day and downloaded from Groundsure. In the following sections dealing with individual maps, only features considered to have a potential contaminative impact on the site and usually within a notional 250 metre radius of the site boundaries are discussed. Any distances quoted for features remote from the site have been scaled from the maps and are only approximate. The north point and approximate extent of the site are indicated on each figure. The historical maps referred to are given within Appendix C. The implications of the map search are discussed later within this report.

Environmental Significance of Data from Historical Maps			
Maps Dated Between	Scale	Site	Environs
1872– 1877	1:2,500 (x2) 1:10,560 (x1)	The site comprised a part of an undeveloped open plot of land, The south-western portion of the site was noted to comprise mixed woodland. A pond was noted onsite.	The sites environs consisted of large areas of undeveloped land to the west. Structures (presumably) residential dwellings were noted directly south and east of the site. Pondhouse Cospe was noted ~90m north of the site, extending further northwards. A playing court and ‘Methodist chapel’ were noted east of site. 3 ponds were noted 230m south, 200m east and 230m north of site.
1894 - 1899	1:2,500 (x1) 1:10,560 (x3)	The site was noted to have been subdivided into 3No. fields. The mixed woodland to the south of the site had been cleared. No further significant changes recorded.	An Old Gravel Pit was recorded ~100m northwest to site (1898). ‘The Hollies’ was noted to the eastern corner of site. A brickworks ~170m south-west. A Smithy was recorded ~158m south of site.
1900	1:10,560 (x1)	No significant changes recorded.	Clay Hill was noted ~200m northwest of site. An extension of Pondhouse Farm was noted extending west.
1912 - 1913	1:2,500 (x1) 1:10,560 (x2)	No significant change recorded.	Further expansion to the nearby developments were noted south of the site. No further significant changes were noted. The brickworks was discussed as an Old Clay Pit ~170m southwest.
1938	1:10,560 (x1)	No significant changes recorded	A tank was noted north ~368m of site.
1961- 1969	1,2,500 (x1) 1:10,560 (x1)	A tennis court was recorded in the eastern section of site (1969). On-site pond infilled.	The Old Gravel Pit to the west is no longer noted. Further expansion to the nearby developments were noted south of the site. The tank ~200m north was no longer noted (1969). Horticultural Research Laboratory was noted ~100m east of site. Smithy was removed and is now discussed as a light engineering works with associated sub-station Brick works have now been infilled.

1970 - 1976	1:10,000 (x2) 1:2,500 (x2)	No significant changes were recorded. Structures in south-west Tennis court removed 1972	Horticultural Research Laboratory was removed from the 1971 mapping. The pond 200m east was infilled.
1989	1:2,500 (x2)	Structures removed from site	A new residential development was recorded ~100m southeast and southwest of site. Silo structures associated with Hill Farm Cottage noted ~230m south-east. The pond from the pond was infilled.
1993 - 1995	1:2,500 (x5)	Small structure noted in north-east of the site. No further significant changes were recorded.	A further expansion of the residential developments were recorded to the southeast and southwest. A 'balancing pond' was recorded ~100m south-west of site. Electrical substation noted ~150m south-east of the site.
2001 - 2010	1:10,000 (x2) 1:1,250 (x1)	No significant changes were recorded.	The balancing Pond was no longer noted (2001)
2021	1:10,000 (x1)	No significant changes were recorded.	No significant changes

3.2. Historical Aerial Photography Review

The object of this search was to report on the history of the site and its environs from available aerial photography dating from the late 20th Century to the present day and downloaded from Google Earth and Groundsure Datasheets. In the following sections, only features considered to have a potential contaminative impact on the site and usually within a notional 250 metre radius of the site boundaries are discussed. Any distances quoted for features remote from the site have been scaled from the photography and are only approximate.

At the time of the earliest aerial photography, 1999, the site was an area of undeveloped land located to the north of The Hollies Carehome. The southern section of the site's environs consisted of residential developments. The area to the north of the site was noted to comprise undeveloped grassland and areas of mixed woodland.

The 2005 aerial photography displayed further residential development was noted to the west of site. No significant changes were noted onsite.

No significant changes were noted until the 2020 aerial photography which displayed an area of land under construction directly to the east and northeast of site.

4. GROUNDSURE DATASHEETS REVIEW

4.1. Groundsure Datasheets

GroundSure Environmental and Geological Datasheets were obtained for the site. Unless the data indicates a significant risk, only information within a 250m buffer zone has been included. The GroundSure Datasheets are also presented in Appendix D and a summary is given below and overleaf(s).

Source	Environmental Insight Nearest Distance from Site/Dated/Type
Past Land Use	
Historical industrial land uses	9x off-site records within a 250m radius: 1x Horticultural Research Laboratory 68m southeast (1970 – 1974), 2x Old Gravel Pits 90m, 92m northwest (1898 – 1938), 1x Smithy 109m south (1910), 1x Brick Works 132m southwest (1900), 1x Unspecified Pit 167m – 176m southwest (1900 – 1956), 1x Old Clay Pit 176m southwest (1910) 2x Unspecified Tank 212m and 230m southeast (1974).
Historical Tank Database	1x records within a 250m radius: 1x Unspecified Tank 217m southeast (1989)
Historical Energy Features Database	4x off-site records within a 250m radius: 4x records of electricity substations 155m (1995), 157m – 163m south (1969 – 1995), 241 southwest (1995) and 247m – 249m west (1988 – 1995).
Historical Garages Database	3x recorded within a 250m radius 3x Garage, 172m, 178m, 179m south (1985 – 1995)
Historical Military Land	None within a 250m radius.
Waste and Landfill	
Waste exemptions	3x records within a 250m radius; 1x 38m south, treating waste exemption, not on a farm, sorting and de-naturing of controlling drugs for disposal. 1x 220m north Pond House Farm Clayhill Road Reading RG30 3SE, Disposal of Waste exemption, Agricultural waste only
Recent industrial land uses	8x record within a 250m radius of the site: 1x Industrial Products, 116m southeast, 1x Foodstuffs 152m south, 1x motoring 158m south, 3x Infrastructure and facilities, 158m southeast, 162m south, 247m southwest, 1x Repairs and servicing 187m south, 1x Consumer Products 220m south.
Current Industrial Land Use	
Recent Industrial Land Uses	8x record within a 250m radius of the site: 1x Industrial Products, 116m southeast, 1x Foodstuffs 152m south, 1x motoring 158m south, 3x Infrastructure and facilities, 158m southeast, 162m south, 247m southwest, 1x Repairs and servicing 187m south, 1x Consumer Products 220m south.
Current or recent petrol stations	1x recorded within a 250m radius, 1x 171m south.
Hydrogeology	
Superficial Aquifer	1 record on-site: 1x Secondary A Aquifer.
Bedrock Aquifer	1 record onsite and 1 within a 250m radius: 1x Unproductive aquifer onsite, 1x Secondary A aquifer 97m south.
Groundwater Vulnerability	3 record onsite and 1 within a 250m radius:

Environmental Insight	
Source	Nearest Distance from Site/Dated/Type
	1x Secondary superficial aquifer –medium vulnerability, leaching class: low. 2x unproductive aquifer – unproductive vulnerability, leaching class: low. 1x Secondary superficial aquifer 44m southeast – Secondary superficial aquifer – vulnerability Medium, leaching class; low.
Source Protection Zones	2x recorded onsite; 1x onsite site, type 2 – outer catchment 1x onsite Type 3 – Total catchment
Hydrology	
Water Network (OS MAsterMap)	9x recorded within a 250m radius. 1x 41m northwest – Inland not influenced by normal tidal action – on ground surface, 1x 66m south east – Inland river not influenced by normal tidal action – on ground surface, 1x 78m east-Inland River not influenced by normal tidal action – on ground level 1x 98m west – Inland River not influenced by normal tidal action - 1x 156m southwest – Inland river not influenced by normal tidal action – on ground surface, 1x 173m north – Inland river not influenced by normal tidal action – on ground surface 1x 190m southeast – Inland river not influenced by normal tidal action – on ground surface 1x 224m north – Inland river not influenced by normal tidal action – underground 1x 228m north – inland river not influenced by normal tidal action – on ground surface
WFD Surface Water Body Catchments	1 record within a 250m radius: 1x onsite, river WB catchment, operational catchment; Kennet, management catchment; Kennet and tributaries.
River and Coastal Flooding	
Surface Water Flooding	Highest risk onsite – Negligible - 1 in 30 years, 0.1m – 0.3m; Highest risk within 50m – 1 in 30 years, greater than 1.0m.
Groundwater Flooding	Highest risk onsite – Low Highest risk within 50m – low
Environmental Designations	
Designated Ancient Woodland	1x recored onsite and 1x recorded within a 250m radius. 1x onsite Pondhouse Copse – Ancient & Semi- natural Woodland, 1x 40m west – Pondhouse Copse – Ancient & Semi – natural Woodland,
SSSI Impact Risk Zones	1 record onsite: 1x onsite infrastructure, Air pollution and Combustion
SSSI Units	None within a 250m radius.
Visual and Cultural Designations	
Agricultural Designations	
Agricultural Land Classification	2x records within a 250m radius: 1x Grade 3 agricultural on-site, 1x Grade 4 agricultural onsite,
Environmental Stewardship Schemes	2x recorded within a 250m radius; 1x 74m northwest – entry level stewardship (01/08/2013 – 31/07/2018), 1x 229m north – entry level stewardship (01/08/2013 – 31/07/2018).
Countryside Stewardship Schemes	5x records within a 250m radius: 2x Countryside Stewardship 29m north, 74m north, 120m northwest, 193m southeast, 229m north.
Habitat Designation	
Priority Habitat Inventory	None within a 250m radius.
Habitat Networks	None within a 250m radius.
Open Mosaic Habitat	None within a 250m radius.
Limestone Pavement Orders	None within a 250m radius.

Geological Insight	
Source	Nearest Distance from Site/Dated/Type
Artificial and Made Ground (1:10,000 Scale)	None within a 250m radius.
Superficial Geology (1:10,000 Scale)	1x on-site record:

Geological Insight	
Source	Nearest Distance from Site/Dated/Type
	1x record on-site – Silchester Gravel Member (Sand and Gravel).
Landslip (1:10,000 Scale)	None within a 250m radius.
Bedrock Geology (1:10,000 Scale)	1 on-site records and 1 recorded within a 250m radius: 1x London Clay Formation (Clay, Silt and Sand) 1x 101m south London Clay Formation (Sand).
Superficial Geology and Permeability (1:50,000 scale)	1 on-site record: 1x Silchester Gravel Member (Sand and Gravel) maximum permeability; very high minimum permeability high. Flow Type; intergranular.
Bedrock Geology and Permeability (1:50,000 scale)	1 record onsite: 1x London Clay Formation Flow Type – mixed, Maximum Permeability –moderate, Minimum Permeability –very low.
Boreholes	
BGS recorded boreholes	10 records within a 250m radius: 1x 40m east length 64.31m 1x 83m south length 113.99m 1x 153m west length 2.10m 1x 182m southwest length 115.82m 1x 193m west length 6.0m 1x 195m west length 2.10m 1x 206m west length 2.10m 1x 225m west length 2.30m 1x 242m west length 2.0m 1x 243m west length 2.20m
Natural Hazard Findings	
Shrink-Swell Clay	Low hazard onsite.
Running Sands	Very Low hazard onsite.
Compressible Deposits	Negligible hazard onsite.
Collapsible Deposits	Very Low hazard onsite.
Landslides	Very Low to low hazard onsite.
Ground Dissolution of Soluble Rocks	Negligible hazard onsite.
Mining, Ground Working and Natural Cavities	
Records of Natural Cavities	None within a 250m radius.
Records of BritPits	2x records within a 250m radius: 1x 102m north: Surface mineral working (Clay Hill Gravel Pit), Type: Ceased, 1x 213m southwest; Surface mineral working (Burfield Hill Brick Works), Type: Ceased.
Records of Surface Ground Workings	7x recorded within a 250m radius; 3x Old Gravel Pit, 90m northwest, 92m northwest, 142m northwest (1898 – 1938) 1x Brick Works 132m southwest (1900) 2x Unspecified Pit 167m southwest and 176m southwest (1900 – 1956) 1x Old Clay Pit 176m southwest (1910).
Radon	
Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.
Estimated Background Soil Chemistry	
Records of BGS estimated background soil chemistry	7 records within a 250m radius: On-site (x6), 44m south (x1): Arsenic: 15mg/kg Bioaccessible Lead 100mg/kg (60mg/kg bioaccessible) Cadmium: 1.8mg/kg Chromium: 60 – 90mg/kg Nickel: 15 – 30mg/kg

5. ONLINE REVIEW AND PREVIOUS SITE INVESTIGATIONS

5.1. Online Planning Database

A review of the West Berkshire Borough Council Planning Database revealed that eight planning applications had been filed for the site Land Rear to The Hollies. Those pertinent to the site development area are tabulated below.

Planning Applications for: Land rear of The Hollies, Reading Road, Burghfield Common, Reading, Berkshire, RG7 3BH		
Application No./Date	Proposed	Decision
78/08543/ADD	Site for 1 detached house.	Refused 28/06/1978 Appeal dismissed
88/28090/ADD	Erection of 18 4 bedroom detached houses with double garage.	Refused 07/09/1988
88/32271/ADD	Reinstatement and formation of access and hard surface track.	Approved 07/09/1988
90/37826/ADD	Erection of 5 detached houses with garages.	Refused 12/09/1990 Appeal dismissed
92/41994/ADD	Erection of two detached houses with garages (scheme a).	Refused 11/01/1993
92/41995/ADD	Erection of two detached houses with garages (scheme b).	Refused 11/01/1993
10/02978/SCREEN	Screening option for the erection of 28 dwellings with associated works	EIA not required 10/12/2010
10/02981/OUTMAJ	Outline planning application for 28 dwellings with associated access, parking and amenity. Means of access and layout to be considered with scale, appearance and landscaping reserved.	Refused 10/12/2010 Appeal dismissed 21/10/2011

5.2. Internet Search

An internet search did not identify any other information pertinent to this report.

6. PHASE I RISK ASSESSMENT

6.1. Contaminant Source-Pathway-Receptor Model

In the UK, the assessment of risk from contamination follows the source-pathway-receptor (SPR) approach. For a risk to be present there must be a source of contamination, a receptor or receptors, and a pathway for contaminants to migrate or be absorbed. If one of these three elements are absent, it is considered that there is no risk of harm. If, however, there is a linkage between any given source and any given receptor, then a risk-based approach is used to assess the significance or impact of the pollutant linkage.

The Phase 1 Desk Study has been used to identify potential on-site and off-site sources of contamination, which are summarised in this section of the report. Additional potential sources of contamination identified within the Desk Study have been discounted based on the absence of a realistic SPR linkage (i.e. the distance from the site or the nature or age of any potential contamination sources).

In line with the requirements of BS 21365:2020, *Soil Quality – Conceptual site models for potentially contaminated sites*, the Conceptual Site Model (CSM) can be described in text, tabulated or presented as a figure. A tabulated CSM is provided in Section 6.6 of this report, where each component is discussed in the following sections. A diagrammatic CSM is provided within Figure 5.

6.2. Potential On-site Sources of Contaminants

This Desk Study revealed that at the time of the earliest historical mapping (1872) the site comprised of an undeveloped area of land with a residential development to the south with a pond recorded onsite. No significant changes were recorded until 1969 mapping where a Tennis court was recorded to the east of site and was later removed by 1972. The pond onsite was infilled by the 1961 historical mapping.

The Phase 1 Desk Study revealed the following on-site sources of contamination:

- The historical mapping revealed the presence of a Tennis court of site that was later removed by 1972. Therefore, as a result various thickness of Made Ground resulting from these activities are likely to be encountered.

Contaminants of concern associated with Made Ground include; Metals, Petroleum Hydrocarbons (TPHs), Polycyclic aromatic hydrocarbons (PAHs), asbestos and sulphates.

The historical map review revealed one backfilled pond onsite which may have been backfilled with putrescible material, which is subsequently decaying, generating ground-gases. The pond was backfilled by the 1961 mapping it was a very small scale feature and therefore was unlikely to have been a significant ground-gas generating potential, when the very low to low permeability of the of the bedrock is taken into account, the risk posed by these features is considered to be low.

6.3. Potential Off-site Sources of Contaminants

The Phase 1 Desk Study revealed the following potential off-site sources of contamination:

- The Groundsure datasheets and historical mapping recorded a Horticultural Research laboratory 68m southeast of site from 1970 – 1974.

Contaminates associated with Horticultural Research laboratory include, metals, Petroleum Hydrocarbons (TPHs), Polycyclic aromatic hydrocarbons (PAHs), Pesticides and Herbicides.

- The Groundsure datasheets and historical mapping recorded a Smithy which was later converted into an unspecified Works located 109m south.

Contaminants associated with a smithy/works include Metals, Petroleum Hydrocarbons (TPHs), Polycyclic aromatic hydrocarbons (PAHs), sulphates, Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs) and Ground Gasses.

- The Groundsure datasheets and historical mapping identified historical garages located 212m northwest of the site.

Contaminants of concern associated with garages include Metals, Petroleum Hydrocarbons

(TPHs), Polycyclic aromatic hydrocarbons (PAHs), sulphates and volatile organic compounds and semi-volatile organic compounds (VOCs and SVOCs).

- An Old Gravel Pit was recorded ~90m northwest of site from 1898 – 1938.

Contaminates associated with the infilled Gravel Pit include Metals, Petroleum Hydrocarbons (TPHs), Polycyclic aromatic hydrocarbons (PAHs), sulphates, Volatile Organic Compounds (VOCs) and Ground Gasses.

- The Groundsure data sheet and historical mapping recorded a Brick works 132m south west of site from 1900 then later described as an Old Clay Pit in the 1912 mapping, this feature was infilled by the 1969 mapping.

Contaminants associated with the infilled Gravel Pit include Metals, Petroleum Hydrocarbons (TPHs), Polycyclic aromatic hydrocarbons (PAHs), sulphates, Volatile Organic Compounds (VOCs) and Ground Gasses. Given there are some granular deposits mapped in the surrounding area and these features were quite large, the risk for ground gas production and migration is low but should not be discounted.

- The Groundsure Datasheets showed a total of 4No. records of electricity sub-stations surrounding the site. The closest record was noted at 155m southeast. Therefore, due to the relative distances of this sub-stations to the site and the limited mobility of the associated contaminants (PCBs) the risk posed to the site is considered to be negligible.
- Groundsure data sheets and historical mapping recorded Unspecified Tanks 212m and 230m south-east.

Contaminants of concern associated with the tanks include; Metals, Petroleum Hydrocarbons (TPHs), Polycyclic Aromatic Hydrocarbons (PAHs), Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs).

- The historical map review revealed three potentially backfilled pond onsite which may have been backfilled with putrescible material, which is subsequently decaying, generating ground-gases.. The ponds backfilled were very small scale features and therefore was unlikely to have been a significant ground-gas generating potential, when the very low to low permeability of the of the bedrock is taken into account, the risk posed by these features is considered to be low.

6.4. Potential Receptors

At the time of reporting, October 2021, the proposed development was understood to comprise of the construction of 27No. residential dwellings with associated private rear areas of soft landscaping and hardscaping. A Proposed multi- occupancy building with 5No. privately contained apartments to be constructed in the eastern corner. A proposed area of open space and an attenuation pond was to be constructed within the northern corner of site. The proposed development plan can be seen within Figure 4.

Based on the proposed development, the potential receptors are presented below and comprise:

Human Health

- End users of the site (Residents/Future site visitors);
- Construction workers during redevelopment;
- Site operatives during maintenance works; and
- Neighbours and members of the public.

Flora and Fauna

- Vegetation within soft landscaped areas;

Building Materials and Services

- Buildings;
- Buried concrete;
- Confined spaces; and
- Underground services (Water Pipes).

Controlled Waters

- Secondary A aquifer (Silchester Gravel Member); and
- Unspecified stream ~100m north.

6.5. Contaminant Absorption Pathways

The potential pathways for contaminant absorption between the identified sources and the identified receptors are as follows:

Human Health:

- Direct ingestion of soil and soil derived dust;
- Dermal contact of soil and soil derived dust;
- Inhalation of dust (indoors and outdoors) with elevated concentration of determinands;
- Ingestion of home-grown produce, and soil attached;
- Direct ingestion of groundwater;
- Inhalation of volatile vapour (indoors and outdoors);
- Inhalation of ground gases.; and
- Explosion.

Flora and Fauna

- Direct uptake of groundwater; and
- Direct uptake of contaminants in the soil.

Building Materials and Services

- Direct contact;
- Explosion.

Controlled Waters

- Vertical and lateral migration in permeable strata horizons;
- Via anthropogenic pathways (infilled ground and service runs);
- Surface water Runoff.

6.6. Tabulated Conceptual Site Model

The tabulated Conceptual Site Model developed as part of this Desk Study is outlined overleaf. For ease of reference and understanding, the risks have been classified within this risk assessment against four possible levels / categories, summarised in the table overleaf.

Risk Categories used in the Tabulated CSM	
Negligible	Regarding this potential SPR linkage, the site is considered suitable for the proposed end-use and there is no plausible risk. Therefore, there is no need to further assess this potential source of contamination.
Low Risk	Regarding this potential SPR linkage, the site is considered suitable for the proposed end-use and there is not considered to be an unacceptable risk to receptors. However, it is considered that further investigation to confirm this is recommended.
Moderate Risk	Regarding this potential SPR linkage, the site may not be suitable for the proposed end-use in its current condition and there may be an unacceptable risk to receptors. Further investigation is required to confirm this.
High Risk	Regarding this potential SPR linkage, the site is probably or certainly not suitable for proposed end-use and there is likely to be an unacceptable risk to receptors. Contaminants probably or certainly present and urgent action required in the short term.

Tabulated Conceptual Site Model – Pollutant Linkage Summary			(On-Site Sources)
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
<p>Made Ground from construction/demolition activities:</p> <ul style="list-style-type: none"> Asbestos, PAHs, TPHs, VOCs, Sulphates Metals. 	<ul style="list-style-type: none"> Direct ingestion of soil and soil derived dust Dermal contact of soil and soil derived dust Inhalation of dust (indoors and outdoors) with elevated concentration of determinands Ingestion of home-grown produce, and soils attached Direct ingestion of groundwater 	<p>Human Health</p> <ul style="list-style-type: none"> End Users (Residents/Future site visitors) Construction workers during development Site operatives during maintenance works Neighbours and public 	<p>Low</p>
	<ul style="list-style-type: none"> Direct uptake of groundwater Direct uptake of determinands in the soil 	<p>Flora and Fauna</p> <ul style="list-style-type: none"> Vegetation within soft landscaped areas 	
	<ul style="list-style-type: none"> Anthropogenic (man-made) pathways Vertical and lateral migration in permeable strata Surface water runoff 	<p>Controlled Waters</p> <ul style="list-style-type: none"> Secondary A Aquifer (Silchester Gravel Member) Surface water runoff 	
<p>Aggressive ground conditions with Made Ground and natural ground, including groundwater:</p> <ul style="list-style-type: none"> Sulphates, PAH/TPH. 	<ul style="list-style-type: none"> Direct contact with aggressive ground conditions 	<p>Building Materials and Services</p> <ul style="list-style-type: none"> Buried Concrete Underground services (water pipes) 	<p>Moderate</p>
<p>Ground gases generated by infilled material by infilled pond onsite:</p> <ul style="list-style-type: none"> Methane, Carbon Dioxide, Hydrogen Sulphide, and Carbon Monoxide. 	<ul style="list-style-type: none"> Migration through anthropogenic & natural pathways Inhalation of Asphyxiating gases Explosion (methane only) 	<p>Human Health</p> <ul style="list-style-type: none"> End Users (Residents/Future site visitors) Construction workers during development (especially in confined spaces) Site operatives during maintenance works in confined spaces Neighbours and public 	<p>Low</p>
	<ul style="list-style-type: none"> Migration through anthropogenic & natural pathways Explosion (methane only) 	<p>Building Materials and Services</p> <ul style="list-style-type: none"> Buildings Confined spaces Underground services 	<p>Low</p>

Tabulated Conceptual Site Model – Pollutant Linkage Summary			(Off-Site Sources)
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
Contamination associated with historical garages; <ul style="list-style-type: none"> Polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) semi-volatile organic compounds (SVOCs). 	Direct ingestion of soil and soil derived dust <ul style="list-style-type: none"> Dermal contact of soil and soil derived dust Inhalation of dust (indoors and outdoors) with elevated concentration of determinands Direct ingestion of groundwater Inhalation of volatile vapour (indoors and outdoors) 	Human Health <ul style="list-style-type: none"> End Users (Residents/Future site visitors) Construction workers during development Site operatives during maintenance works Neighbours and public 	Moderate
	<ul style="list-style-type: none"> Direct uptake of groundwater 	Flora and Fauna <ul style="list-style-type: none"> Vegetation within soft landscaped areas 	Low
Aggressive ground conditions associated with impacted groundwater; <ul style="list-style-type: none"> Sulphates, PAH/TPH. 	<ul style="list-style-type: none"> Direct contact with aggressive ground conditions 	Building Materials and Services <ul style="list-style-type: none"> Buried Concrete Underground services (water pipes) 	Moderate
Contamination associated with Smithys/unspecified works; <ul style="list-style-type: none"> Oil/ fuel hydrocarbons PAHS, Heavy Metals 	<ul style="list-style-type: none"> Direct ingestion of soil and soil derived dust Dermal contact of soil and soil derived dust Ingestion of soil with elevated concentration of determinands Dermal contact with impacted soils Inhalation of impacted dust with elevated concentration of determinands Inhalation of volatiles (indoor and outdoor) with elevated concentration of determinands. 	Human Health <ul style="list-style-type: none"> End Users (Residents). Future site visitors. Construction workers during development. Construction workers during maintenance. 	Moderate
	<ul style="list-style-type: none"> Direct uptake of groundwater 	Flora and Fauna <ul style="list-style-type: none"> Vegetation within soft landscaped areas 	Low
Contamination associated with Horticultural Research Laboratory; <ul style="list-style-type: none"> Oil/fuel hydrocarbons PAHs, Pesticides Herbicides Metals 	<ul style="list-style-type: none"> Direct ingestion of soil and soil derived dust Dermal contact of soil and soil derived dust Ingestion of soil with elevated concentration of determinands Dermal contact with impacted soils Inhalation of impacted dust with elevated concentration of determinands Inhalation of volatiles (indoor and outdoor) with elevated concentration of determinands. 	Human Health <ul style="list-style-type: none"> End Users (Residents). Future site visitors. Construction workers during development. Construction workers during maintenance. 	Low
Contamination associated with infilled material Clay pits and Old Gravel pit; <ul style="list-style-type: none"> Methane, 	<ul style="list-style-type: none"> Migration through anthropogenic & natural pathways Explosion (methane only) 	Building Materials and Services <ul style="list-style-type: none"> Buildings Confined spaces Underground services 	Low

Tabulated Conceptual Site Model – Pollutant Linkage Summary			(Off-Site Sources)
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
<ul style="list-style-type: none"> Carbon Dioxide, Hydrogen Sulphide Carbon Monoxide. 			
Contamination associated with infilled pond features: <ul style="list-style-type: none"> Methane, Carbon Dioxide, Hydrogen Sulphide Carbon Monoxide. 	<ul style="list-style-type: none"> Migration through anthropogenic & natural pathways Explosion (methane only) 	Building Materials and Services <ul style="list-style-type: none"> Buildings Confined spaces Underground services 	Low
Contamination associated with historical Tanks recorded within the sites environs; <ul style="list-style-type: none"> Petroleum Hydrocarbons (TPHs), Polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) semi-volatile organic compounds (SVOCs). 	<ul style="list-style-type: none"> Direct ingestion of soil and soil derived dust Dermal contact of soil and soil derived dust Ingestion of soil with elevated concentration of determinands Dermal contact with impacted soils Inhalation of impacted dust with elevated concentration of determinands Inhalation of volatiles (indoor and outdoor) with elevated concentration of determinands. 	Human Health <ul style="list-style-type: none"> End Users (Residents). Future site visitors. Construction workers during development. Construction workers during maintenance. 	Low
	<ul style="list-style-type: none"> Direct uptake of groundwater 	Flora and Fauna <ul style="list-style-type: none"> Vegetation within soft landscaped areas 	Low

6.7. Recommendations and Phase II Objectives

This section of the report will present recommendations for the further investigation of each plausible pollutant linkage identified by the Conceptual Site Model.

It is recommended that an intrusive ground investigation is undertaken at the site to evaluate the risk that contaminants of concern within the soils and groundwater may affect end-users. This should determine the underlying ground and groundwater conditions and include an assessment of the level of contamination to enable the quantification of the ground-related risks associated with the proposed redevelopment.

Consideration should be given to the testing of soil samples recovered from exploratory holes for chemical laboratory testing. The testing should be for a broad range of contaminants in accordance with DEFRA / CLEA methodologies and include the contaminants of concern identified within the Conceptual Site Model.

6.7.1. Soils

It is possible that asbestos and asbestos containing materials will be incorporated within any Made Ground. An asbestos management strategy should be implemented to ensure that any asbestos uncovered during the investigation does not pose a risk to members of the public that use the site.

On the basis of the Phase 1 Site Assessment the following contaminants of concern have been identified and should be included in the chemical analysis suite for the ground investigation:

- Asbestos
- Semi-metals and heavy metals;
- Poly-cyclic aromatic hydrocarbons (PAHs);
- Speciated TPH including full aliphatic/aromatic split;
- Volatile/semi-volatile organic compounds – BTEX Used as marker compounds for on-site;
- Sulphates;
- Cyanide;
- Pesticides;
- Herbicides and;
- Ground-gasses.

The list above does not imply that these determinands are present on-site or that they are likely to cause contamination issues at the site. The ground investigation will be used to prove the presence or absence of these contaminants. The sampling and testing strategy must be in line with current standards. Targeted sampling of proposed soft landscaped areas may be deemed appropriate. Results should be assessed against suitable assessment criteria to be protective of human health as well as vegetation.

Sub-surface concrete may be damaged due to being in contact with aggressive ground conditions. Sampling should be undertaken where the proposed foundations will be in contact with Made Ground and/or natural ground and tested for aggressive ground conditions (sulphates/pH). Classification should then be undertaken of the ground conditions in accordance with Building Research Establishment Special Digest 1, 2005, 'Concrete in Aggressive Ground'.

6.7.2. Services

The CSM has identified a low/moderate risk for aggressive ground conditions that may affect water supply pipes as part of the development. Consideration should be given to the targeted sampling (0.75 – 1.50m bgl) and scheduling for contaminants of concern: TPH, Naphthalene, Phenols, BTEX, VOCs and SVOCs.

6.7.3. Groundwater

If analytical results show elevated concentrations of contaminants of concern in the soil samples then there might be a requirement to assess the potential risks of leachability of contaminants migrating into the Principal Aquifer groundwater underlying the site. This might mean leachate testing on soils samples is required or groundwater sampling and testing.

6.7.4. Ground-gas & Vapours

The CSM has identified a moderate risk from ground-gases at the site as a result of off-site historical works and some pits, combined with local variations in geology. Analysis of soil samples should include Total Organic Carbon (TOC) testing in order to provide an indication of risk from on-site sources. In addition, ground gas monitoring should be undertaken within monitoring wells installed as part of the investigation, including a targeted well to the east of the site which is underlain by the superficial Silchester Gravel Member. At this stage of investigation, in accordance with CIRIA C665 / BS8576:2013, it is anticipated that a minimum of four spot monitoring visits will be required within the ground gas risk assessment.

The risk of vapours from external sources should also be addressed, with consideration given to PID screening of the installed wells. Should the initial PID readings highlight elevated levels (>10ppm) then the consideration for the collection and testing of recovered samples of potential groundwater for VOC/SVOC compound levels should be undertaken.

6.8. Geotechnical Review

6.8.1. General

The BGS have identified the following natural hazards on-site and within a 50m buffer.

Natural Hazards	
Shrink-Swell Clay	Low hazard on-site.
Running Sands	Very low hazard on-site.
Compressible Deposits	Negligible hazard on-site.
Collapsible Deposits	Very Low hazard on-site.
Landslides	Very Low to Low hazard on-site.
Ground Dissolution of Soluble Rocks	Negligible on-site.

No pits/quarrying or mining features were identified on-site however surface ground workings were noted to the north and south-west of the site as identified within the historical mapping and Groundsure Datasheets.

When designing foundations, the potential presence of aggressive ground conditions should be taken into consideration. Further investigation may be required in accordance with the guidance established in BRE Special Digest 1 (SD1) (2005) 'Concrete in aggressive ground'. The BGS do not record any details regarding the potential for aggressive ground conditions within shallow units identified at the site.

It is recommended that as part of the site-specific ground investigation on-site, geotechnical testing is undertaken to determine the underlying ground conditions and to evaluate any geotechnical related risks associated with the proposed redevelopment of the site.

The Groundsure datasheets have indicated that the superficial Silchester Gravel Member is likely to have a very medium to high permeability and may be suitable for surface water disposal. The underlying Clay was recorded to have a very low permeability and therefore would likely not be suitable for surface water disposal. These will be subject to on-site testing.

Given there is a slope, any slope instability issues will have to be assessed at an intrusive stage. A very low hazard from groundsure also indicates a slope stability hazard, locally.

FIGURES

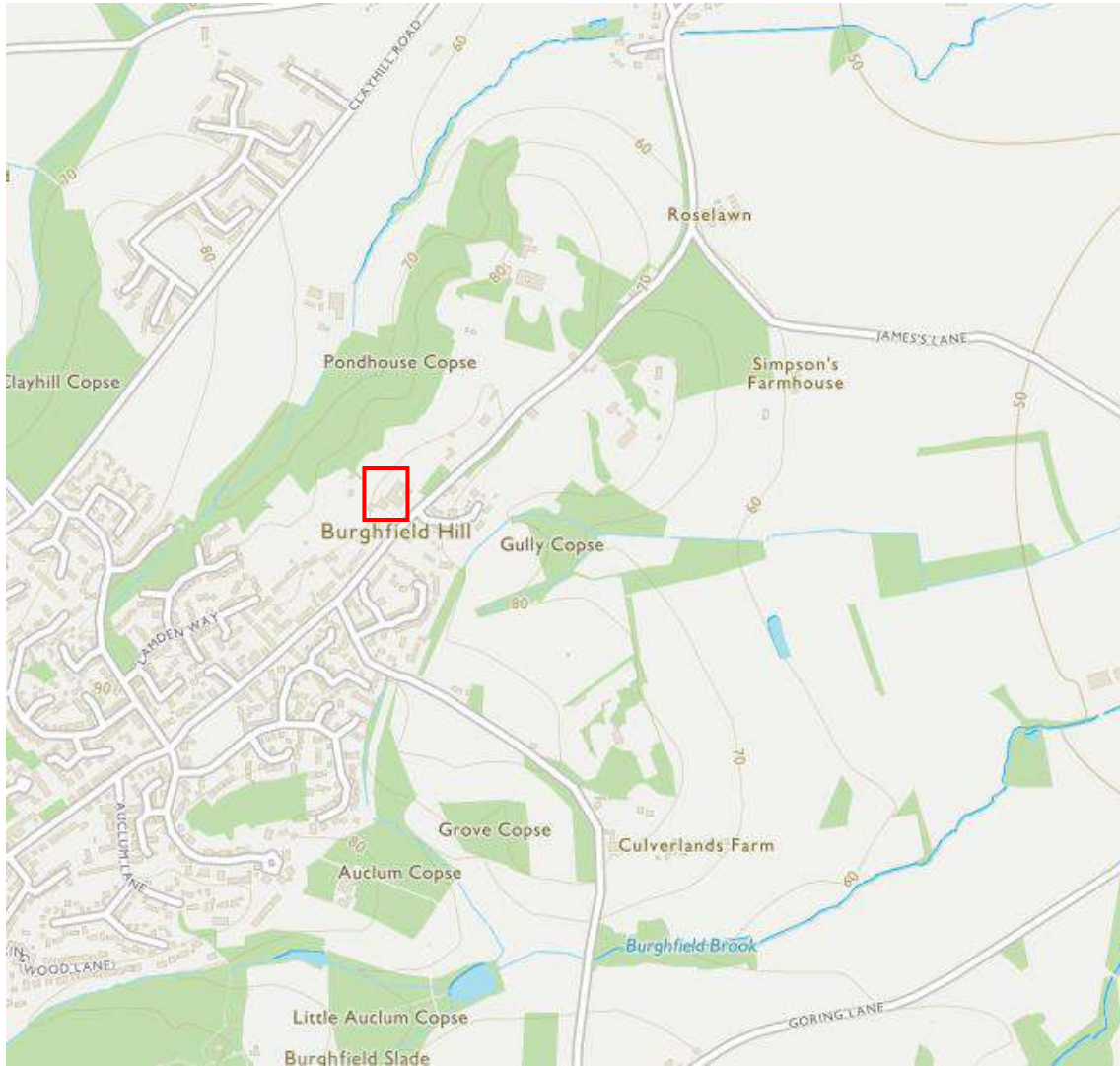


Figure 1 – Site Development Area

Land rear of The Hollies, Reading Rd, Burghfield Common, Reading, Berkshire RG7 3BH

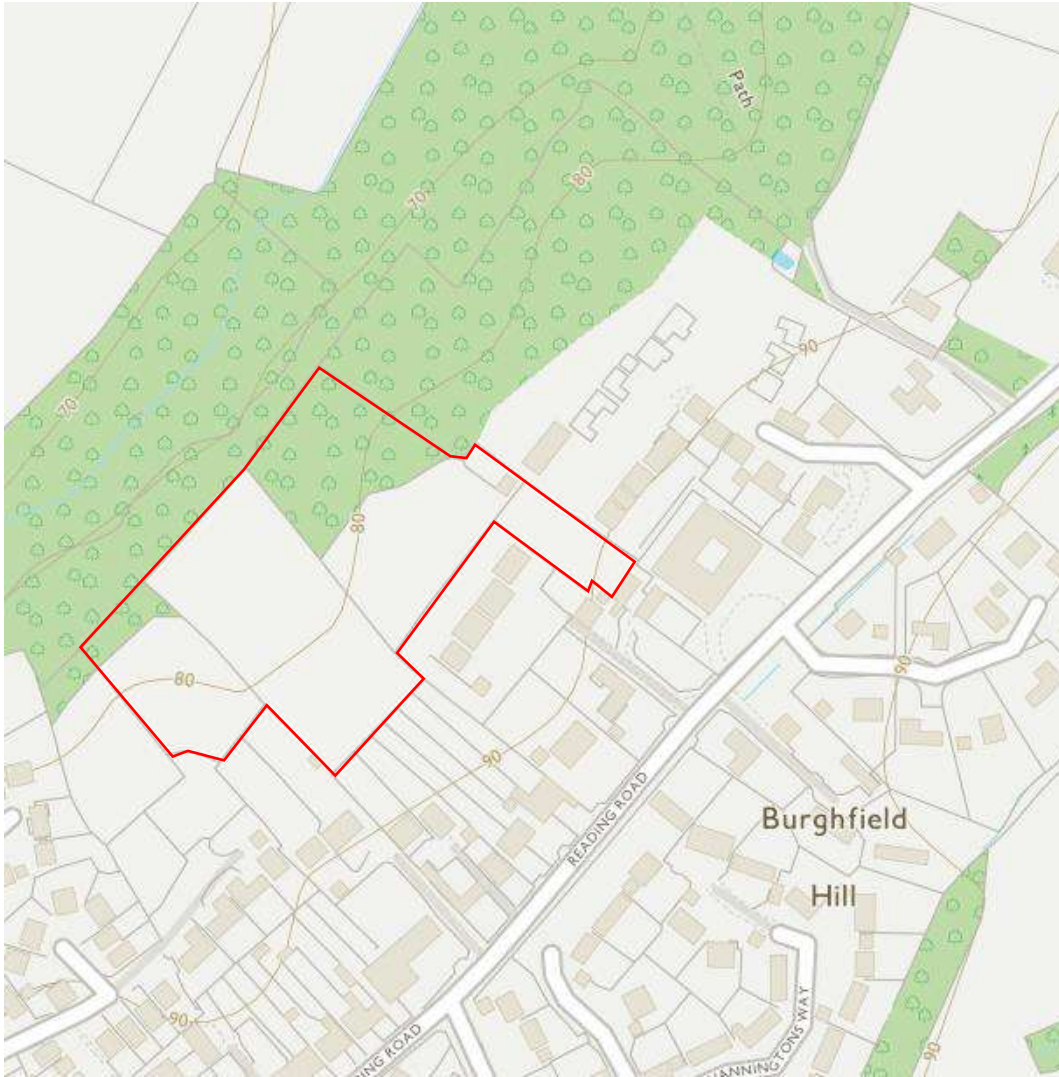
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Figure 1 – Site Location Plan

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◇ Site Boundary

Land rear of The Hollies, Reading Rd, Burghfield Common, Reading, Berkshire RG7 3BH

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Figure 2 – Site Development Area

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 Site Boundary

Land rear of The Hollies, Reading Rd, Burghfield Common, Reading, Berkshire RG7 3BH

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Figure 3 – Aerial View of the Site

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Land rear of The Hollies, Reading Rd, Burghfield Common, Reading, Berkshire RG7 3BH

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Figure 4 – Proposed Development Plan

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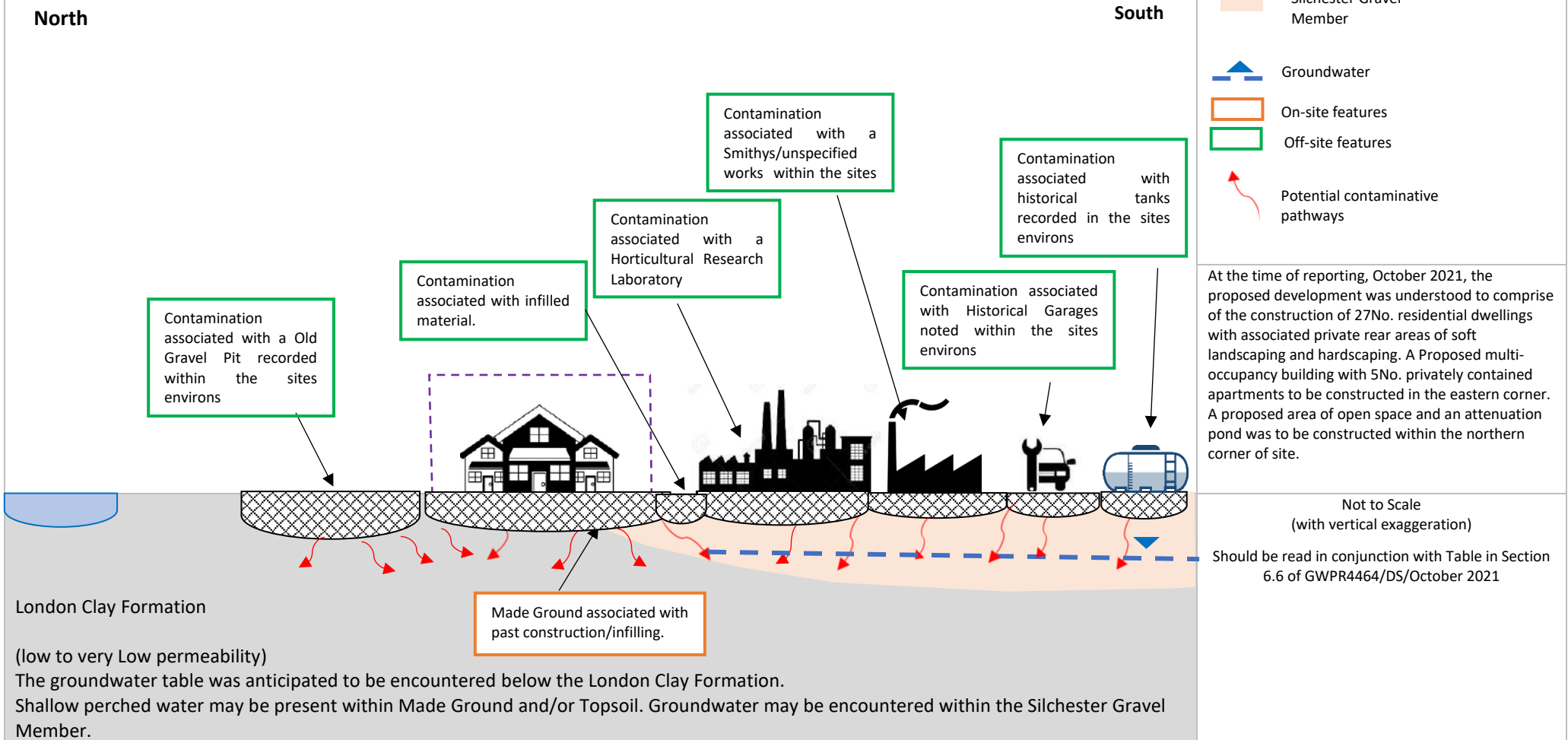
Potential Contaminant Pathways (including but not limited to):

Human Health; Direct ingestion of soil and soil derived dust, Dermal contact of soil and soil derived dust, Inhalation of dust, Inhalation of volatile vapour, Inhalation of ground gases, and Explosion.

Flora and Fauna; Direct uptake of groundwater, and Direct uptake of contaminants in the soil.

Building Materials and Services; Direct contact, and Explosion.

Controlled Waters; Vertical and lateral migration in permeable strata horizons, Anthropogenic pathways, and surface water runoff



Land rear of The Hollies, Reading Road, Burghfield Common, Reading, Berkshire, RG7 3BH

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Figure 5– Diagrammatic Conceptual Site Model

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APPENDIX A: Conditions and Limitations

The ground is a product of continuing natural and artificial processes. As a result, the ground will exhibit a variety of characteristics that vary from place to place across a site, and also with time. Whilst a ground investigation will mitigate to a greater or lesser degree against the resulting risk from variation, the risks cannot be eliminated.

The report has been prepared on the basis of information, data and materials which were available at the time of writing. Accordingly, any conclusions, opinions or judgements made in the report should not be regarded as definitive or relied upon to the exclusion of other information, opinions and judgements.

The investigation, interpretations, and recommendations given in this report were prepared for the sole benefit of the client in accordance with their brief; as such these do not necessarily address all aspects of ground behaviour at the site. No liability is accepted for any reliance placed on it by others unless specifically agreed in writing.

Any decisions made by you, or by any organisation, agency or person who has read, received or been provided with information contained in the report (“you” or “the Recipient”) are decisions of the Recipient and we will not make, or be deemed to make, any decisions on behalf of any Recipient. We will not be liable for the consequences of any such decisions.

Current regulations and good practice were used in the preparation of this report. An appropriately qualified person must review the recommendations given in this report at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

Any Recipient must take into account any other factors apart from the Report of which they and their experts and advisers are or should be aware. The information, data, conclusions, opinions and judgements set out in the report may relate to certain contexts and may not be suitable in other contexts. It is your responsibility to ensure that you do not use the information we provide in the wrong context.

This report is based on readily available geological records, the recorded physical investigation, the strata observed in the works, together with the results of completed site and laboratory tests. Whilst skill and care has been taken to interpret these conditions likely between or below investigation points, the possibility of other characteristics not revealed cannot be discounted, for which no liability can be accepted. The impact of our assessment on other aspects of the development required evaluation by other involved parties.

The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous in ground activities. The ground

conditions have been sampled or monitored in recorded locations and tests for some of the more common chemicals generally expected. Other concentrations of types of chemicals may exist. It was not part of the scope of this report to comment on environment/contaminated land considerations.

The conclusions and recommendations relate to Land rear of The Hollies, Reading Road, Burghfield Common, Reading, Berkshire, RG7 3BH

Trial hole is a generic term used to describe a method of direct investigation. The term trial pit, borehole or window sampler borehole implies the specific technique used to produce a trial hole.

The depth to roots and/or of desiccation may vary from that found during the investigation. The client is responsible for establishing the depth to roots and/or of desiccation on a plot-by-plot basis prior to the construction of foundations. Where trees are mentioned in the text this means existing trees, recently removed trees (approximately 15 years to full recovery on cohesive soils) and those planned as part of the site landscaping.

Ownership of copyright of all printed material including reports, laboratory test results, trial pit and borehole log sheets, including drillers log sheets, remain with Ground and Water Limited. Licence is for the sole use of the client and may not be assigned, transferred or given to a third party.

Only our client may rely on this report and should this report or any information contained in it be provided to any third party we accept no responsibility to the third party for the contents of this report save to the extent expressly outlined by us in writing in a reliance letter addressed from us to the third party.

Recipients are not permitted to publish this report outside of their organisation without our express written consent.

APPENDIX B: Site Photographs

Photograph 1: View looking north from access route



Photograph 2: view looking north



Project:

**Land rear of The Hollies, Reading Rd, Burghfield Common,
Reading, Berkshire RG7 3BH**

Client:

TA Fishers & Sons Limited

Date:

October 2021

Plate 1:

Appendix B: Site Photographs

Ref:

GWPR4464



Photograph 3: View looking south onto reading road



Photograph 4: View looking northeast stood at the south of site



Project:

**Land rear of The Hollies, Reading Rd, Burghfield Common,
Reading, Berkshire RG7 3BH**

Client:

TA Fishers & Sons Limited

Date:

October 2021

Plate 2:

Appendix B: Site Photographs

Ref:

GWPR4464



Photograph 5: View looking north. At the south of site



Photograph 6: View looking southwards into Reading Road.



Project:

**Land rear of The Hollies, Reading Rd, Burghfield Common,
Reading, Berkshire RG7 3BH**

Client:

TA Fishers & Sons Limited

Date:

October 2021

Plate 3:

Appendix B: Site Photographs


Ref:

GWPR4464



Photograph 7: View looking into the southwest corner



Project: Land rear of The Hollies, Reading Rd, Burghfield Common, Reading, Berkshire RG7 3BH		Plate 4: 
Client: TA Fishers & Sons Limited	Date: October 2021	
Appendix B: Site Photographs	Ref: GWPR4464	

