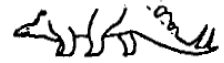


1" : 219

SP 62 SW 12 - 10

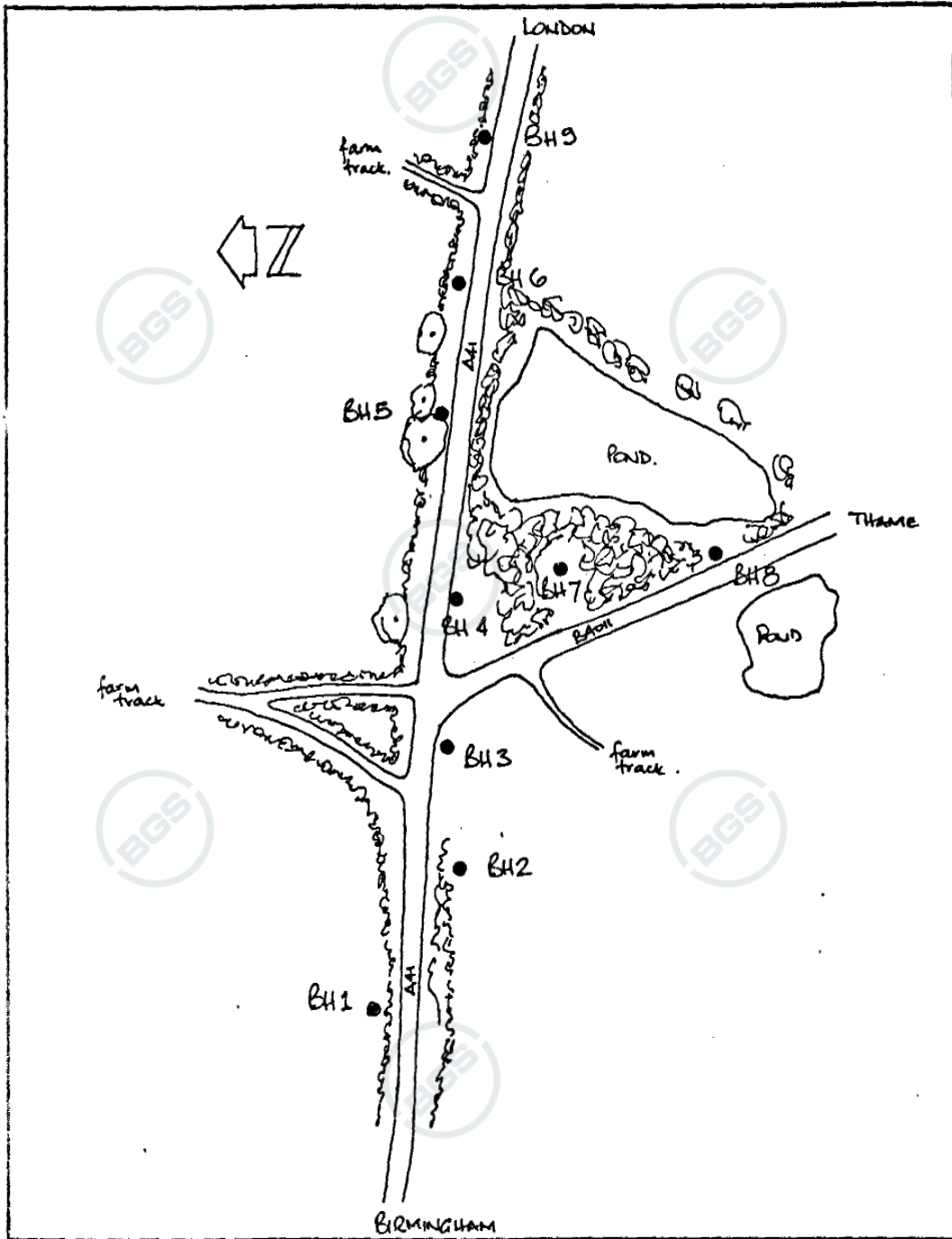
SITE PLAN - SHOWING APPROXIMATE BOREHOLE POSITIONS.



CLIENT OXFORDSHIRE COUNTY COUNCIL.

SITE A41 THAME TURN IMPROVEMENT

SCALE 1 : 2000
(approx.)



TAKEN FROM CLIENT'S DRAWING NOS T72/855a
AND T72/86a, "LONDON-BIRMINGHAM
TRUNK ROAD A41; DETAILED LAYOUT".

GEL JOB No.	FIGURE
2149	1

1:219

SP62 SW 12
6087. 2045

CLIENT OXFORDSHIRE COUNTY COUNCIL

SITE 241 THAME TURN IMPROVEMENT.

BOREHOLE No. 1

DATE 5th MARCH 1976

GROUND LEVEL 71.600m

SCALE 1:50

geology	progress and water level	description	SPT/RPT	core/sample	depth	level Tl. 600
MIDDLE JURASSIC KENTON MIDDLE MIDDLE	5 th MARCH 76	Firm dark brown silty sandy CLAY with grass roots to base.			0.10	71.50
		Soft to firm mid brown slightly sandy CLAY with HW to CW cream limestone GRAVEL			0.60 0.70	71.00
		Soft to firm yellowish brown mottled grey CLAY with fine to medium cream limestone GRAVEL to 1.0m. Around 1.00m band of HW limestone GRAVEL in brown and buff silty slightly sandy CLAY matrix.		DRY CORE SAMPLES DRY CORE SAMPLES DRY CORE SAMPLES DRY CORE SAMPLES DRY CORE SAMPLES	1.40	
		Soft to firm mid grey mottled yellowish brown and dark brown CLAY with gypsum crystals			1.80	69.80
	2.30				69.30	
	MARCH 76 DEC 76 DEC 76 MARCH 76 DEC 76 DEC 76 MARCH 76 DEC 76 DEC 76 FORECAST LEFT OPEN.	END OF BOREHOLE.				
■ undisturbed sample, open-drive or prepared from drill core ● laboratory test on disturbed sample ▲ water sample I standard pen. test I rock pen. test, R=penetration for 50 blows					GEL JOB No. 2149	FIGURE 2

1" : 219

SP 62 SW 12 - 10

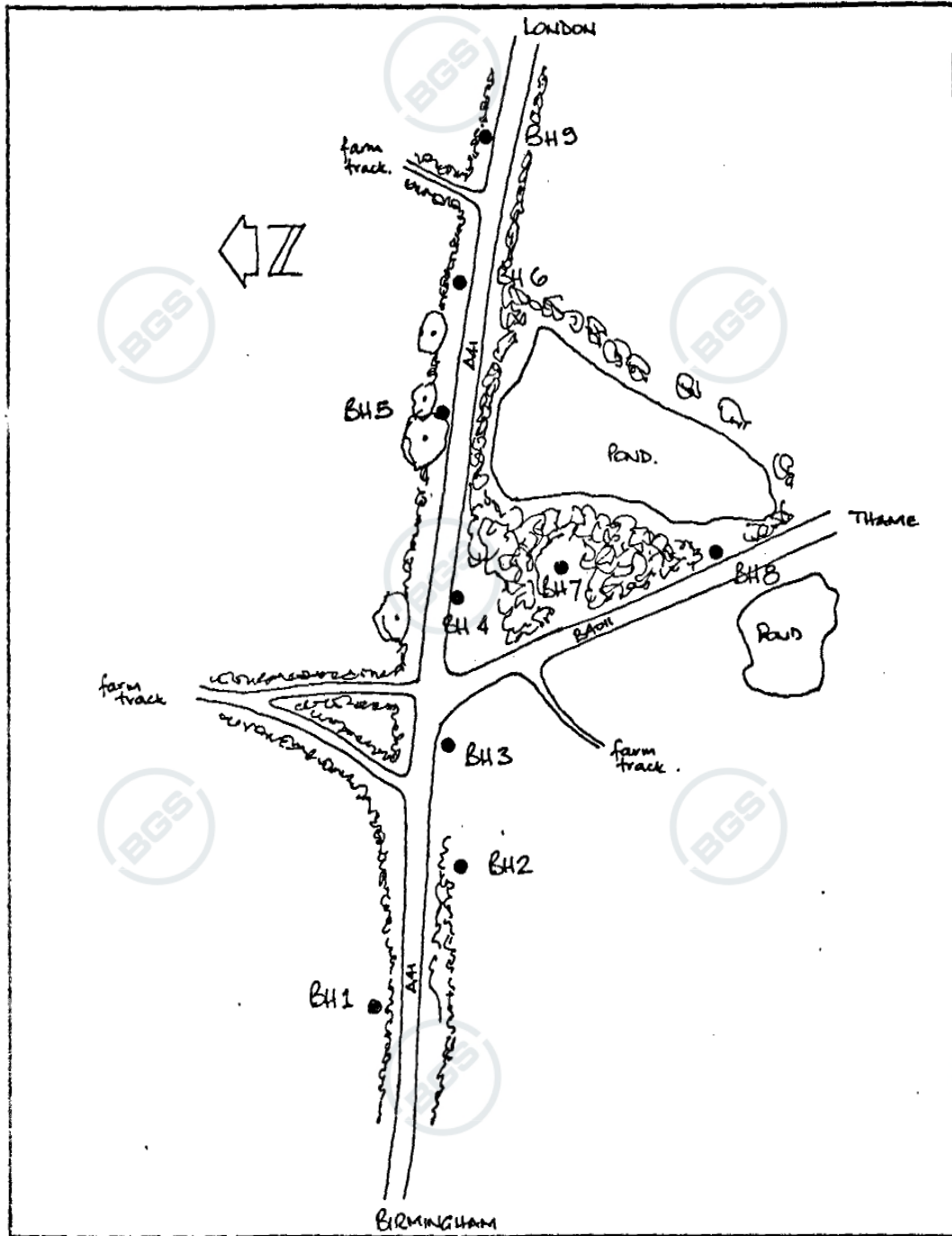
SITE PLAN - SHOWING APPROXIMATE BOREHOLE POSITIONS.



CLIENT OXFORDSHIRE COUNTY COUNCIL.

SITE A41 THAME TURN IMPROVEMENT

SCALE 1 : 2000
(approx.)



TAKEN FROM CLIENT'S DRAWING NOS T72/855a
AND T72/86a, "LONDON-BIRMINGHAM
TRUNK ROAD A41; DETAILED LAYOUT".

GEL JOB No.	FIGURE
2149	1

Zetica UXB risk maps

UNEXPLODED BOMB RISK MAP



SITE LOCATION

Location: Little Wretchwick Fm, Oxfordshire
Map Centre: 460500,221500



This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.

- Military
- Industry
- UXO find
- Other
- Transport
- Docks
- Luftwaffe targets
- Utilities
- Bombing decoy
- Airfields

How to use your Unexploded Bomb (UXB) risk map?

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density. Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then [additional detailed research](#) is recommended.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirm that there is a low potential for UXO to be present on your site, then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

If you are unsure whether other sources of UXO may be present, you can request one of our [pre-desk study assessments \(PDSA\)](#) by emailing a site boundary and location to pdsa@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

If I have any questions, who do I contact?

tel: [+44 \(0\) 1993 886682](tel:+44(0)1993886682) email: uxo@zetica.com web: www.zeticauxo.com

The information in this UXB risk map is derived from a range of sources and should be used with the [accompanying notes on our website](#).

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgement. The copyright remains with Zetica Ltd.

Appendix E Preliminary geotechnical risk register

Geotechnical hazard identification – desk study stage

Potential geotechnical hazards have been assessed in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents CS641 and CD 622. The following pages set out the identified geotechnical risks and hazards which are associated with the proposed development and establish the approach which is to be taken to manage the risks including the geotechnical input and analysis.

Table E.1 is a preliminary assessment of possible geotechnical hazards at the site at Desk Study stage. This information is used to assist with ground investigation design.

Table E.1: Possible geotechnical hazards

Hazard	Comment	Hazard status based on desk study	
		Could be present and / or affect site (i.e. Plausible)	Unlikely to be present and/or affect site
Uncontrolled Made Ground (variable strength and compressibility).	Significant Made Ground is not expected on site as the site has never been developed, however, it is possible that Made Ground is present in the location of infilled ponds and around farm structures.	✓	-
Soft / loose compressible ground (low strength and high settlement potential).	There is potential for soft/ loose soils to be present within the Kellaways Sand Member and Kellaways Clay Member along with the historical ponds on site.	✓	-
Shrink swell of the clay fraction of soils under the influence of vegetation.	The possibility for clay soils of medium to high heave potential to be present on site.	✓	-
Variable lateral and vertical changes in ground conditions.	Regional geology is impacted by a fault which may cause significant changes in geology over short distances	✓	-
High sulfates present in the soils.	The site is underlain by soils which are known to contain pyrite.	✓	-
Adverse chemical ground conditions, (e.g. expansive slag).	Significant Made Ground with potential adverse chemical conditions are not expected to be present on site.	-	✓
Obstructions.	Obstructions (foundations) associated with barn structures are likely present.	✓	-
Existing below ground structures to remain	There are no below ground structures reported on this site.	-	✓

Hazard	Comment	Hazard status based on desk study	
		Could be present and / or affect site (i.e. Plausible)	Unlikely to be present and/or affect site
Shallow groundwater.	Perched groundwater is anticipated on site within the Kellaways Sand Formation,	✓	-
Changing groundwater conditions.			
Risk from erosion.	The site is not in an area considered to be at risk from erosion.	-	✓
Risk from flooding from rivers and the sea.	The site is shown in Flood Zone 1.	-	✓
Surface water flooding	The site is at risk from surface water flooding.	✓	-
Running sands and / or loose Made Ground, leading to difficulty with excavation and collapse of side walls.	Potential for running sand within the Kellaways Sand Member if perched groundwater present at shallow depth.	✓	-
Slope stability issues – general slopes.	Slope stability issues are unlikely at the site.	=	✓
Slope stability issues – retaining walls.		=	✓
Solution features in limestone.	The site is underlain by Cornbrash Formation at depth, but the risk of solution features is low.	=	✓
Cavities in the Superficial Deposits due to solution features.	No superficial deposits are recorded on site.	=	✓
Mining.	There is some evidence of quarrying in the area, but not on the specific site.	=	✓
Relict Slip Surfaces.	It is unlikely that relict slip surfaces will be present beneath the site.	=	✓
Solifluction.	No superficial deposits are recorded on site.	=	✓
Problematic soils (silts and rewetting etc.).	Soft/ loose soils may be present.	✓	=

Appendix F *Plausible source-pathway-receptor
contaminant linkages*

Summary of potential contaminant linkages

Table F.2 lists the plausible contaminant linkages which have been identified. These are considered as potentially unacceptable risks in line with guidelines published in LCRM (2023) and additional risk assessment is required.

Source – Pathway – Receptor Linkages have been assessed in general accordance with guidance in CIRIA Report C552 (Rudland *et al* 2001) but modified to add a 'no linkage' category and to remove low/moderate risk (See Table F.1).

It should be noted that whilst the risk assessment process undertaken in this report may identify potential risks to site demolition and redevelopment workers, consideration of occupational health and safety issues is beyond the scope of this report and need to be considered separately in the Construction Phase Health and Safety Plan.

Table F.1: Consequence versus probability assessment.

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Low risk	Very low risk
	Low Likelihood	Moderate risk	Low risk	Low risk	Very low risk
	Unlikely	Low risk	Very low risk	Very low risk	Very low risk
	No Linkage	No risk			

Table F2: Exposure model – final source-pathway-receptor contaminant linkages

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments	
Pesticides and herbicides from agricultural activities	Ingestion, inhalation or direct contact.	Site users.	Low	Medium	Low	There is potential for the presence of pesticides and herbicides in the topsoil as a result of the prolonged agricultural use of the site. Testing during intrusive investigation will be required to confirm the absence or presence.	Contact with these materials is likely (if present) in areas of public open space (POS).
	Inhalation of fugitive dust.	Site users and neighbours.	Low likelihood	Medium	Low		The risk of significant generation of dust is likely only during site development process and can therefore be controlled.
	Root uptake.	Vegetation.	Low likelihood	Medium	Low		Uptake of these are plausible in soft landscaped areas. Chemical testing will be required to confirm presence or absence.
	Surface run-off and leaching through the unsaturated zone.	Groundwater / surface water and possible abstractors.	Low likelihood	Medium	Low		The site is not in a source protection zone.

Cont...

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments	
Hydrocarbon vapours from potential VOC and petroleum hydrocarbon spillages/leaks associated with the use of farm machinery and storage of unknown chemicals within the barn structure	Ingestion, inhalation or direct contact.	Site users.	Likely	Medium	Moderate	There is potential for presence of hydrocarbon derived fuels and lubricants from leaks or spillages from farm vehicles used on site and within containers identified in the barn structure. Testing during intrusive investigation will be required to confirm the absence or presence.	Contact with these materials is likely (if present) in areas of soft landscaping.
	Surface run-off and leaching through the unsaturated zone.	Groundwater / surface water and possible abstractors.	Low	Medium	Low		The site is not in a source protection zone.
	Root uptake.	Vegetation.	Low	Medium	Low		Uptake of these are plausible in soft landscaped areas. Chemical testing will be required to confirm presence or absence.
	Direct contact	Water supply pipes.	Low	Medium	Low		If contamination is identified during investigation, direct contact with buried water supply pipes is likely.
Asbestos fibres and Asbestos Containing Materials from the farm structures in the near surface soils	Inhalation of fugitive fibres.	Site users.	Low	Severe	Moderate	Asbestos may be present in existing buildings, near surface soils and Made Ground on site.	

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments	
Uncontrolled Made Ground in the locations of the infilled ponds in the northern and south-western corners of the site.	Ingestion, inhalation or direct contact.	Site users.	Likely	Medium	Moderate	There is potential for presence of unknown material associated with the infilling of ponds on site. Testing during intrusive investigation will be required to confirm the absence or presence.	Contact with these materials is likely (if present) in areas of soft landscaping.
	Surface run-off and leaching through the unsaturated zone.	Groundwater / surface water and possible abstractors.	Low	Medium	Low		The site is not in a source protection zone.
	Root uptake.	Vegetation.	Low	Medium	Low		Uptake of these are plausible in soft landscaped areas. Chemical testing will be required to confirm presence or absence.
	Direct contact	Water supply pipes.	Low	Medium	Low		If present, direct contact with buried water supply pipes may require barrier pipe
Elevated ground gases (particularly carbon dioxide and methane) from Made Ground materials around metal recycling scrapyard	Migration, build up and asphyxiation.	Site users and neighbours.	Low	Severe	Moderate	Further intrusive investigation and ground gas monitoring will be required to confirm risk.	

Cont.

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments	
Potential contaminants associated with the scrap yard located to the east of the site, including metals, metalloids, PAH and petroleum hydrocarbons.	Ingestion, inhalation or direct contact.	Site users.	Low	Medium	Low	In order to establish risk posed from the scrap yard to the proposed development, testing during intrusive investigation will be required to confirm the absence or presence.	Contact with these materials is likely (if present) in areas of soft landscaping. The proposed development is majority hardstanding, breaking the source-pathway-receptor linkage.
	Surface run-off and leaching through the unsaturated zone.	Groundwater / surface water and possible abstractors.	Low	Medium	Low		The site is not in a source protection zone.
	Root uptake.	Vegetation.	Low	Medium	Low		Uptake of these are plausible in soft landscaped areas. Chemical testing will be required to confirm presence or absence.
Ground gases (carbon dioxide and methane) from organic materials in the ponds immediately north of the site	Inhalation.	End users of the site. Neighbours.	Unlikely	Severe	Low	To be confirmed as part of future ground investigation works	Clay derived shallow strata will likely preclude the horizontal migration of gases.