CONTRACT:
GROUND INVESTIGATION FOR WHITELANDS FARM, OXFORD ROAD FAS BICESTER

CONTRACT NUMBER: 721026

PHOTOGRAPHS OF TRIAL PIT 4		
TP4	**G.L – 1.20 m**	

TP4	**SPOIL**	

CONTRACT:
GROUND INVESTIGATION FOR WHITELANDS FARM, OXFORD ROAD FAS BICESTER

CONTRACT NUMBER: 721026

PHOTOGRAPHS OF TRIAL PIT 5		
TP5	**G.L – 3.00 m**	

TP5	**G.L – 1.00 m**	

721026 Trial pit photo Rev.1

CONTRACT:
GROUND INVESTIGATION FOR WHITELANDS FARM, OXFORD ROAD FAS BICESTER

CONTRACT NUMBER: 721026

PHOTOGRAPHS OF TRIAL PIT 5		
TP5	**1.00 – 3.60 m**	

TP5	**SPOIL**	

STRUCTURAL SOILS

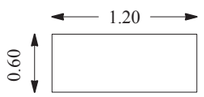
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Bicester Business Park	**London and Metropolitan International Developments Ltd**	**TP06**

Contract Ref:	Start:	Ground Level:	Co-ordinates:	Sheet:
728724	**27.01.14**	**---**	**---**	**1** of **2**
	End: **27.01.14**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20	1	D				POSSIBLE MADE GROUND: Grass over firm brown slightly gravelly slightly sandy CLAY. Sand is fine. Gravel is fine to coarse angular argillaceous limestone. (TOPSOIL)	0.25	
0.50	2	D				Firm light yellowish brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to sub angular argillaceous limestone.	(0.85)	
0.60	3	LB						
1.00	4	D					1.10	
						Light greyish yellowish brown angular COBBLES with some boulders of argillaceous limestone with some finer material of gravelly sandy CLAY. Boulders are up to 300mm.	1.30	
						Firm to stiff blueish grey mottled brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is angular fine to coarse argillaceous limestone.	1.50	
1.50	5	D						
1.50	6	B				Trial pit terminated at 1.50m depth.		

Plan (Not to Scale)



General Remarks

1. Groundwater seepage at 0.5m caused instability from 1.1m-1.3m depth.
2. Trial p
it backfilled on completion.
3. No hand vane tests undertaken due to high gravel content of clay soils.

All dimensions in metres — Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML

STRUCTURAL SOILS

TRIAL PIT LOG

Contract:		Client:		Trial Pit:
Bicester Business Park		**London and Metropolitan International Developments Ltd**		**TP06**
Contract Ref:	Start: **27.01.14**	Ground Level:	Co-ordinates:	Sheet:
728724	End: **27.01.14**	**---**	**---**	**2** of **2**

Trial pit 06 north face

Trial pit 06 east face

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML

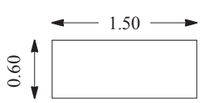
STRUCTURAL SOILS

TRIAL PIT LOG

Contract:		Client:		Trial Pit:
Bicester Business Park		**London and Metropolitan International Developments Ltd**		**TP07**
Contract Ref:	Start: **27.01.14**	Ground Level:	Co-ordinates:	Sheet:
728724	End: **27.01.14**	**---**	**---**	**1** of **2**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						Crops over firm medium strength brown sandy CLAY. Sand is fine to coarse. (TOPSOIL)	0.25	
0.20	1	D						
0.20		V	c_u=53/38/61			Firm high strength light orangish brown sandy CLAY. Sand is fine.		
0.40	2	D		≈			(0.75)	
0.40		V	c_u=92/84					
							1.00	
						Stiff blueish grey mottled brown slightly sandy CLAY.	1.20	
1.20	3	D				Stiff high strength orangish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular argillaceous limestone.	(0.30)	
1.30	4	LB						
1.30		V	c_u=95/88/82				1.50	
						Trial pit terminated at 1.50m depth.		

Plan (Not to Scale)



General Remarks

1. Groundwater seepage at 0.6m depth.
2. Trial pit stable during excavation.
3. Trial pit backfilled with arisings on completion.

All dimensions in metres — Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML

GINT_LIBRARY_V8_05.GLB LibVersion: v8_05 - Lib0004 PrjVersion: v8_05 - Core+Full Bristol SI - 0003 | Log TRIAL PIT LOG | 728724_BICESTER_BUSINESS_PARK.GPJ - v8_05 | 16/06/14 - 08:45 | AML.
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STRUCTURAL SOILS

TRIAL PIT LOG

Contract:		Client:		Trial Pit:
Bicester Business Park		**London and Metropolitan International Developments Ltd**		**TP07**
Contract Ref:	Start: **27.01.14**	Ground Level:	Co-ordinates:	Sheet:
728724	End: **27.01.14**	**---**	**---**	**2** of **2**

Trial pit 07 north face

Trial pit 07 west face

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML

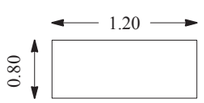
STRUCTURAL SOILS

TRIAL PIT LOG

Contract:		Client:		Trial Pit:
Bicester Business Park		**London and Metropolitan International Developments Ltd**		**TP08**
Contract Ref:	Start: **27.01.14**	Ground Level:	Co-ordinates:	Sheet:
728724	End: **27.01.14**	**---**	**---**	**1** of **2**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10		V	c_u=38/40/49			Crops over firm medium strength brown slightly sandy CLAY. Sand is fine to coarse. (TOPSOIL)	(0.30)	
0.15	1	D					0.30	
						Stiff high strength light organish brown sandy CLAY. Sand is fine.		
0.50	2	D					(0.60)	
0.50		V	c_u=81/90/92					
0.70	3	LB					0.90	
						Stiff high strength blueish grey mottled brown slightly sandy CLAY with fine to medium gravel sized inclusions of powdery gypsum.		
1.20	4	D					(0.60)	
1.30	4	LB						
1.40		V	c_u=89/92/97				1.50	
						Trial pit terminated at 1.50m depth.		

Plan (Not to Scale)



General Remarks

1. No groundwater encountered during excavation.
2. Trial pit stable during excavation.
3. Trial pit backfilled with arisings on completion.

All dimensions in metres — Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML

STRUCTURAL SOILS

TRIAL PIT LOG

Contract:		Client:		Trial Pit:
Bicester Business Park		**London and Metropolitan International Developments Ltd**		**TP08**
Contract Ref:	Start: **27.01.14**	Ground Level:	Co-ordinates:	Sheet:
728724	End: **27.01.14**	**---**	**---**	**2** of **2**

Trial pit 08 north face

Trial pit 08 east face

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML

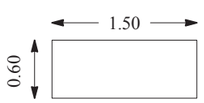
STRUCTURAL SOILS

TRIAL PIT LOG

Contract:		Client:		Trial Pit:
Bicester Business Park		**London and Metropolitan International Developments Ltd**		**TP09**
Contract Ref:	Start: **27.01.14**	Ground Level:	Co-ordinates:	Sheet:
728724	End: **27.01.14**	**---**	**---**	**1** of **2**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.15		V	c_u=58/66/63			MADE GROUND: Crops over firm medium strength brown slightly gravelly slightly sandy CLAY. Sand is fine to medium. Gravel is fine to medium angular brick. (Topsoil).	(0.35)	
0.20	1	D					0.35	
0.60	2	D				POSSIBLE MADE GROUND: Firm low strength light orangish brown slightly gravelly sandy locally very sandy CLAY. Sand is fine to coarse. Gravel is fine to medium charcoal.		
0.70		V	c_u=32/41/38				(0.95)	
				≈			1.30	
						Firm to stiff high strength blueish grey slightly sandy CLAY. Sand is orangish brown fine to coarse.	(0.30)	
1.50	3	D					1.60	
1.50	4	LB						
1.50		V	c_u=82/79/84			Trial pit terminated at 1.60m depth.		

Plan (Not to Scale)



General Remarks

1. Groundwater seepage from 1.40m depth.
2. Trial pit stable during excavation.
3. Trial pit backfilled with arisings on completion.

All dimensions in metres — Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML

STRUCTURAL SOILS

TRIAL PIT LOG

Contract:		Client:		Trial Pit:
Bicester Business Park		**London and Metropolitan International Developments Ltd**		**TP09**
Contract Ref:	Start: **27.01.14**	Ground Level:	Co-ordinates:	Sheet:
728724	End: **27.01.14**	**---**	**---**	**2** of **2**

Trial pit 09 west face

Trial pit 09 south face

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML

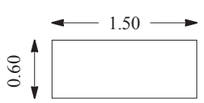
STRUCTURAL SOILS

TRIAL PIT LOG

Contract:		Client:		Trial Pit:
Bicester Business Park		**London and Metropolitan International Developments Ltd**		**TP10**
Contract Ref:	Start: **27.01.14**	Ground Level:	Co-ordinates:	Sheet:
728724	End: **27.01.14**	**---**	**---**	**1** of **2**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.15	1	D				MADE GROUND: Crops over medium strength firm medium strength dark grey slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to coarse angular brick.	0.25	
0.15		V	c_u=42/48/45			Firm high strength blueish grey slightly sandy CLAY. Sand is fine.		
0.50	2	D						
0.50		V	c_u=68/75/82				(0.75)	
0.70	3	B						
							1.00	
						Orangeish brown clayey very sandy GRAVEL. Gravel of angular to subrounded flint and limestone.	(0.30)	
1.20	5	B					1.30	
						Firm to stiff high strength blueish grey slightly sandy slightly organic CLAY. Organic component is decayed plants remains. Sand is orangish brown fine.		
							(1.10)	
2.00	6	LB						
							2.40	
2.40	4	D				Trial pit terminated at 2.40m depth.		
2.40		V	c_u=74/78/76					

Plan (Not to Scale)



General Remarks

1. Groundwater seepage at 1.0m caused instability from 1.0m-1.3m depth.
2. Trial pit backfilled with arisings on completion.

All dimensions in metres — Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML

GINT_LIBRARY_V8_05.GLB LibVersion: v8_05 - Lib0004 PrjVersion: v8_05 - Core+Full Bristol SI - 0003 | Log TRIAL PIT LOG | 728724_BICESTER_BUSINESS_PARK.GPJ - v8_05 | 16/06/14 - 08:46 | AML.
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STRUCTURAL SOILS

TRIAL PIT LOG

Contract:		Client:		Trial Pit:
Bicester Business Park		**London and Metropolitan International Developments Ltd**		**TP10**
Contract Ref:	Start: **27.01.14**	Ground Level:	Co-ordinates:	Sheet:
728724	End: **27.01.14**	**---**	**---**	**2** of **2**

Trial pit 10 east face

Trial pit 10 south face

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML

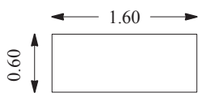
STRUCTURAL SOILS

TRIAL PIT LOG

Contract:		Client:		Trial Pit:
Bicester Business Park		**London and Metropolitan International Developments Ltd**		**TP11**
Contract Ref:	Start: **27.01.14**	Ground Level:	Co-ordinates:	Sheet:
728724	End: **27.01.14**	**---**	**---**	**1** of **2**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10 0.15	 1	V D	c_u=46/48/52			MADE GROUND: Crops over firm medium strength slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium subangular limestone and brick.	(0.30) 0.30	
0.50 0.50 0.50	2 3 	D B V	 c_u=62/67/71			Firm to stiff medium strength blueish mottled orangeish brown slightly sandy CLAY. Sand is fine.	(0.80) 1.10	
1.20	4	LB				Orangish brown clayey very sandy GRAVEL. Gravel of fine to coarse anngular to rounded limestone and flint. Sand is fine to coarse.	(0.50) 1.60	
2.00	5	D				Stiff high strength blueish grey slightly sandy CLAY. Sand is orangish brown fine to coarse.	(0.90) 2.50	
2.40 2.50	 6	V B	c_u=125/124/128			Trial pit terminated at 2.50m depth.		

Plan (Not to Scale)



General Remarks

1. Trial Pit position CAT scanned prior to excavation.
2. No groundwater encountered.
3. Trial Pit stable during excavation.
4. Trial Pit backfilled with arisings on completion.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML

GINT_LIBRARY_V8_05.GLB LibVersion: v8_05 - Lib0004 PrjVersion: v8_05 - Core+Full Bristol SI - 0003 | Log TRIAL PIT LOG | 728724_BICESTER_BUSINESS_PARK.GPJ - v8_05 | 16/06/14 - 08:47 | AML.
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STRUCTURAL SOILS

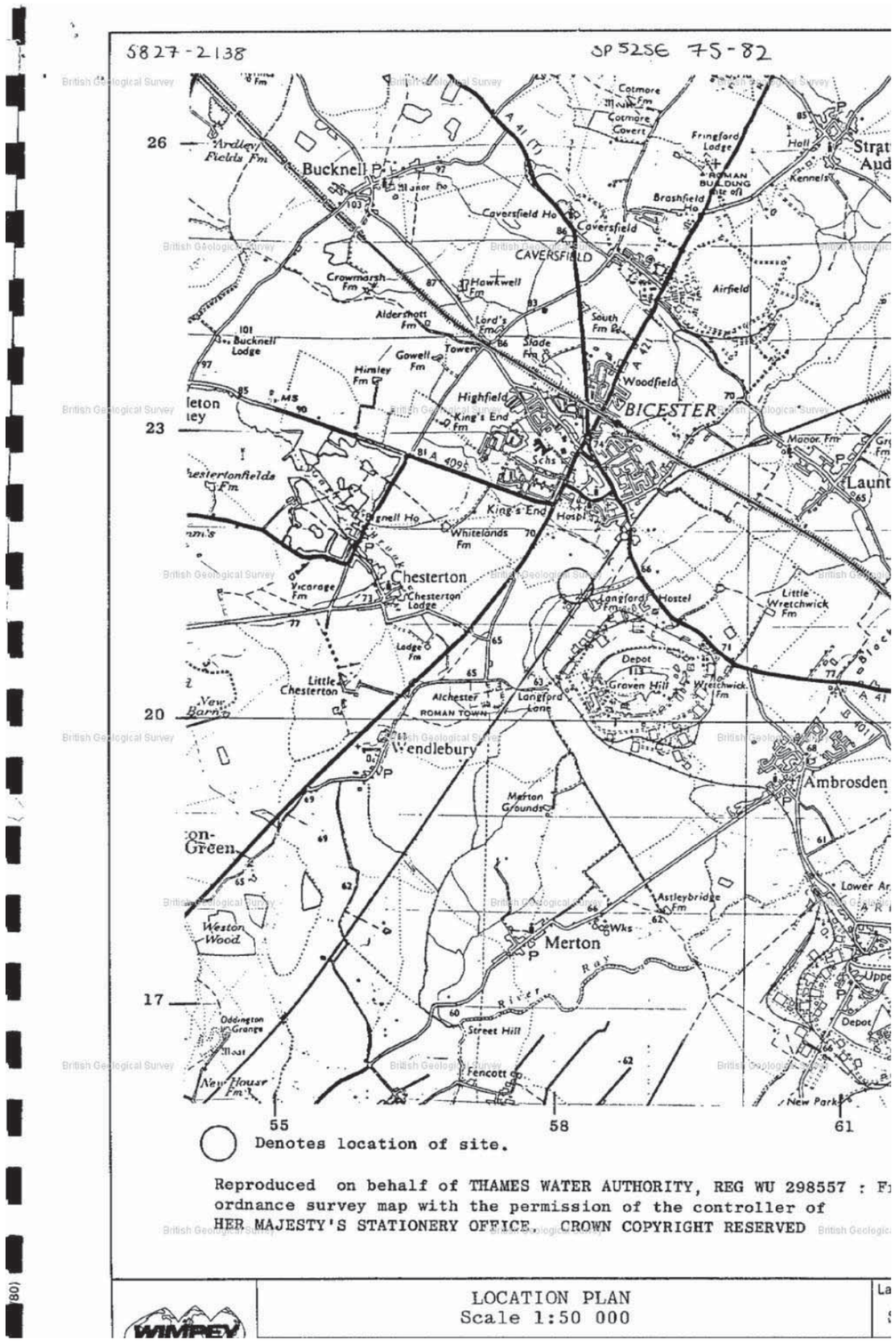
TRIAL PIT LOG

Contract:		Client:		Trial Pit:
Bicester Business Park		**London and Metropolitan International Developments Ltd**		**TP11**
Contract Ref:	Start: **27.01.14**	Ground Level:	Co-ordinates:	Sheet:
728724	End: **27.01.14**	**---**	**---**	**2** of **2**

Trial pit 11 west face

Trial pit 11 south face

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**JCB-3CX**	**WHunter**	AML



SP 52 SE/78 [5827 2138] Bicester Sewage Works Borehole 421/4 (1986) Datum c. +68.4 (Ground level)

	Thickness m	Depth m
[? Made Ground and] Kellaways Formation:		
Kellaways Sand Member	7.80	7.80
Kellaways Formation: Kellaways Clay Member	2.80	10.60
Cornbrash Formation	1.00	11.60

Stratigraphical classification by M G Sumbler, May 1999.

Boring method: Shell and Auger							Boring diameter (mm): 150 to 11.60m				Record of SI
Boring equipment: Pilcon Wayfarer							Casing diameter (mm): 150 to 10.60m				BOREHOI
Location: See Site Plan			Orientation: Vertical				Ground level (m O D): 68.45		Date commenced: 10.6.86		(Sheet 1 of
Samples and in situ tests		Casing depth (m)	Water depth (m)				Date and Depth (m)	Description of Strata			O D Leve (m O
Depth (m)	Type							SP52SE 78 5827-2138			
							10/6	TOPSOIL			
0.30	Dj						0.45	Grading to Firm friable brown sandy silty CLAY			68.0
0.50	U100	None					0.70	Dark brown organic silty clay #			67.7
1.00	Dj										
1.25	Dj							Firm to stiff friable becoming dark grey with depth sandy silty CLAY with fibrous roots and occasional calcareous nodules			
1.50	U100	None									
2.00	Dj										
2.25	Dj						2.20				66.2
2.50	GWs		GWe								
2.60	U100	2.00	2.50					Stiff fissured brown-grey with yellow patches silty CLAY			
3.10	Dj										
3.25	Dj										
3.60	U100	3.00					3.70				64.7
4.00	Dj										
4.25	Dj							Stiff fissured fissile dark grey silty CLAY with occasional shell debris and silt partings			
4.50	U100	4.00									
5.00	Dj										
5.25	Dj						5.40				53.0
5.50	U100	4.00									
6.00	Dj										
6.00	C(43)	6.00						Dense to very dense dark grey clayey very silty fine SAND becoming coarser with depth			
6.00	Db										
6.75	Dj										
7.05	C(44)	7.00									
7.05	Db										
7.60	U100	7.00									
			GWe				7.80				60.6
8.10	Dj		7.80								
8.25	Dj										
8.50	U100	7.00						Stiff fissured fissile dark grey silty CLAY with occasional silt partings, shell debris and pyrite masses. A thin layer of dark grey calcareous shelly clay at base			
9.00	Dj										
9.30	Dj										
9.60	U100	9.00									

Remarks: Ground-water was encountered at 2.50m; level rose to 2.30m in 30 minutes.
Ground-water was also encountered at 7.80m; level rose to 7.77m in 15 minutes.
Ground-water was sealed off by lining casings between 3.00m and 7.80m, also between 8.00m and 11.60m.

Drillers description.

WIMPEY LABORATORIES

BOREHOLE RECORD
Scale 1 : 50
For explanation of symbols and abbreviations see Key Sheet
T.W.A. - BICESTER SEWAGE TREATMENT WORKS

Lab R S/
Fig.

Boring method				Boring diameter (mm)		Record of BOREHC
Boring equipment				Casing diameter (mm)		(Sheet 2 of
Location		Orientation		Ground level (m O D) 68.45	Date commenced 10.6.86	

Samples and in situ tests		Casing depth (m)	Water depth (m)	Date and Depth (m)	Description of Strata	Ol Lev (m O
Depth (m)	Type				SP525E 78 5827-2138	
10.10	Dj					
10.20	Dj				(See previous sheet)	
10.60	Dj			10.60		57.
10.65	C(>50)	10.50				
10.65	Db				Dark grey coarse crystalline LIMESTONE, moderately strong	
11.60	C(>50)	10.60				
11.60	Db			11.60		56.
					END OF BOREHOLE	

Remarks:

Borehole was advanced by chiselling between 10.60m and 11.60m.
On completion of boring the borehole was backfilled with spoil.

WIMPEY LABORATORIES

BOREHOLE RECORD
Scale 1 : 50
For explanation of symbols and abbreviations see Key Sheet

Lab R
S/
Fig.

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Unit 2, Moorview Industrial Estate, Straightway Head, Whimple, Exeter EX5 2QT www.geologic.co.uk

DRILLER'S LOG

Site Name: Bicester | Job No: | Date: 11/11/16 | Sheet 1 of 3 | Borehole No: water well

Depth (m)	Soil Description	Sample/Test Type	Sample/Test No.	Depth (m) From	Depth (m) To	U100s Blows	U100s Length	Standard Penetration Tests 1	2	3	4	5	6	Pen	Casing Depth (m)	Water Level (m)
	Start of Shift															
GL-0.8	Brick fill															
0.8-1.4	Limestone															
1.4-2.3	grey cotford clay															
2.3-10.5	Limestone/mudstone bands															
	End of Shift - Borehole Complete/Incomplete															

Chiselling

	Time From	Time To	Hours
Depth (m)			

Water Entries	1	2	3
Depth Struck	8.0	Seepage	
Casing Depth			
Depth 5 mins			
Depth 10 mins			
Depth 20 mins			
Cut off at			

Water Added	From	To	Piezo/Standpipe
Water Added			
Borehole kept Full			
Piezometer/Standpipe	From	To	
Plain Pipe			
Slotted Pipe			
Filter			
Bentonite Seal			
Grout/Backfill			
Borehole Diameter (mm)			

Remarks: (Standing time, day works, visitors, weather etc.)

Driller: C Cas
Crew: Josh
Excavation: Backfill:
Rig: massenza
Additional Equipment:

Total Number of Samples						
SPT	U	D	B	W	P	BH No.

Driller's Name | Driller's Signature | Client's Signature | Received: | Approved:

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DRILLER'S LOG

Site Name: Bicester | Job No: | Date: 14/11/16 | Sheet 2 of 3 | Borehole No: waterwell

Depth (m)	Soil Description	Sample/Test Type	Sample/Test No.	Depth (m) From	Depth (m) To	U100s Blows	U100s Length	Standard Penetration Tests 1	2	3	4	5	6	Pen	Casing Depth (m)	Water Level (m)
	Start of Shift															
				Water in morning 0.8												
10.5-37.5	Mudstone with bands of Clay															
37.5-39.0	Sandstone															
39.0-45.0	mudstone with clay bands															
	Water increased with depth															
	Standing level at end of day GL															

End of Shift - Borehole Complete/Incomplete

Remarks: (Standing time, day works, visitors, weather etc.)

Driller: C Cox | Rig: massenza | Crew: Jack | Additional Equipment: | Excavation: | Backfill:

Total Number of Samples: SPT | U | D | B | W | P

Driller's Name | Driller's Signature | Client's Signature | Received: | Approved.

BH No.

Chiselling: Depth (m) From / To | Time From / To | Hours

	1	2	3
Water Entries			
Depth Struck			
Casing Depth			
Depth 5 mins			
Depth 10 mins			
Depth 20 mins			

Cut off at

Water Added From / To | Piezo/Standpipe

Water Added

Borehole kept Full

Piezometer/Standpipe	From	To
Plain Pipe		
Slotted Pipe		
Filter		
Bentonite Seal		
Grout/Backfill		
Borehole Diameter (mm)		

Email: info@geologic.co.uk • Telephone: 01404 822032
Unit 2, Moorview Industrial Estate, Straightway Head, Whimple, Exeter EX5 2QT www.geologic.co.uk

DRILLER'S LOG

Site Name: Bicester | Job No: | Date: 16/11/16 | Sheet 3 of 3 | Borehole No: waterwell

Soil Description	Sample/Test Type	Sample/Test No.	Depth (m) From	Depth (m) To	U100s Blows	U100s Length	Standard Penetration Tests 1	2	3	4	5	6	Pen	Casing Depth (m)	Water Level (m)
Start of Shift															
Install (6inch)			Water in morning Artesian 1.5m above GL												
45.0-30.0 Slotted 30.0-GL plain															
45.0-15.0 Gravel 15.0-GL Bento															
3m permanent steel casing installed															
2.5m plain install left above GL.															

End of Shift - Borehole Complete/Incomplete

Remarks: (Standing time, day works, visitors, weather etc.)

Driller: C Cox | Rig: massenza | Crew: Jack | Additional Equipment: | Excavation: | Backfill:

Total Number of Samples: SPT | U | D | B | W | P

BH No.

Chiselling: Depth (m) From / To | Time From / To | Hours

	1	2	3
Water Entries			
Depth Struck			
Casing Depth			
Depth 5 mins			
Depth 10 mins			
Depth 20 mins			

Cut off at

Water Added From / To | Piezo/Standpipe

Water Added

Borehole kept Full

Piezometer/Standpipe	From	To
Plain Pipe		
Slotted Pipe		
Filter		
Bentonite Seal		
Grout/Backfill		
Borehole Diameter (mm)		

Page 1 of 1

Appendix C – Preliminary UXO risk assessment

This Preliminary UXO Risk Assessment has been carried out by BuroHappold in accordance with CIRIA C681. The purpose of the preliminary risk assessment is a qualitative screening exercise to assess the likelihood of finding UXO at the site. This can then be used to make an informed decision if further UXO specific risk management is required.

The assessment is based on data obtained from a desktop review of information, including site location, bombing records, historical uses, historical development and proposed development.

Item	Comments	Score
Site Setting	Site is located south of Bicester, during WWII rural	1 (Table 8-1Row A)
Site description and historical land usage	Agricultural land, however Bicester Airfield located 3km north east	4 (Table 8-1Row B)
Record of bombing	Bicester was bombed, but low frequency of bombing.	4 (Table 8-1Row C)
Level of post war development	No development	0 (Table 8-2 Row D)
Level of proposed intrusive works	About 50% of site to be developed, including landscaping and foundations, not car park	-1 (Table 8-2 Row E)
Assessed Risk	Low	8 (Sum of the above)
Recommendations	The assessment found risk associated with UXO to be low, no further assessment works are therefore required.	
Attachments	**Table 8-1 -** potential aerial delivered UXO hazards **Table 8-2 -** mitigation factors **Table 8-3 -** Final score summary **Attachment 1 –** Bicester bombing record **Attachment 2 -** Pre- WWII Historical Map **Attachment 3 –** Post – WWII Historical Maps **Attachment 4 –** Proposed Development	

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Table 8-1 Scoring process for indicators of potential aerial delivered UXO hazards

Data Item	Increasing Potential for aerial delivered UXO Hazards →			
	1	2	4	8
A - Site Setting	Rural	Small towns	Cities Large Towns	
B - Site description and historical land usage	Greenfield site only Agricultural land only	Residential only Within 10 mile radius of site of previous military use Within 5 mile radius of wartime[1] for following: Railway marshalling yard Power station Gas works Port Industrial centre	Within 5 mile radius of site of previous military use Within 1 mile radius of wartime[1] for following: Railway marshalling yard Power station Gas works Port Industrial centre On wartime[1] flight paths	Within 1 mile radius of site of previous military use Former wartime[1]: Railway marshalling yard Power station Gas works Port Industrial centre
C – Record of bombing	No history of WWII bombing	Within 10 mile radius of area of known WWII bombing	Within 5 mile radius of area of known WWII bombing	Area of known WWII bombing

[1]Wartime refers to the site being in use at the time of WWI and WWII when its significance may have caused it to be the target of an enemy attack.

Table 8-2 Scoring process for considering mitigation factors

Data Item	Decreasing Potential for aerial delivered UXO Hazards ←				
	-6	-5	-3	-1	0
D - Level of post war development	Whole site redevelopment (100% of the site)	Significant post war development (>80% of the site)	Moderate level of post war development (<80% and ≥45% of the site)	Some post war development (<45% and ≥10% of the site)	Minimal post war development (<10% of the site)
E - Level of proposed intrusive works in areas not subject to post war development[1]	Very Small (<5%)	Small (<10%)	Some (<45% and ≥10%)	Moderate (<80% and ≥45%)	Significant (>80%)

[1]Only if the level of post-war development is known and can be quantified in terms of site area and an approximation of depth should a mitigation factor be applied.

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Phase I Environmental Risk Assessment
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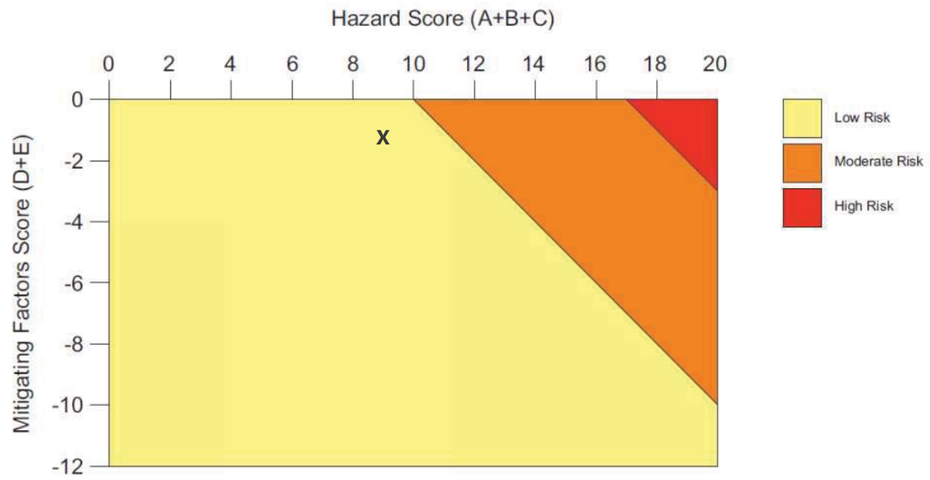
11 May 2017

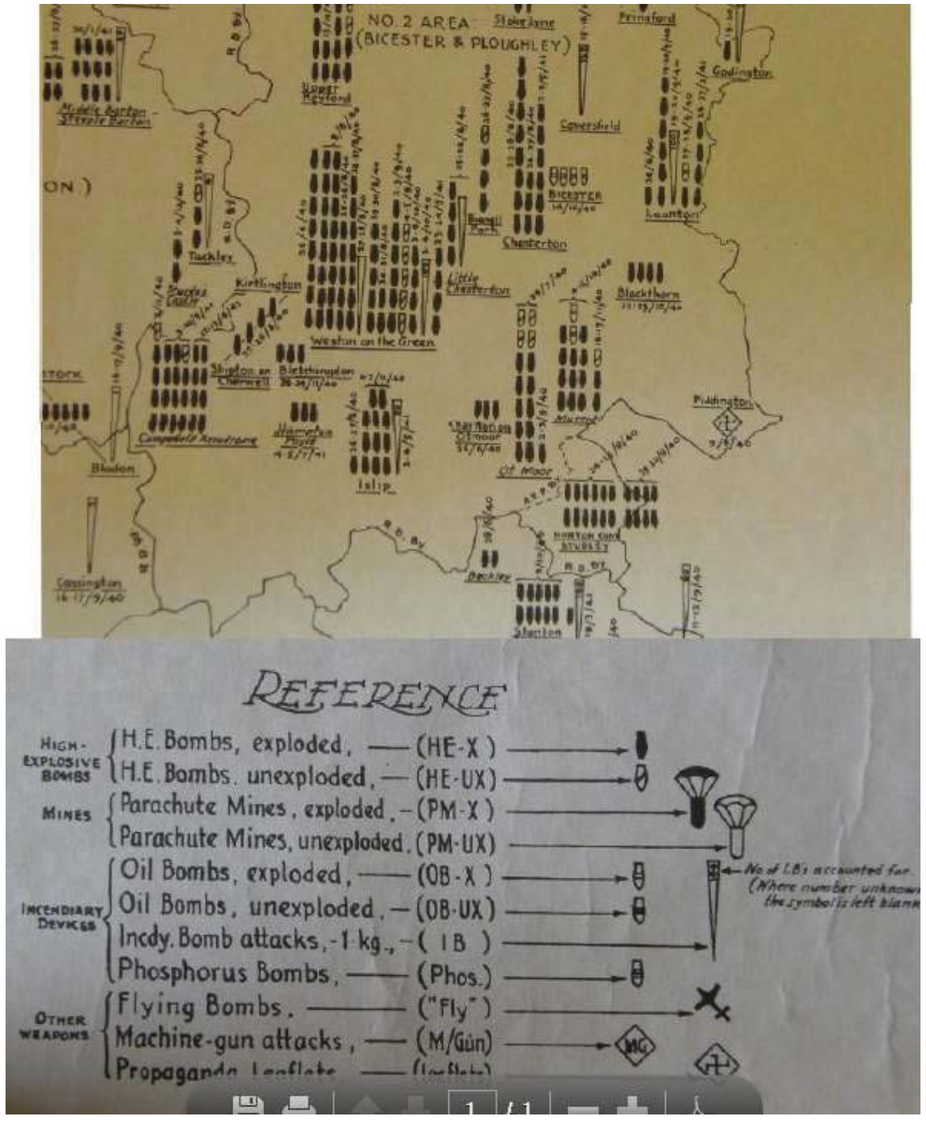
Table 8-3 Final score is based on the sum of rows A, B, C, D and E in Table 8-1and Table 8-2

Final Hazard Score	Risk of encountering an Aerial dropped UXO	Implication
-9 - 9	Low Risk	No further UXO risk assessment likely to be required
10 - 17	Moderate Risk	Detailed UXO Risk Assessment required
17 - 20	High Risk	Detailed UXO Risk Assessment required.

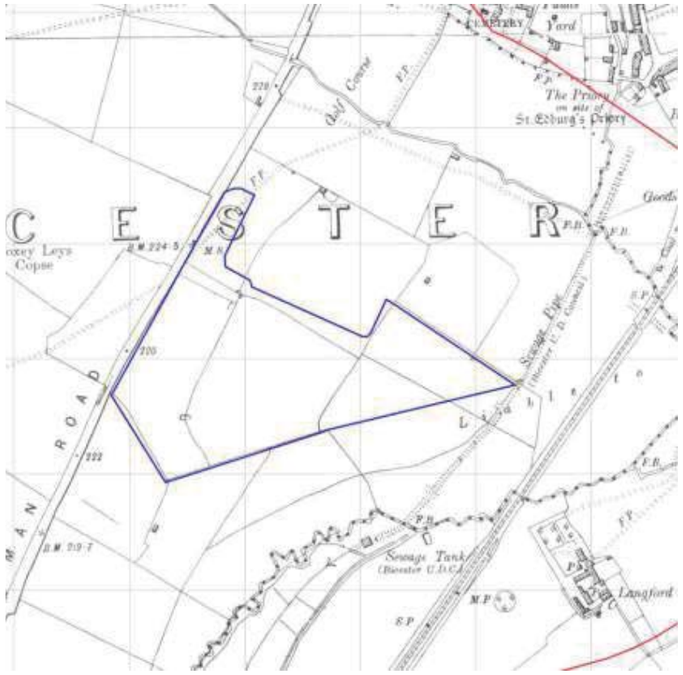


This risk assessment methodology is intended as a generic tool. A small number of sites with unusual site specific conditions may require additional consideration of the hazard scoring.

Attachment 1. Local bombing record



Attachment 2. Pre-WWII Historical Map (1919)



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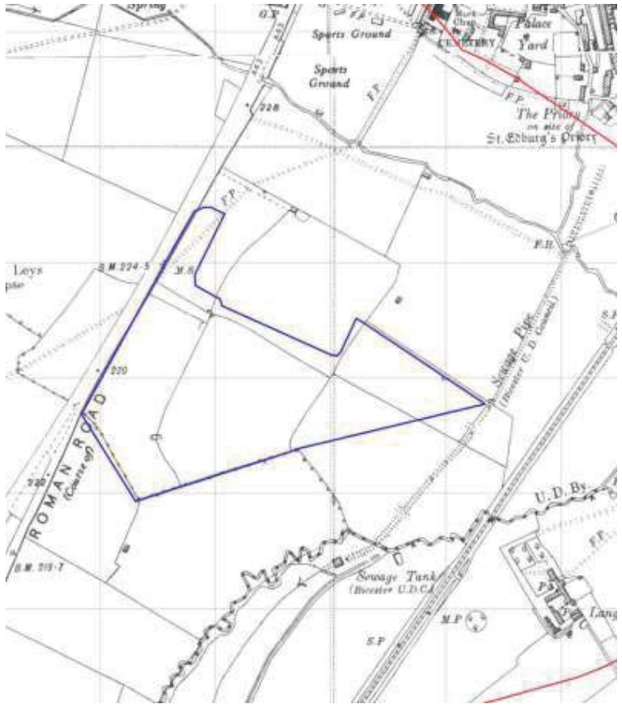
Attachment 3. Post-WWII Historical Map (1950)



Attachment 4. Proposed Development Plan

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Appendix D – GroundSure

Bicester Office Park
Phase I Environmental Risk Assessment
Revision 00
11 May 2017

Buro Happold

17 BURO HAPPOLD ENGINEERS LTD,
NEWMAN STREET,
LONDON, W1T 1PD

Groundsure Reference:	GS-3722220
Your Reference:	036269
Report Date	13 Mar 2017
Report Delivery Method:	Email - pdf

Groundsure Enviro Insight

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Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
Groundsure Limited

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Address:	**OXFORD ROAD, BICESTER, OX26 1BT**
Date:	**13 Mar 2017**
Reference:	**GS-3722220**
Client:	**Buro Happold**

NW N NE

W E

SW S SE

Aerial Photograph Capture date:	06-Sep-2015
Grid Reference:	457807,221589
Site Size:	14.50ha

Report Reference: GS-3722220
Client Reference: 036269

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Overview of Findings

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Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	2	2	23	54
1.2 Additional Information – Historical Tank Database	0	0	28	41
1.3 Additional Information – Historical Energy Features Database	0	0	4	3
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	0
1.6 Potentially Infilled Land	0	1	21	18

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	4	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	2	0
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	11	4
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	4	2	0
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	0	1	0
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	2	0	0

Section 4: Current Land Use

	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	1	8	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	2	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology

5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology

	0-500m
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	1	0	3	5
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	1
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	1	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	1	Not searched	Not searched

Section 6: Hydrogeology and Hydrology

	0-500m					
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?	No	No	No	Yes	Yes	No
6.10 Detailed River Network entries within 500m of the site	1	2	11	23	Not searched	Not searched
6.11 Surface water features within 250m of the study site	Yes	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Are there any Enviroment Agency Zone 2 floodplains within 250m of the study site?	Yes
7.2 Are there any Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	Yes
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Medium
7.4 Are there any Flood Defences within 250m of the study site?	No
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	High

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	1
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	1
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	2

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	1	0	1	0	0	2
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards	
9.1 What is the maximum risk of natural ground subsidence?	Moderate
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Moderate
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Low
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Moderate
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Low
9.2 Radon	
9.2.1 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.
9.2.2 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.

Section 10: Mining	
10.1 Are there any coal mining areas within 75m of the study site?	No
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	No
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites
Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers
Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites
Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses
Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology
Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology
Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding
Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites
Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

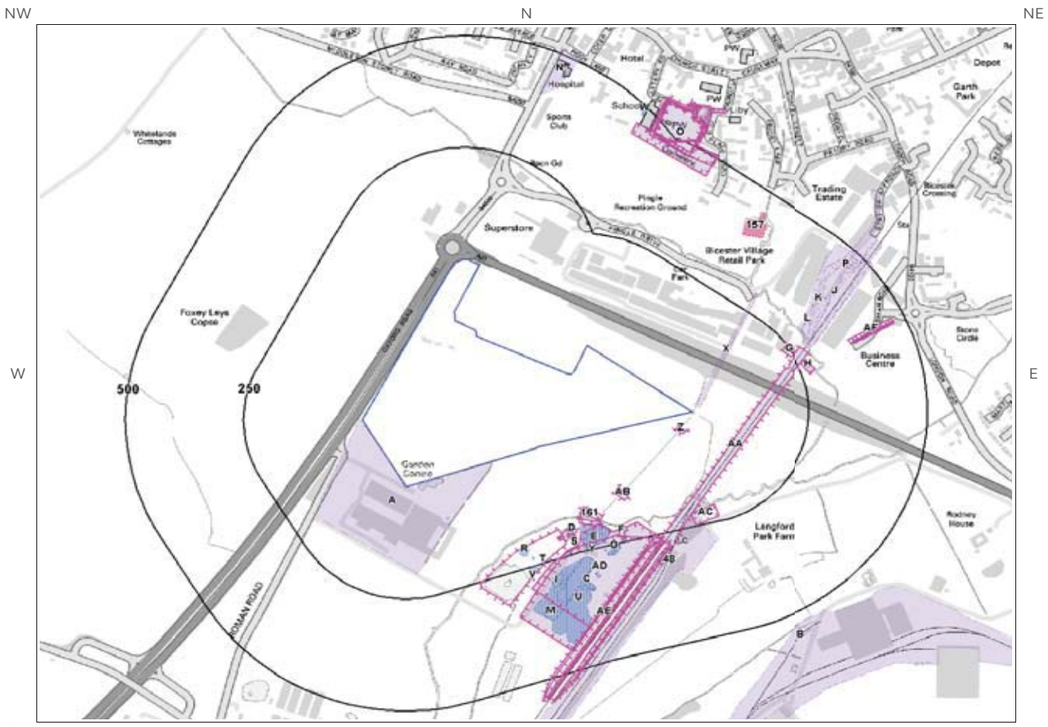
9. Natural Hazards
Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining
Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts
This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

Note: Maps
Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier “A” on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as “Not Shown”.
All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



Historical 1:10,000 and 1:10,560 scale mapping

- Site Outline
- Search Buffers (m) 250 / 500
- Industrial Land Use
- Potentially Infilled Land

Historical 1:2,500, 1:1,250 and 1:500 scale mapping

- Energy Features
- Petrol Stations
- Tanks
- Garages

1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 81

ID	Distance [m]	Direction	Use	Date
1A	0	On Site	Nursery	1995
2A	0	On Site	Nursery	1985
3X	15	NE	Sewage Pipe	1882
4Z	22	S	Unspecified Heap	1966
5AA	106	SE	Cuttings	1880
6AB	130	S	Unspecified Heap	1966
7B	172	S	Railway Sidings	1970
8B	172	S	Railway Sidings	1995
9B	172	S	Railway Sidings	1966
10B	172	S	Railway Sidings	1985
11D	192	S	Sewage Tank	1882
12C	199	S	Sewage Works	1985
13C	199	S	Sewage Works	1995
14D	202	S	Unspecified Heap	1966
15D	204	S	Sewage Tank	1880
16E	208	S	Unspecified Tanks	1995
17E	208	S	Unspecified Tanks	1985
18F	215	S	Sewage Tank	1950
19F	215	S	Sewage Tank	1919
20F	215	S	Sewage Tank	1898
21C	231	S	Sewage Farm	1970
22G	234	NE	Unspecified Heap	1919
23G	234	NE	Unspecified Heap	1898
24G	234	NE	Unspecified Heap	1950
25F	236	S	Unspecified Tank	1995
26F	236	S	Unspecified Tank	1985
27Q	247	S	Unspecified Tanks	1970
28H	257	NE	Unspecified Heap	1898
29H	257	NE	Unspecified Heap	1950
30H	257	NE	Unspecified Heap	1919
31C	263	S	Unspecified Tanks	1995
32C	263	S	Unspecified Tanks	1970
33C	263	S	Unspecified Tanks	1985
34I	289	S	Unspecified Tanks	1995

35I	289	S	Unspecified Tanks	1985
36J	291	NE	Railway Sidings	1966
37J	292	NE	Coal Depot	1970
38J	292	NE	Railway Sidings	1970
39J	292	NE	Railway Sidings	1985
40J	296	NE	Coal Depot	1880
41J	298	NE	Railway Sidings	1950
42K	298	NE	Coal Depot	1919
43J	298	NE	Railway Sidings	1919
44J	298	NE	Railway Sidings	1898
45K	298	NE	Coal Depot	1950
46J	299	NE	Railway Sidings	1880
47P	305	NE	Coal Depot	1882
48	307	S	Railway Building	1966
49L	312	NE	Railway Building	1898
50C	316	S	Unspecified Tanks	1970
51L	317	NE	Coal Depot	1966
52J	318	NE	Railway Sidings	1882
53C	319	S	Unspecified Tanks	1995
54C	319	S	Unspecified Tanks	1985
55M	347	S	Unspecified Tanks	1995
56M	347	S	Unspecified Tanks	1985
57K	350	NE	Railway Building	1995
58K	350	NE	Railway Building	1985
59K	375	NE	Coal Depot	1985
60K	377	NE	Coal Depot	1995
61N	401	NE	Hospital	1995
62N	401	NE	Hospital	1970
63O	436	NE	Cemetery	1970
64O	436	NE	Cemetery	1995
65O	464	NE	Cemetery	1880
66P	465	NE	Goods Shed	1880
67N	465	NE	Hospital	1985
68P	470	NE	Goods Shed	1950
69P	470	NE	Goods Shed	1919
70P	470	NE	Goods Shed	1898
71P	471	NE	Goods Shed	1882
72O	471	NE	Cemetery	1938
73O	472	NE	Cemetery	1882
74O	472	NE	Cemetery	1898
75O	472	NE	Cemetery	1950
76P	473	NE	Goods Shed	1966
77O	473	NE	Cemetery	1966
78O	473	NE	Cemetery	1985
79P	473	NE	Railway Building	1898
80P	473	NE	Railway Building	1919

81P	473	NE	Railway Building	1950

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary: 69

ID	Distance (m)	Direction	Use	Date
82E	191	S	Tanks	1996
83E	191	S	Tanks	1995
84E	191	S	Tanks	1996
85E	191	S	Tanks	1995
86Q	196	S	Tanks	1992
87D	200	S	Sewage Tank	1881
88D	200	S	Urban District Council Sewage Tank	1922
89D	200	S	Sewage Tank	1900
90R	202	S	Unspecified Tank	1995
91R	202	S	Unspecified Tank	1995
92E	209	S	Tanks	1986
93D	219	S	Unspecified Tank	1996
94D	219	S	Unspecified Tank	1996
95S	228	S	Unspecified Tank	1996
96S	228	S	Unspecified Tank	1996
97R	231	S	Unspecified Tank	1995
98R	231	S	Unspecified Tank	1995
99Q	236	S	Unspecified Tank	1996
100Q	236	S	Unspecified Tank	1995
101Q	236	S	Unspecified Tank	1996
102Q	236	S	Unspecified Tank	1995
103Q	237	S	Unspecified Tank	1992
104Q	237	S	Unspecified Tank	1986
105T	243	S	Unspecified Tank	1995
106T	243	S	Unspecified Tank	1995
107T	248	S	Unspecified Tank	1995
108T	248	S	Unspecified Tank	1995
109Q	249	S	Tanks	1966
110Q	251	S	Tanks	1996
111Q	251	S	Tanks	1995
112Q	251	S	Tanks	1995
113Q	251	S	Tanks	1996
114Q	251	S	Tanks	1992

115Q	251	S	Tanks	1986
116S	254	S	Unspecified Tank	1996
117S	254	S	Unspecified Tank	1996
118S	254	S	Unspecified Tank	1995
119S	254	S	Unspecified Tank	1995
120Q	257	S	Unspecified Tank	1995
121Q	257	S	Unspecified Tank	1996
122Q	257	S	Unspecified Tank	1996
123Q	257	S	Unspecified Tank	1995
124C	263	S	Tanks	1966
125U	263	S	Tanks	1996
126U	263	S	Tanks	1995
127U	263	S	Tanks	1996
128U	263	S	Tanks	1995
129C	265	S	Tanks	1992
130M	270	S	Tanks	1995
131M	270	S	Tanks	1995
132V	272	S	Unspecified Tank	1995
133V	272	S	Unspecified Tank	1995
134I	279	S	Tanks	1983
135V	280	S	Unspecified Tank	1995
136V	280	S	Unspecified Tank	1995
137I	283	S	Tanks	1992
138I	283	S	Tanks	1993
139AD	292	S	Unspecified Tank	1996
140C	301	S	Tanks	1996
141M	305	S	Tanks	1992
142M	305	S	Tanks	1993
143C	306	S	Unspecified Tank	1996
144C	317	S	Tanks	1966
145C	318	S	Tanks	1992
146C	318	S	Tanks	1986
147W	479	NE	Tanks	1995
148W	481	NE	Unspecified Tank	1995
149W	490	NE	Unspecified Tank	1995
150W	500	NE	Unspecified Tank	1995

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary: 7

ID	Distance (m)	Direction	Use	Date
151X	157	NE	Electricity Substation	1995
152X	157	NE	Electricity Substation	1996
153X	157	NE	Electricity Substation	1996
154X	157	NE	Electricity Substation	1995
155Y	251	S	Electricity Substation	1986
156Y	251	S	Electricity Substation	1992
157	388	NE	Electricity Substation	1996

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 0

Database searched and no data found.

1.6 Potentially Infilled Land

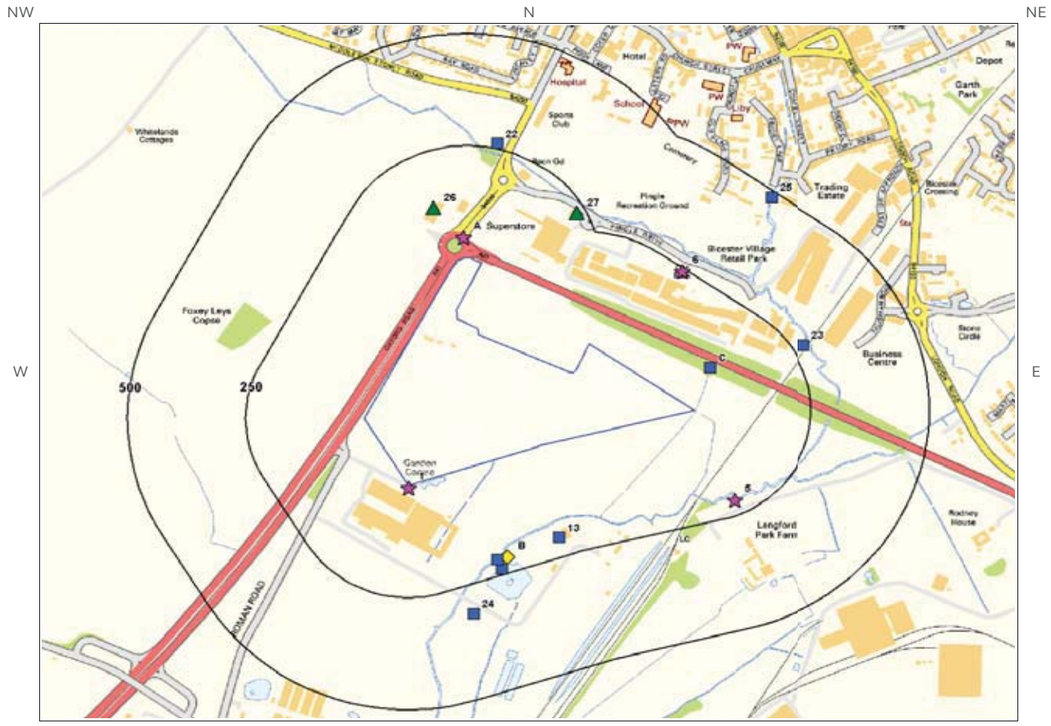
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 40

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
158Z	22	S	Unspecified Heap	1966
159AA	106	SE	Cuttings	1880
160AB	130	S	Unspecified Heap	1966
161	152	S	Pond	1882
162D	163	S	Pond	1880
163V	188	S	Ponds	1995
164V	188	S	Ponds	1985
165D	192	S	Sewage Tank	1882
166C	199	S	Sewage Works	1995
167C	199	S	Sewage Works	1985

168S	202	S	Unspecified Heap	1966
169S	204	S	Sewage Tank	1880
170AC	210	S	Pond	1970
171AC	210	S	Pond	1985
172AC	210	S	Pond	1995
173F	215	S	Sewage Tank	1898
174F	215	S	Sewage Tank	1950
175F	215	S	Sewage Tank	1919
176AD	231	S	Sewage Farm	1970
177G	234	NE	Unspecified Heap	1898
178G	234	NE	Unspecified Heap	1950
179G	234	NE	Unspecified Heap	1919
180AE	254	S	Water Body	1882
181H	257	NE	Unspecified Heap	1919
182H	257	NE	Unspecified Heap	1898
183H	257	NE	Unspecified Heap	1950
184AE	264	S	Water Body	1880
185AE	267	S	Water Body	1882
186AE	280	S	Pond	1880
187AF	370	NE	Pond	1970
188AF	378	NE	Pond	1880
189O	436	NE	Cemetery	1970
190O	436	NE	Cemetery	1995
191O	464	NE	Cemetery	1880
192O	471	NE	Cemetery	1938
193O	472	NE	Cemetery	1882
194O	472	NE	Cemetery	1898
195O	472	NE	Cemetery	1950
196O	473	NE	Cemetery	1985
197O	473	NE	Cemetery	1966

2. Environmental Permits, Incidents and Registers Map



- Site Outline
- Search Buffers (m): 250, 500
- Recorded Pollution Incident
- Dangerous Substances (List 1)
- Dangerous Substances (List 2)
- Water Industry Referrals
- Licenced Discharge Consents
- Red List Discharge Consents
- RAS 3 & 4 Authorisations
- Part A(1) Authorised Processes and Historic IPC Authorisations
- Part A(2) and Part B Authorised Processes
- COMAH / NIHHS Sites
- Sites Determined as Contaminated Land
- Hazardous Substance Consents and Enforcements

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

4

The following List 2 Dangerous Substance Inventory Site records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
7B	215	S	457871 221227	Name: Haul Waste Disposal Ltd Status: Active Receiving Water: Langford Brook	Authorised Substances: Chromium, Copper, Lead, Nickel, Zinc
8B	215	S	457871 221227	Name: Powdertech (bicester) Ltd Status: Active Receiving Water: -	Authorised Substances: Zinc
9B	215	S	457871 221227	Name: Hardide Ltd Status: Active Receiving Water: Langford Brook	Authorised Substances: Chromium, Copper, Lead, Nickel, Silver, Zinc
10B	215	S	457871 221227	Name: Bicester Stw Status: Active Receiving Water: Langford Brook	Authorised Substances: Iron

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

2

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
26	125	NW	457715 222003	Address: Bicester Service Area (ROC UK Ltd), Oxford Road, Bicester, Oxfordshire, OX6 8BT Process: Gasification, Liquefaction & Refining Activities Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
27	228	NE	458017 221991	Address: Tesco's Bicester, Pingle Drive, Bicester, Oxfordshire, OX16 7LX Process: Service Stations Unloading Petrol Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
11C	98	NE	458300 221650	Address: PHASE I BICESTER RETAIL PARK, A421, PHASE I BICESTER RETAIL PARK, A4, 21 OXFORD ROAD, BICESTER, OXFORD, SHIRE, - Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: CNTW.0555 Permit Version: 1	Receiving Water: TRIB OF THE LANGFORD BROOK Status: TRANSFERRED FROM WATER ACT 1989 Issue date: 14/06/1990 Effective Date: 14-Jun-1990 Revocation Date: 11/05/1997
12C	98	NE	458300 221650	Address: PHASE I BICESTER RETAIL PARK, A421, PHASE I BICESTER RETAIL PARK, A4, 21 OXFORD ROAD, BICESTER, OXFORD, SHIRE, - Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: CNTW.0555 Permit Version: 2	Receiving Water: TRIB OF THE LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 14/06/1990 Effective Date: 12-May-1997 Revocation Date: -
13	207	S	457980 221270	Address: BICESTER SEWAGE TREATMENT WORKS, OXFORD ROAD, BICESTER, OXFORDSHIRE, - Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CAWM.0807 Permit Version: 1	Receiving Water: THE LANGFORD BROOK Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 12/11/2004 Effective Date: 01-Jun-2004 Revocation Date: -
14B	215	S	457850 221220	Address: BICESTER STW, BICESTER, OXON, BICESTER STW, BICESTER, OXON, -, -, - Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 6	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 29/06/2007 Effective Date: 29-Jun-2007 Revocation Date: 31/03/2009
15B	215	S	457850 221220	Address: BICESTER STW, BICESTER, OXON, BICESTER STW, BICESTER, OXON, -, -, - Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 5	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 30/03/2006 Effective Date: 30-Mar-2006 Revocation Date: 28/06/2007
16B	215	S	457850 221220	Address: BICESTER STW, BICESTER, OXON, BICESTER STW, BICESTER, OXON, -, -, - Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 4	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 31/03/2005 Effective Date: 01-Apr-2005 Revocation Date: 29/03/2006
17B	215	S	457850 221220	Address: BICESTER STW, BICESTER, OXON, BICESTER STW, BICESTER, OXON, -, -, - Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 7	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 28/01/2009 Effective Date: 01-Apr-2009 Revocation Date: 31/03/2010

ID	Distance (m)	Direction	NGR	Details	
18B	215	S	457850 221220	Address: BICESTER STW, BICESTER, OXON, BICESTER STW, BICESTER, OXON, -, -, - Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 8	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 01/04/2010 Effective Date: 01-Apr-2010 Revocation Date: -
19B	237	S	457860 221200	Address: BICESTER STW, BICESTER, OXON, BICESTER STW, BICESTER, OXON, -, -, - Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 1	Receiving Water: LANGFORD BROOK Status: BY DIRECT. OF SEC OF STATE, (WATER ACT 1989 SCHED 26 & 25(4)(5)) Issue date: 02/11/1989 Effective Date: 02-Nov-1989 Revocation Date: 31/03/1990
20B	237	S	457860 221200	Address: BICESTER STW, BICESTER, OXON, BICESTER STW, BICESTER, OXON, -, -, - Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 3	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 21/12/2000 Effective Date: 21-Dec-2000 Revocation Date: 31/03/2005
21B	237	S	457860 221200	Address: BICESTER STW, BICESTER, OXON, BICESTER STW, BICESTER, OXON, -, -, - Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 2	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 02/11/1989 Effective Date: 01-Apr-1990 Revocation Date: 20/12/2000
22	262	N	457850 222150	Address: THE SERVICE STATION, OXFORD ROAD, B, THE SERVICE STATION, OXFORD ROAD, , BICESTER, OXFORDSHIRE, -, - Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: CNTM.1213 Permit Version: 1	Receiving Water: TRIBUTARY OFTHE TOWN BROOK Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 13/12/1993 Effective Date: 13-Dec-1993 Revocation Date: 01/10/1996
23	275	NE	458500 221700	Address: TALISMAN BUSINESS CENTRE, LONDON RO, TALISMAN BUSINESS CENTRE, LONDON, ROAD, BICESTER, OXFORDSHIRE, -, - Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: CNTW.0314 Permit Version: 1	Receiving Water: TOWN BROOK Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 19/01/1990 Effective Date: 19-Jan-1990 Revocation Date: 01/10/1996
24	314	S	457800 221100	Address: BICESTER STW, BICESTER, OXON, BICESTER STW, BICESTER, OXON, -, -, - Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CTCR.1293 Permit Version: 1	Receiving Water: LANGFORD BROOK Status: REVOKED - UNSPECIFIED Issue date: 09/10/1972 Effective Date: 31-Jan-1985 Revocation Date: 01/11/1989
25	486	NE	458430 222030	Address: LAND OFF PRIORY ROAD, BICESTER, OXO, LAND OFF PRIORY ROAD, BICESTER,, OXON., -, - Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: CTWC.0200 Permit Version: 1	Receiving Water: TRIBUTARY OFLANGFORD BROOK Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 22/07/1985 Effective Date: 22-Jul-1985 Revocation Date: 09/11/2009

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site: 0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site: 0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site: 6

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	5	S	457662 221381	Incident Date: 09-Dec-2002 Incident Identification: 125299 Pollutant: Other Pollutant Pollutant Description: Microbiological	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
2A	45	N	457778 221940	Incident Date: 01-Oct-2001 Incident Identification: 34098 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
3A	45	N	457778 221940	Incident Date: 01-Oct-2001 Incident Identification: 34098 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Food and Drink	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
4A	45	N	457778 221940	Incident Date: 01-Oct-2001 Incident Identification: 34098 Pollutant: General Biodegradable Materials and Wastes:Oils and Fuel Pollutant Description: Food and Drink:Diesel	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
5	217	SE	458351 221354	Incident Date: 17-Apr-2002 Incident Identification: 72341 Pollutant: Sewage Materials Pollutant Description: Other Sewage Material	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
6	243	NE	458239 221865	Incident Date: 13-May-2003 Incident Identification: 157913 Pollutant: Oils and Fuel Pollutant Description: Petrol	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site: 0

Database searched and no data found.

2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site? 0

Database searched and no data found.

3. Landfill and Other Waste Sites Map

Site Outline

250 — 500 — Search Buffers (m)

EA/NRW Active Landfill

EA/NRW Historic Landfill

BGS / DoE Survey Landfill

Historic and Planned Waste Sites

EA/NRW Licensed Waste Site

Local Authority/Historical Mapping Landfill Records

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

1

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
1	673	NE	458800 221900	Site Address: London Road, Bicester, Oxfordshire Waste Licence: - Site Reference: 13.6.5821, TP0100 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: Ploughley Rural District Council Licence Holder: - First Recorded: - Last Recorded: 31-Dec-1969

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

0

Database searched and no data found.

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

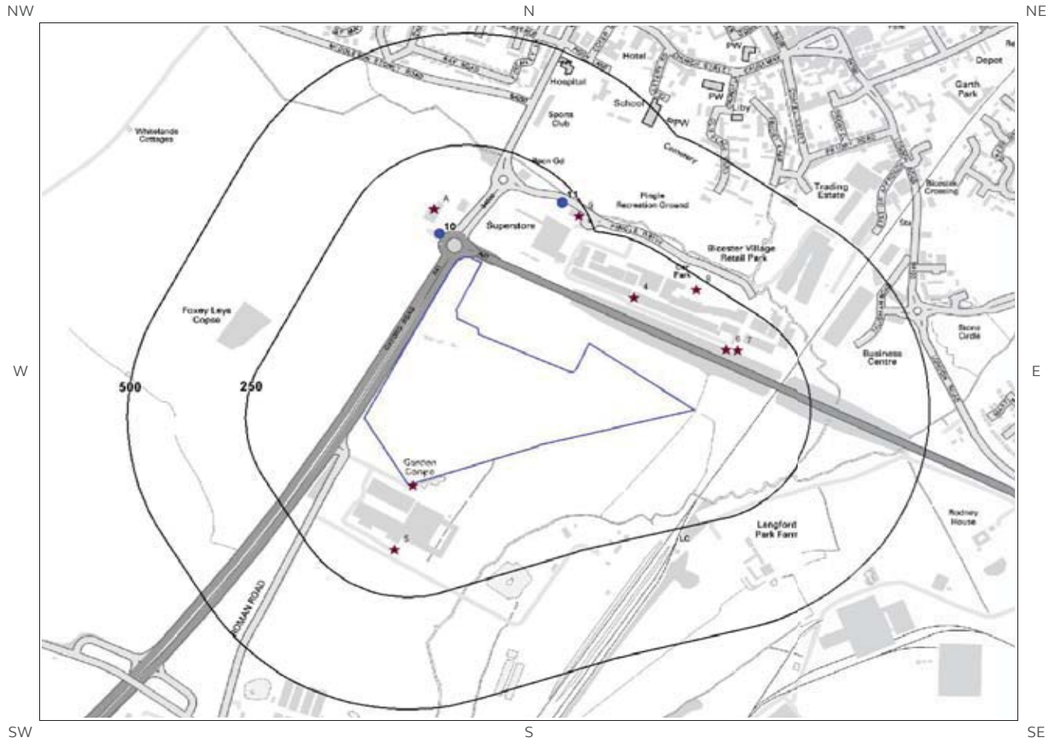
3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

2

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
2	480	NE	458600 221900	Site Address: McGregor Railway Services Ltd, Station Yard Road, London Road, Bicester, Oxon, OX6 7BZ Type: Metal Recycling Site (mixed MRS's) Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MCG001 EPR reference: - Operator: McGregor Railway Services Ltd Waste Management licence No: 86100 Annual Tonnage: 74999.0	Issue Date: 27/10/1994 Effective Date: - Modified: 27/07/2001 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: S. M. Mcgregor Correspondence Address: McGregor Railway Services Ltd__, The White Cottage, Lower Road, Blackthorn, Bicester, Oxon, OX6 0TG
3	500	NE	458622 221906	Site Address: McGregor Railway Services Ltd, Station Yard, London Road, Bicester, Oxfordshire, OX26 6HU Type: Metal Recycling Site (mixed MRS's) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MCG001 EPR reference: EA/EPR/CP3599EP/S003 Operator: McGregor Railway Services Ltd Waste Management licence No: 86100 Annual Tonnage: 0.0	Issue Date: 27/10/1994 Effective Date: - Modified: 28/05/2008 Surrendered Date: 18/11/2009 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: S. M. Mcgregor Correspondence Address: -

4. Current Land Use Map



4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 9

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	2	S	Electricity Sub Station	457671 221387	Electricity Sub Station, OX25	Electrical Features	Infrastructure and Facilities
2A	125	NW	Bicester Services	457715 222003	Bicester Services, Bicester Services, Oxford Road, Bicester, OX26 1BT	Petrol and Fuel Stations	Road and Rail
3A	125	NW	Esso	457715 222003	Esso, Bicester Services, Oxford Road, Bicester, OX26 1BT	Petrol and Fuel Stations	Road and Rail
4	138	NE	Pandora	458138 221806	Pandora, 51b, Pingle Drive, Bicester Village, Bicester, OX26 6WD	Jewellery, Gems, Clocks and Watches	Consumer Products
5	145	S	Electricity Sub Station	457633 221244	Electricity Sub Station, OX25	Electrical Features	Infrastructure and Facilities
6	150	NE	Electricity Sub Station	458333 221690	Electricity Sub Station, OX26	Electrical Features	Infrastructure and Facilities
7	161	NE	Electricity Sub Station	458357 221688	Electricity Sub Station, OX26	Electrical Features	Infrastructure and Facilities
8	226	NE	Electricity Sub Station	458270 221824	Electricity Sub Station, OX26	Electrical Features	Infrastructure and Facilities
9	231	NE	Tesco Bicester 2	458022 221988	Tesco Bicester 2, Pingle Drive, Bicester, OX26 6WA	Petrol and Fuel Stations	Road and Rail

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 2

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
10	70	NW	457727 221947	Esso	Bicester Services, Oxford Road, Bicester, Oxfordshire, OX26 1BT	No	Open
11	216	NE	457986 222017	Tesco	Tesco Bicester 2, Pingle Drive, Bicester, Oxfordshire, OX26 6WA	No	Open

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
ALV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
RTD1	RIVER TERRACE DEPOSITS, 1	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]

5.3 Bedrock and Solid Geology

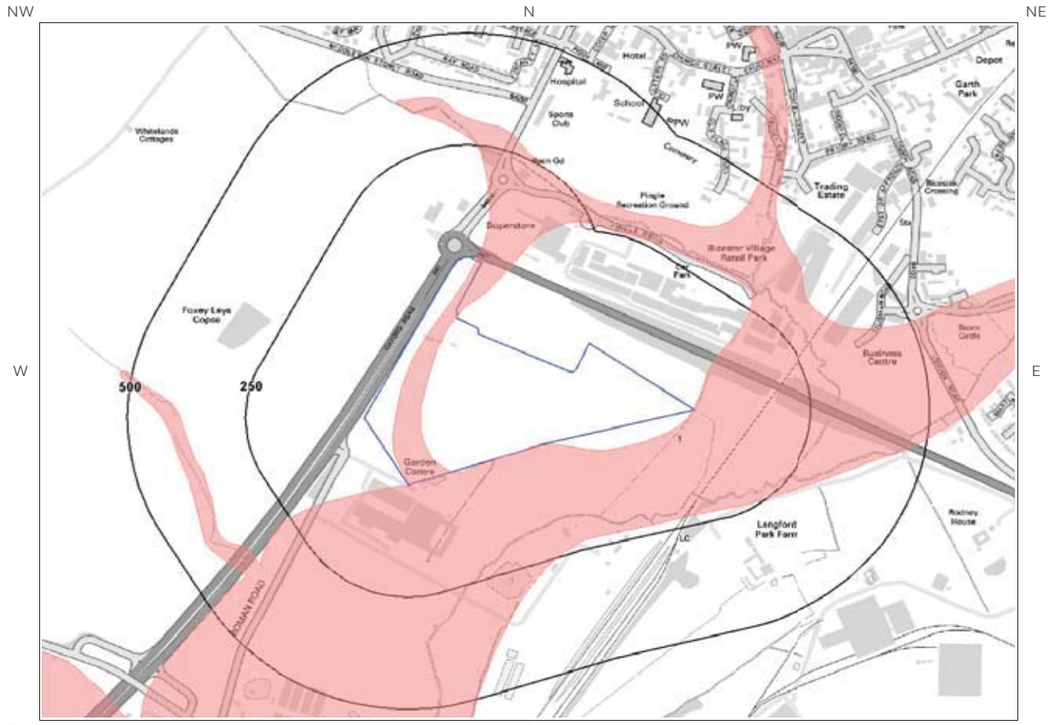
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
KLC-MDST	KELLAWAYS CLAY MEMBER	MUDSTONE
CB-LMST	CORNBRASH FORMATION	LIMESTONE

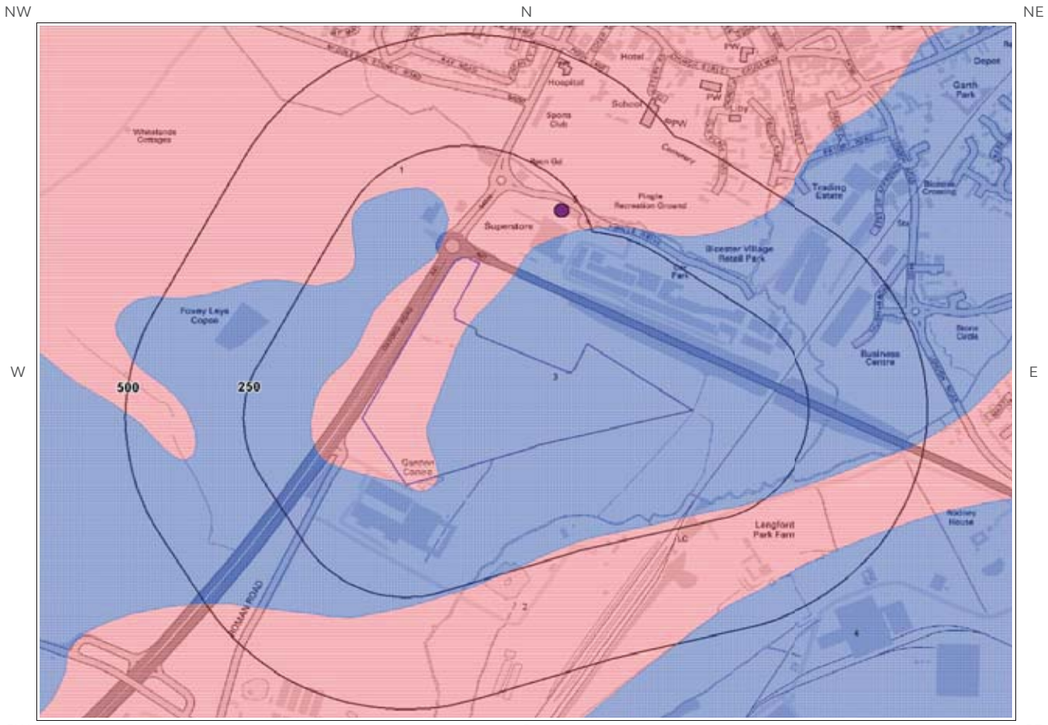
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

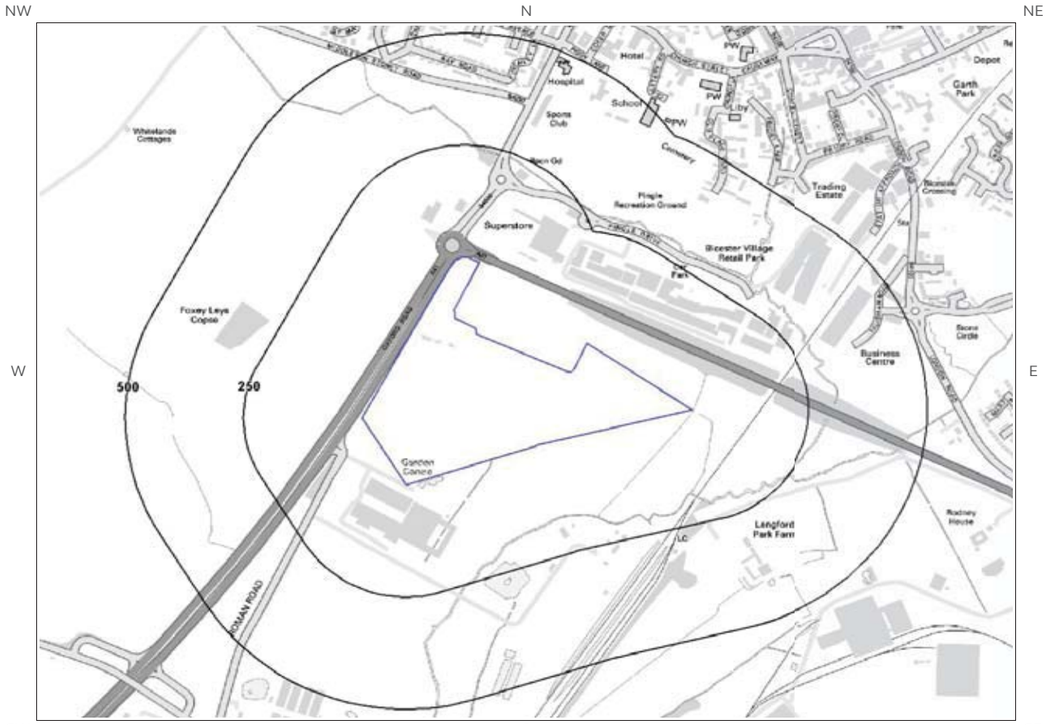
6a. Aquifer Within Superficial Geology

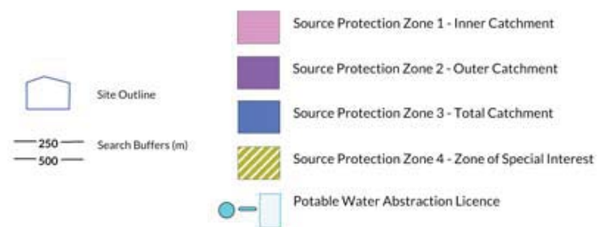


6b. Aquifer Within Bedrock Geology and Abstraction Licenses

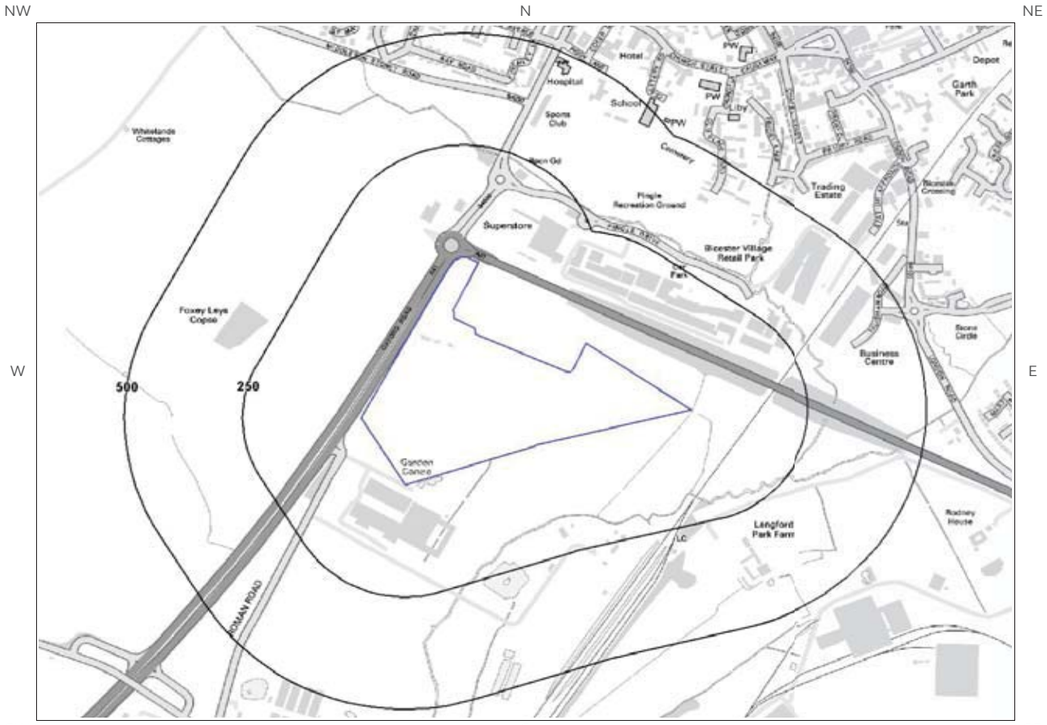


6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses





6d. Hydrogeology – Source Protection Zones within confined aquifer



Site Outline

250 — 500 — Search Buffers (m)

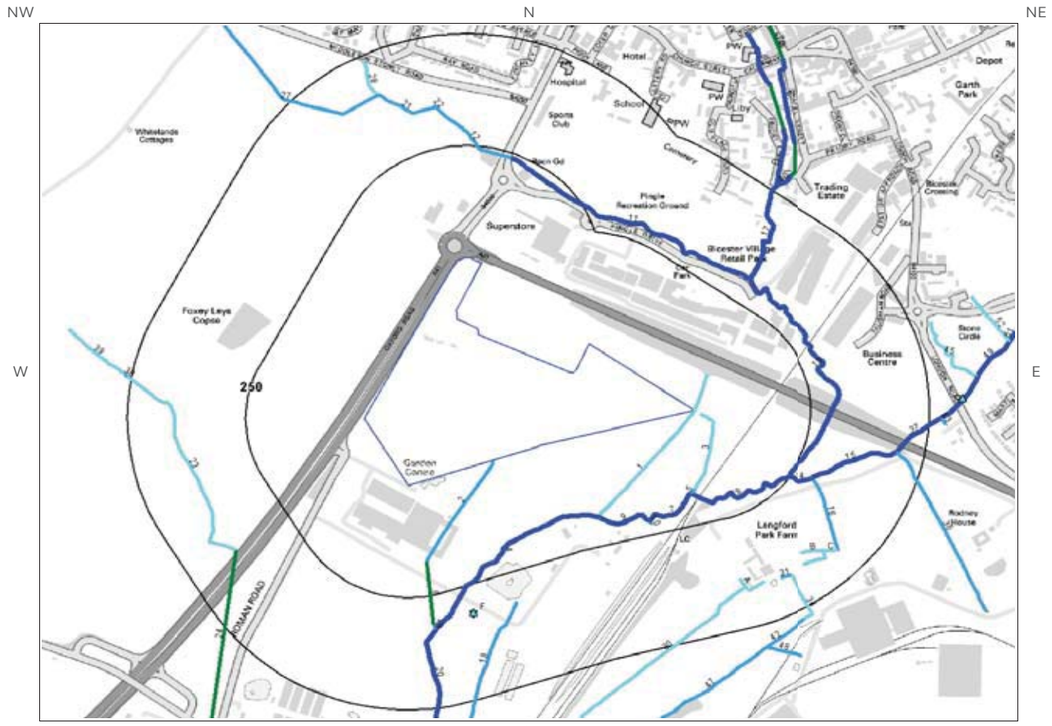
Source Protection Zone 1 - Inner Catchment

Source Protection Zone 2C - Outer Catchment within Confined Aquifer

Source Protection Zone 3C - Total Catchment within Confined Aquifer

Potable Water Abstraction Licence

6e. Hydrology – Detailed River Network and River Quality



Site Outline

250 — 500 — Search Buffers (m)

Primary River

Secondary River

Tertiary River

Lake/Reservoir

Underground River (inferred)

General Quality Assessment: Biology

General Quality Assessment: Chemistry

Canal

Canal Tunnel

Culvert

Multiple Channel Culvert

Underground River (Potential Sewer)

Underground River (local knowledge)

6.Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
3	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	228	S	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	417	SE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details	
5	210	NE	457990 222000	Status: Historical Licence No: 28/39/14/0349 Details: Pollution Remediation Direct Source: Thames Groundwater Point: Pringle Drive Filling Station Bicester Oxon Data Type: Point Name: ARCADIS GERAGHTY & MILLER INT INC.	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WRW/A/1145 Original Start Date: 28/9/2004 Expiry Date: 31/3/2018 Issue No: 1 Version Start Date: 28/9/2004 Version End Date:
Not shown	642	SW	457400 220800	Status: Historical Licence No: 28/39/14/0295 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Wendlebury Lane, Bicester (a) Data Type: Point Name: FACCENDA CHICKEN LTD	Annual Volume (m^3): 16593 Max Daily Volume (m^3): 68.2 Original Application No: WRA/5248 Original Start Date: 8/7/1983 Expiry Date: - Issue No: 100 Version Start Date: 8/7/1983 Version End Date:
Not shown	812	SW	457100 220800	Status: Historical Licence No: 28/39/14/0300 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Bicester Trailer Park, Oxford Road, Wendlebury Data Type: Point Name: M & L ROSSITER	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WRA./5517 Original Start Date: 19/3/1987 Expiry Date: - Issue No: 100 Version Start Date: 19/3/1987 Version End Date:
Not shown	912	SW	457200 220600	Status: Historical Licence No: 28/39/14/0329 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Promised Land Farm, Bicester (a) Data Type: Point Name: PROMISED LAND FARM	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WR.A/6293 Original Start Date: 16/11/1994 Expiry Date: - Issue No: 100 Version Start Date: 16/11/1994 Version End Date:
Not shown	1032	NW	456700 222100	Status: Historical Licence No: 28/39/14/0123 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Whitelands, Bicester (a) Data Type: Point Name: A D WOODLEY LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WR.A/1071 Original Start Date: 9/1/1967 Expiry Date: - Issue No: 100 Version Start Date: 9/1/1967 Version End Date:
Not shown	1665	SW	456400 220300	Status: Historical Licence No: 28/39/14/0326 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Bowlers Copse, Wendlebury (a) Data Type: Point Name: PAIN	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WR.A/6034 Original Start Date: 29/12/1993 Expiry Date: - Issue No: 100 Version Start Date: 29/12/1993 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1782	NE	458500 223530	Status: Historical Licence No: 28/39/14/0333 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Thames Groundwater Point: Buckingham Road, Bicester, Oxon Data Type: Point Name: GIBBS HOLDINGS LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WRA./6332 Original Start Date: 26/7/1996 Expiry Date: 31/12/2006 Issue No: 100 Version Start Date: 26/7/1996 Version End Date:
Not shown	1804	NE	458510 223550	Status: Historical Licence No: 28/39/14/0034 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Thames Groundwater Point: Buckingham Road, Bicester, - Borehole 'a' Data Type: Point Name: SUNLIGHT SERVICE GROUP LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WRA./1978 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 100 Version Start Date: 4/12/1996 Version End Date:
Not shown	1986	E	460200 221100	Status: Historical Licence No: 28/39/14/0035 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Little Wretchwick Farm, Bicester (a) Data Type: Point Name: MARLOW	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WR.A/1307 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 100 Version Start Date: 26/7/1966 Version End Date:

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details	
Not shown	1774	S	457560 219140	Status: Active Licence No: 28/39/14/0350 Details: Make-Up Or Top Up Water Direct Source: Thames Surface Water - Non Tidal Point: Langford Brook At Merton Grounds Farm, Merton Data Type: Line Name: Jennings	Annual Volume (m^3): 16256 Max Daily Volume (m^3): 145.47 Application No: NPS/WR/020119 Original Start Date: 6/5/2005 Expiry Date: 31/3/2018 Issue No: 2 Version Start Date: 22/7/2015 Version End Date:

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (6c):

ID	Distance (m)	Direction	NGR	Details	
Not shown	812	SW	457100 220800	Status: Historical Licence No: 28/39/14/0300 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Bicester Trailer Park, Oxford Road, Wendlebury Data Type: Point Name: M & L ROSSITER	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WRA./5517 Original Start Date: 19/3/1987 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? No

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.
341	N	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site? Yes

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
83F	314	S	457800 221100	River Name: Langford Brook Reach: Bicester Stw - Ray End/Start of Stretch: Start of Stretch NGR	B	B	B	B	B
84F	314	S	457800 221100	River Name: Langford Brook Reach: Stratton Audley - Bicester Stw End/Start of Stretch: End of Stretch NGR	B	B	B	B	B

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
85F	314	S	457800 221100	River Name: Langford Brook Reach: Bicester Stw - Ray End/Start of Stretch: Start of Stretch NGR	C	C	C	C	B
86F	314	S	457800 221100	River Name: Langford Brook Reach: Stratton Audley - Bicester Stw End/Start of Stretch: End of Stretch NGR	C	C	C	C	C
87G	571	E	458837 221580	River Name: Langford Brook Reach: Stratton Audley - Bicester Stw End/Start of Stretch: Sample Point NGR	C	C	C	C	C

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

ID	Distance (m)	Direction	Details	
1	0	On Site	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
2	1	S	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
3	14	SE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
4	166	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
5	170	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
6	173	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
7	179	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
8	179	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined

ID	Distance (m)	Direction	Details	
9	187	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
10	217	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
11	228	NE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
12	238	N	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
13	246	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
14	248	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
15	294	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
16	294	SE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
17	310	NE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
18	316	S	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
19	316	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
20	323	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
21	340	N	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
22	342	N	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
23	376	W	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
24	384	SW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
25A	387	S	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
26B	392	SE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
27	404	NW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined

ID	Distance (m)	Direction	Details	
28	405	NW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
29A	407	S	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
30	407	S	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
31	415	SE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
32B	417	SE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
33C	417	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
34	420	SE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
35C	437	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
36	440	E	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
37	440	E	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined

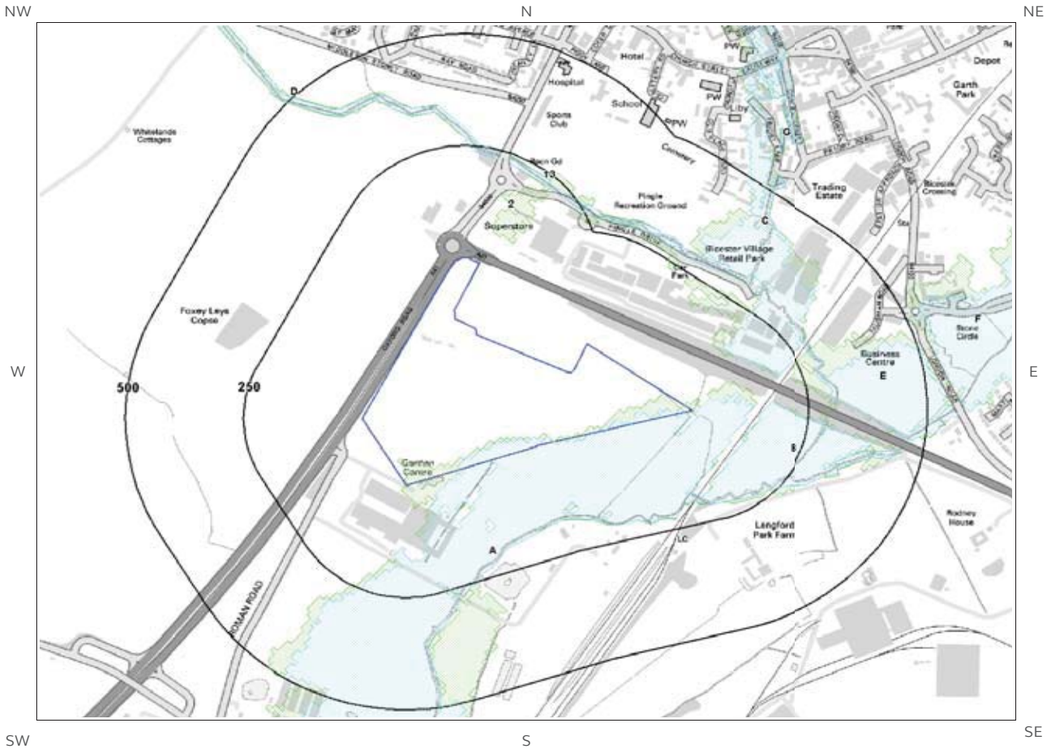
6.11 Surface Water Features

Are there any surface water features within 250m of the study site? Yes

The following surface water records are not represented on mapping:

Distance (m)	Direction
0	On Site
8	S
10	NE
14	SE
57	NW
141	S
165	S
190	S
217	SE
225	S
227	NE
236	N

7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



Site Outline

Search Buffers (m) 100 250

Zone 2 Floodplain

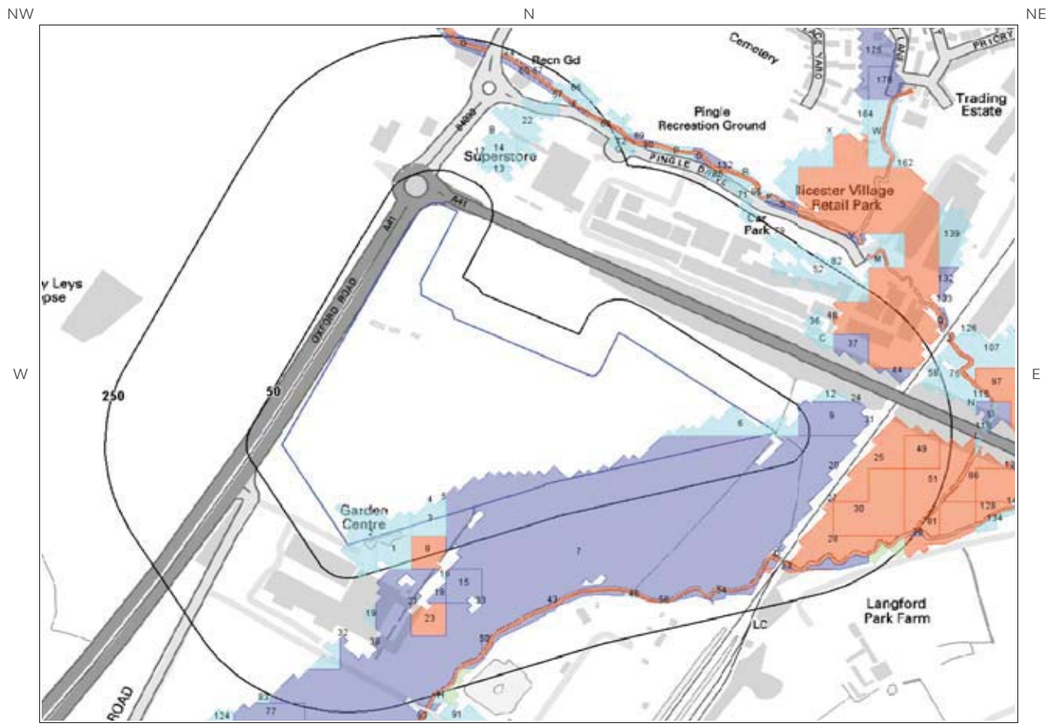
Zone 3 Floodplain

Flood Defences

Area used for Flood Storage

Area Benefiting from Flood Defences

7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



Site Outline

Search Buffers (m) 100 250

RoFRaS Rating

Very Low

Low

Medium

High

7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 2 floodplain? Yes

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1A	0	On Site	01-Feb-2017	Zone 2 - (Fluvial /Tidal Models)
2	72	NE	01-Feb-2017	Zone 2 - (Fluvial /Tidal Models)
3B	120	SE	01-Feb-2017	Zone 2 - (Fluvial /Tidal Models)
4C	140	NE	01-Feb-2017	Zone 2 - (Fluvial /Tidal Models)
5E	219	E	01-Feb-2017	Zone 2 - (Fluvial /Tidal Models)
6D	228	N	01-Feb-2017	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 3 floodplain? Yes

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1A	0	On Site	01-Feb-2017	Zone 3 - (Fluvial Models)
2	123	SE	01-Feb-2017	Zone 3 - (Fluvial Models)
3B	147	NE	01-Feb-2017	Zone 3 - (Fluvial Models)
4C	223	NE	01-Feb-2017	Zone 3 - (Fluvial Models)
5E	228	N	01-Feb-2017	Zone 3 - (Fluvial Models)
6D	249	NE	01-Feb-2017	Zone 3 - (Fluvial Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Medium

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Medium (greater than 1 in 100 but less than 1 in 30) chance of flooding in any given year.

Any relevant data within 250m is represented on the RoFRaS Flood map. Data to 50m is reported in the table below.

ID	Distance (m)	Direction	RoFRas flood Risk
1	0.0	On Site	Low
2	0.0	On Site	Low
3	0.0	On Site	Low
4	0.0	On Site	Low
5	0.0	On Site	Low
6	0.0	On Site	Low
7	0.0	On Site	Medium
8	13.0	S	High
9	33.0	E	Medium
10A	46.0	NE	Low

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No

Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Clearwater Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

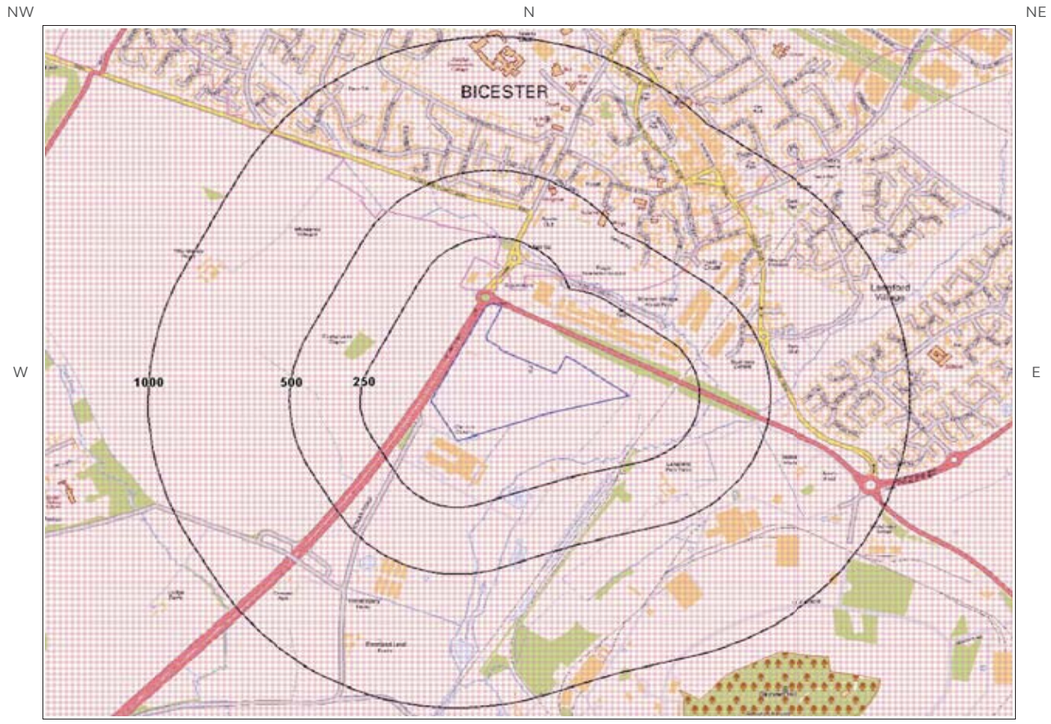
7.8 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result? High

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

0

Database searched and no data found.

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

1

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
8	1092	SE	UNKNOWN	Ancient and Semi-Natural Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

1

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
Not shown	1581	N	Bure Park	Natural England

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

2

The following Environmentally Sensitive Area records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	ESA Name	Data Source
Not shown	1061	S	Upper Thames Tributaries	Natural England
Not shown	1386	S	Upper Thames Tributaries	Natural England

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

4

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
2	0	On Site	Existing	DEFRA
3	55	N	New	DEFRA
Not shown	1386	S	Existing	DEFRA
Not shown	1733	E	Existing	DEFRA

8.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a Groundsure Geo Insight, available from our website. The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell*[*] hazard rating identified on the study site? Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly high plasticity. Do not plant or remove trees or shrubs near to buildings without expert advice about their effect and management. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a probable increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a probable increase in insurance risk during droughts or where vegetation with high moisture demands is present.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Significant soluble rocks are present. Low possibility of subsidence occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow. Consider implications for stability when changes to drainage or new construction are planned. For new build site investigation should consider potential for dissolution problems on the site and its surroundings. Care should be taken with local drainage into the bedrock. Some possibility groundwater pollution. For existing property possible increase in insurance risk due to soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site? Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property no significant increase in insurance risk due to running sand problems is likely.

9.2 Radon

9.2.1 Radon Affected Areas

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.

* This indicates an automatically generated 50m buffer and site.

9.2.2 Radon Protection

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.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? No

Database searched and no data found.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No
Guidance: No Guidance Required.

Contact Details

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Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
https://www.groundsure.com/terms-and-conditions-sept-2016

Buro Happold

17 BURO HAPPOLD ENGINEERS LTD,
NEWMAN STREET,
LONDON, W1T 1PD

Groundsure Reference:	GS-3722221
Your Reference:	036269
Report Date	13 Mar 2017
Report Delivery Method:	Email - pdf

Groundsure Geo Insight

Address: OXFORD ROAD, BICESTER, OX26 1BT

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
Groundsure Limited

Enc.
Groundsure Geo Insight

Groundsure Geo Insight

Address:	**OXFORD ROAD, BICESTER, OX26 1BT**
Date:	**13 Mar 2017**
Reference:	**GS-3722221**
Client:	**Buro Happold**

NW N NE

W E

SW S SE

Aerial Photograph Capture date:	06-Sep-2015
Grid Reference:	457807,221589
Site Size:	14.50ha