

KEYPLAN



LEGEND

1:30,809

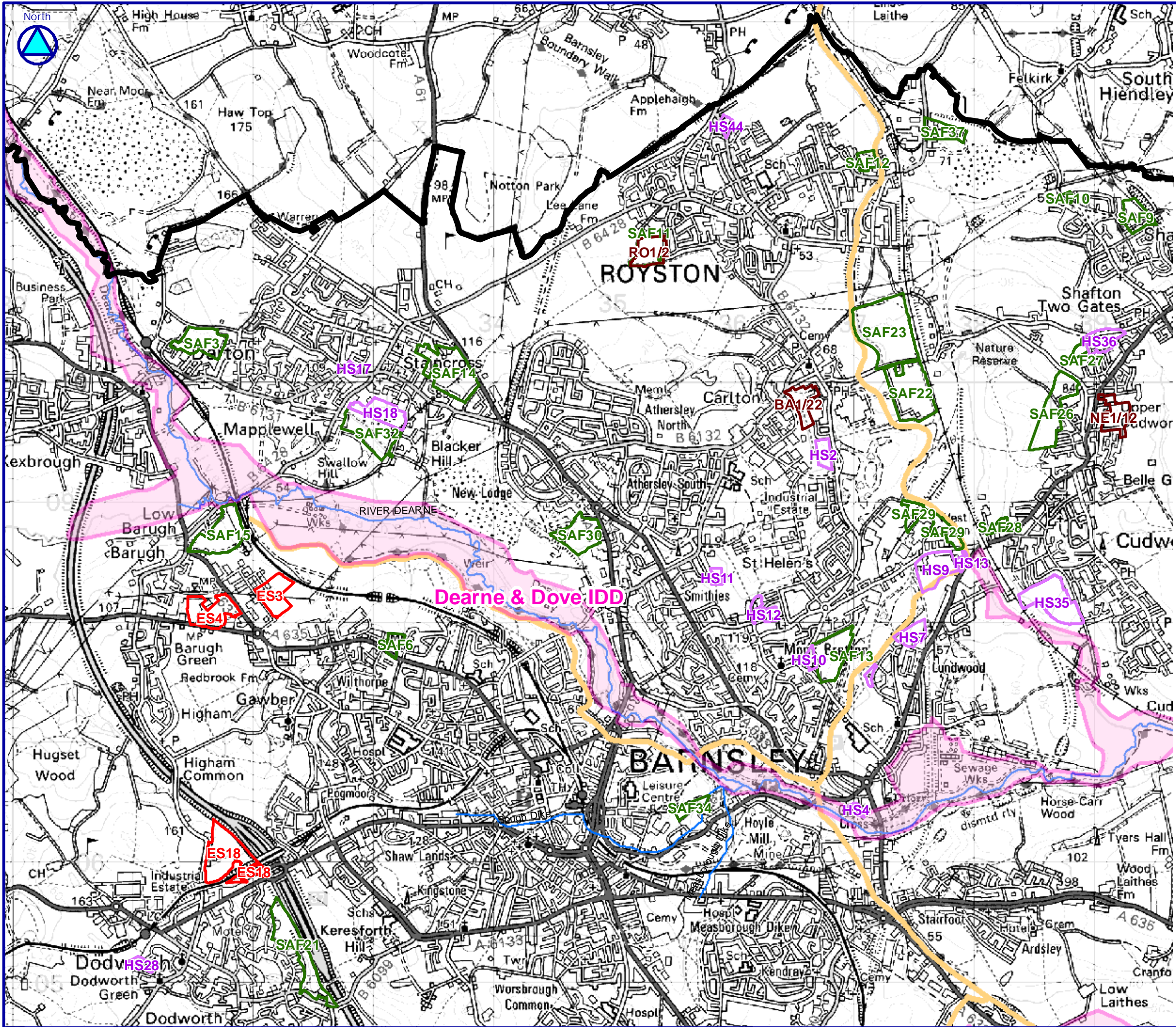
-  Bamsley MBC Boundary
 -  Defence
 -  Main River
 -  Possible route of restored canal
 -  Flood Zone 3
 -  Flood Zone 2
- Proposed Development Sites
-  Employment Sites
 -  Housing Sites
 -  UDP Sites
 -  Safeguarded Land

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. 100022264 (2009)

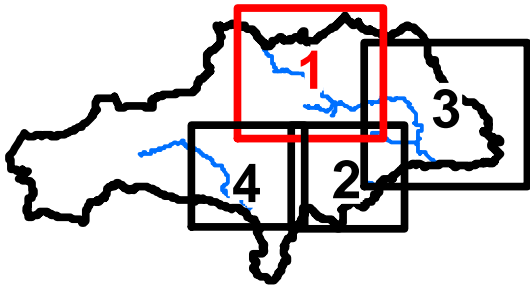


MAP A - 1

PROPOSED DEVELOPMENT SITES AND FLOOD ZONES



KEYPLAN



LEGEND

1:30,809

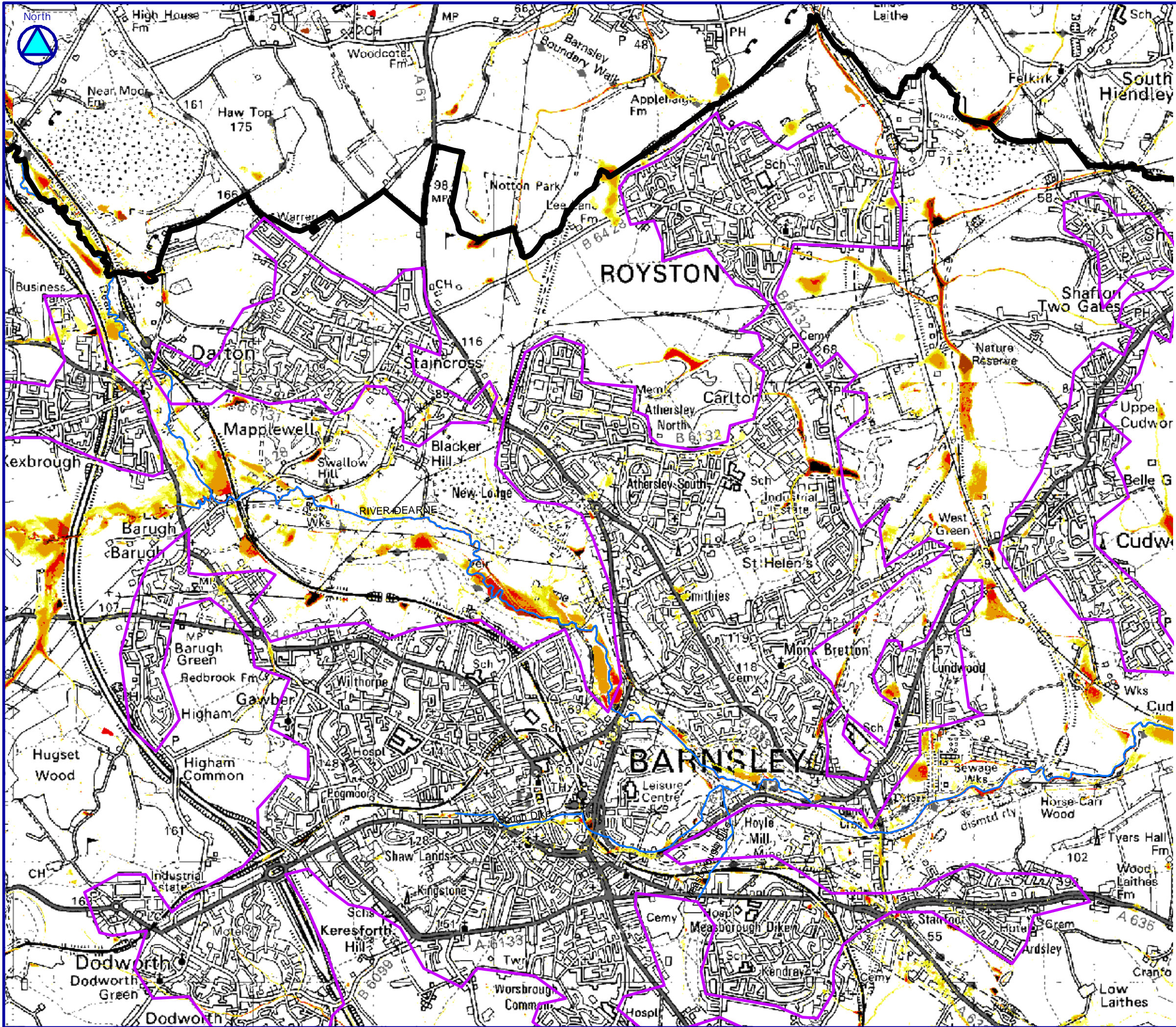
-  Barnsley MBC Boundary
 -  IDB Boundaries
 -  Main River
 -  Possible route of restored canal
- Proposed Development Sites
-  Employment Sites
 -  Housing Sites
 -  UDP Sites
 -  Safeguarded Land

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. 100022264 (2009)

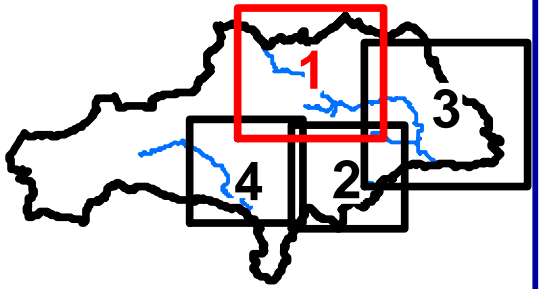


MAP B - 1

PROPOSED DEVELOPMENT SITES AND IDB BOUNDARIES












KEYPLAN



LEGEND

1:30,809

-  Barnsley MBC Boundary
-  Urban Areas
-  Main River
- Surface Water Flooding
- Flood Depth (m)
-  0.15 - 0.3
-  0.3 - 0.5
-  0.5 - 1
-  1 - 1.5
-  1 - 2
-  > 2

Note:
Please see Section 5.8 of the SFRA
for further details.

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. 100022264 (2008)



MAP C - 1

PLUVIAL FLOODING CAUSED BY
100YEAR RAINSTORM

APPENDIX F – FLOOD MAPS AND GEOLOGY PLANS

Flood Map for Planning
Source Protection Zone Map
Groundwater Vulnerability Map
Aquifer Designation (Drift) Map
Aquifer Designation (Bedrock) Map

Flood map for planning

Your reference
Shaw Lane

Location (easting/northing)
437343/410320

Created
22 Nov 2021 18:12

Your selected location is in flood zone 1, an area with a low probability of flooding.

This means:

- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2021 OS 100024198. <https://flood-map-for-planning.service.gov.uk/os-terms>

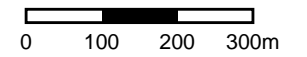


Shaw Lane

437343/410320

1:10000

22 Nov 2021 18:12



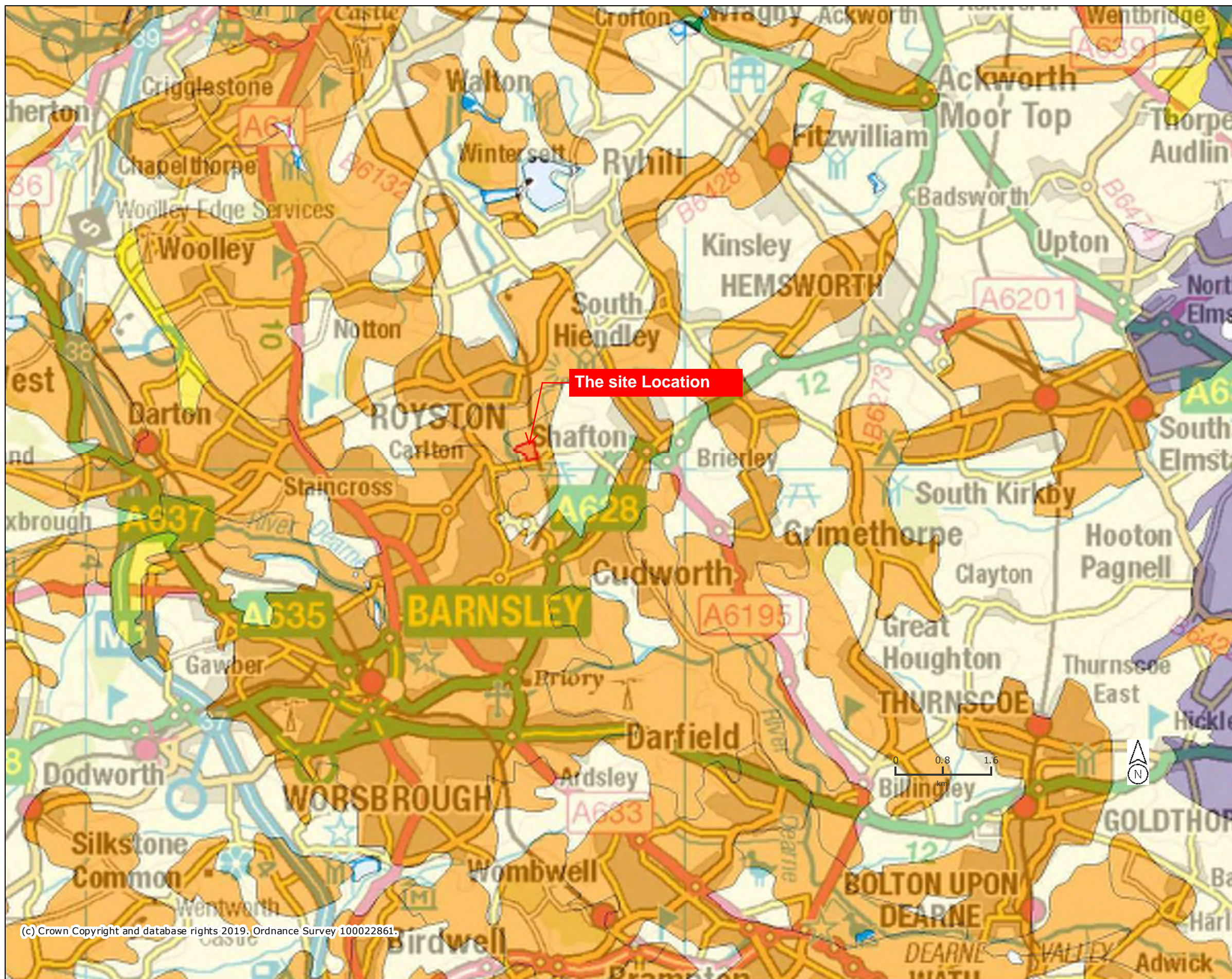


Legend

- Drinking Water Protected Areas (Surface Water) (England)
- Drinking Water Safeguard Zones (Surface Water) (England)
- Drinking Water Safeguard Zones (Groundwater) (England)
- Source Protection Zones merged (England)**
- Zone I - Inner Protection Zone
- Zone I - Subsurface Activity
- Zone II - Outer Protection Zone
- Zone II - Subsurface Activity
- Zone III - Total Catchment
- Zone III - Subsurface Activity
- Zone of Special Interest

Projection = OSGB36
 xmin = 403000
 ymin = 393900
 xmax = 463500
 ymax = 428200

Map produced by MAGIC on 19 July, 2019.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

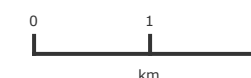


Legend

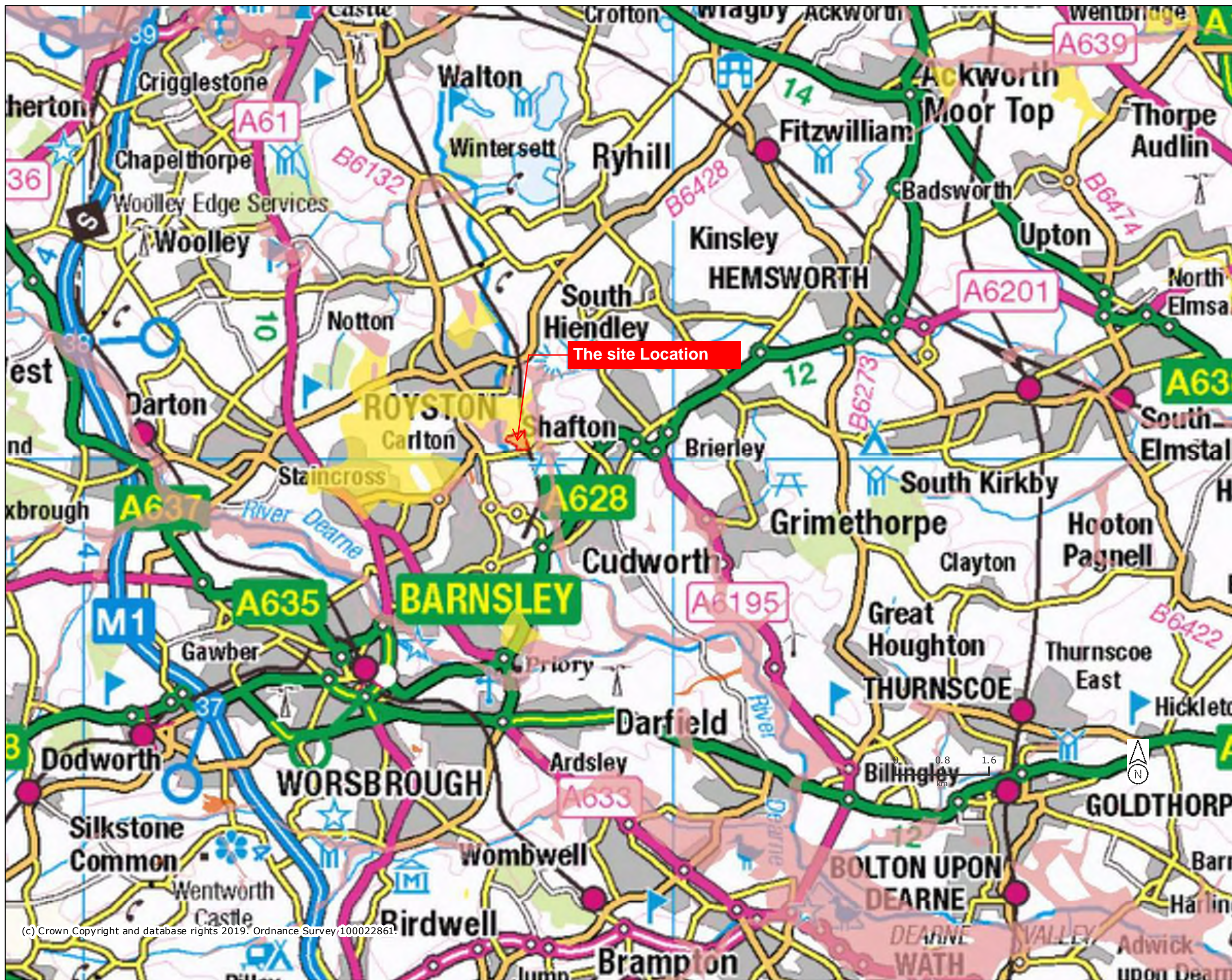
Groundwater Vulnerability Map (England)

- Major Aquifer High
- Major Aquifer Intermediate
- Major Aquifer Low
- Minor Aquifer High
- Minor Aquifer Intermediate
- Minor Aquifer Low

Projection = OSGB36
 xmin = 417200
 ymin = 397200
 xmax = 460800
 ymax = 422000



Map produced by MAGIC on 19 July, 2019.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

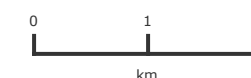


Legend

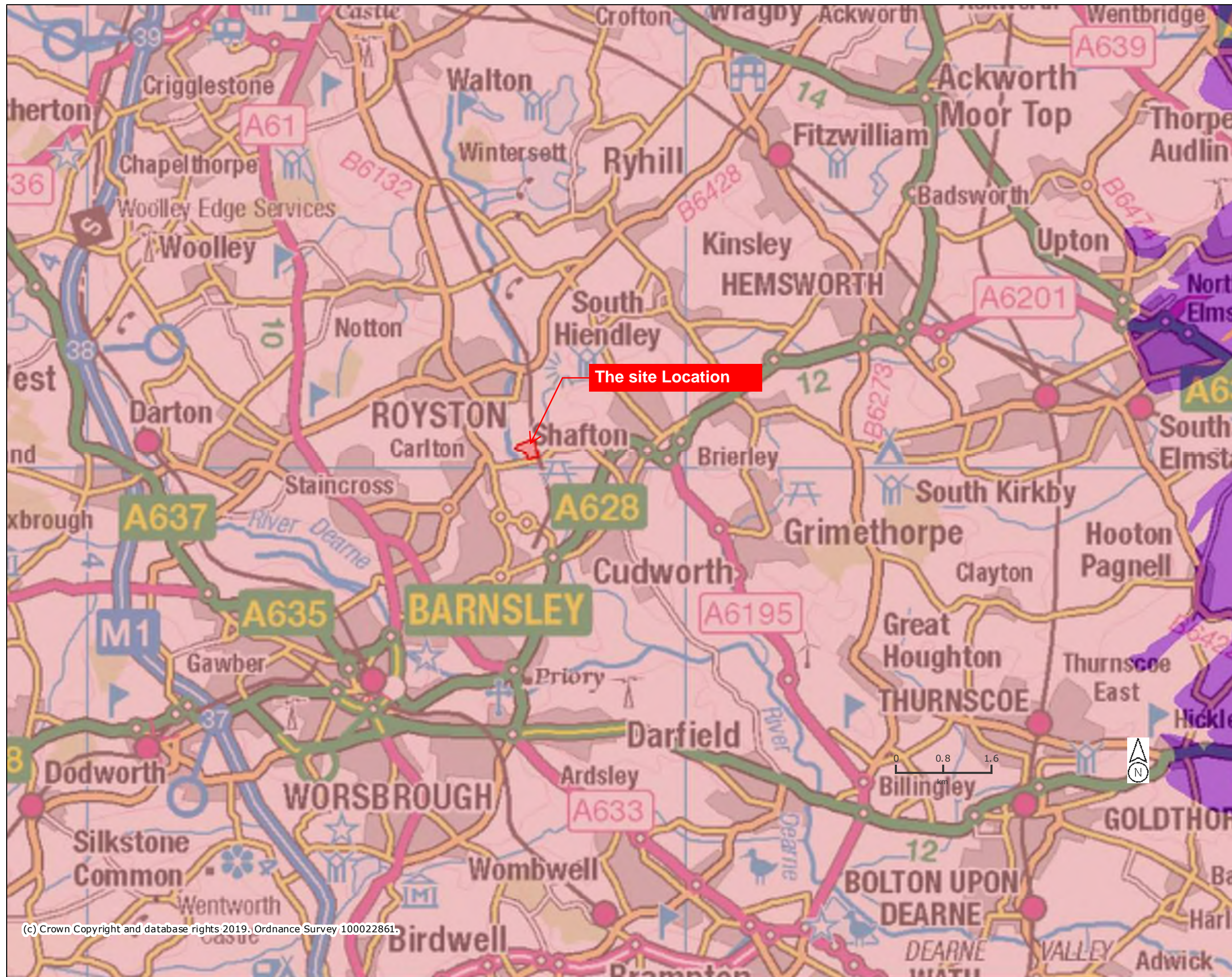
Aquifer Designation Map
(Superficial Drift) (England)

- Principal
- Secondary A
- Secondary B
- Secondary (undifferentiated)
- Unknown (lakes+landslip)
- Unproductive

Projection = OSGB36
 xmin = 417000
 ymin = 396900
 xmax = 461300
 ymax = 422000



Map produced by MAGIC on 19 July, 2019.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

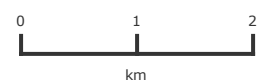


Legend

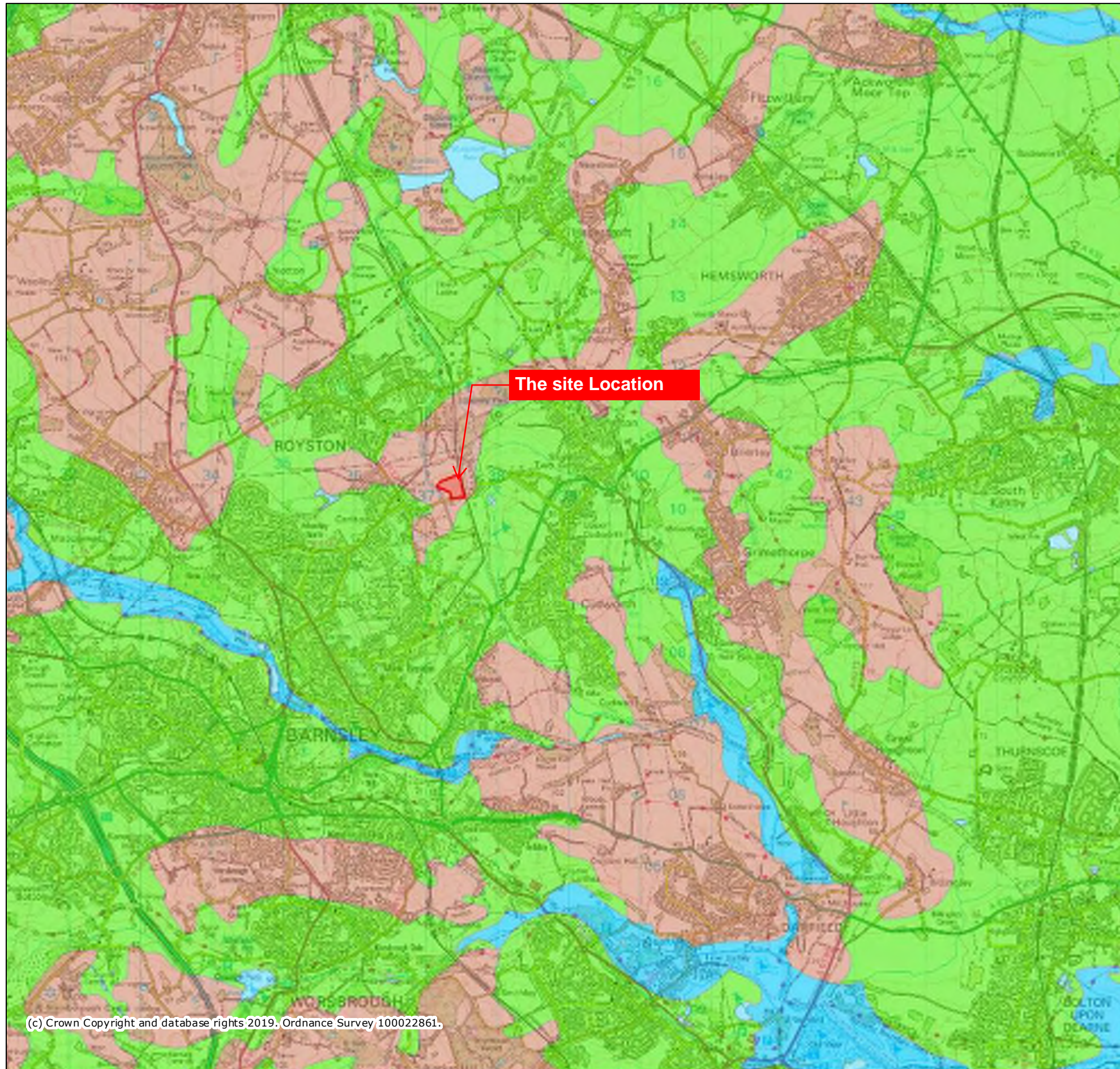
Aquifer Designation Map (Bedrock) (England)

- Principal
- Secondary A
- Secondary B
- Secondary (undifferentiated)
- Unproductive

Projection = OSGB36
 xmin = 417200
 ymin = 397200
 xmax = 460800
 ymax = 422000



Map produced by MAGIC on 19 July, 2019.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

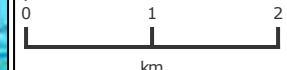


Legend

Soilscape (England)

- 1 - Saltmarsh soils
- 2 - Shallow very acid peaty soils over rock
- 3 - Shallow lime-rich soils over chalk or limestone
- 4 - Sand dune soils
- 5 - Freely draining lime-rich loamy soils
- 6 - Freely draining slightly acid loamy soils
- 7 - Freely draining slightly acid but base-rich soils
- 8 - Slightly acid loamy and clayey soils with impeded drainage
- 9 - Lime-rich loamy and clayey soils with impeded drainage
- 10 - Freely draining slightly acid sandy soils
- 11 - Freely draining sandy breckland soils
- 12 - Freely draining floodplain soils
- 13 - Freely draining acid loamy soils over rock
- 14 - Freely draining very acid sandy and loamy soils
- 15 - Naturally wet very acid sandy and loamy soils
- 16 - Very acid loamy upland soils with a wet peaty surface
- 17 - Slowly permeable seasonally wet acid loamy and clayey soils
- 18 - Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
- 19 - Slowly permeable wet very acid upland soils with a peaty surface
- 20 - Loamy and clayey floodplain soils with naturally high groundwater
- 21 - Loamy and clayey soils of coastal flats with naturally high groundwater
- 22 - Loamy soils with naturally high groundwater
- 23 - Loamy and sandy soils with naturally high groundwater and a peaty surface
- 24 - Restored soils mostly from quarry and opencast spoil
- 25 - Blanket bog peat soils
- 26 - Raised bog peat soils
- 27 - Fen peat soils
- 28 - Sea
- 30 - UC
- 31 - Water

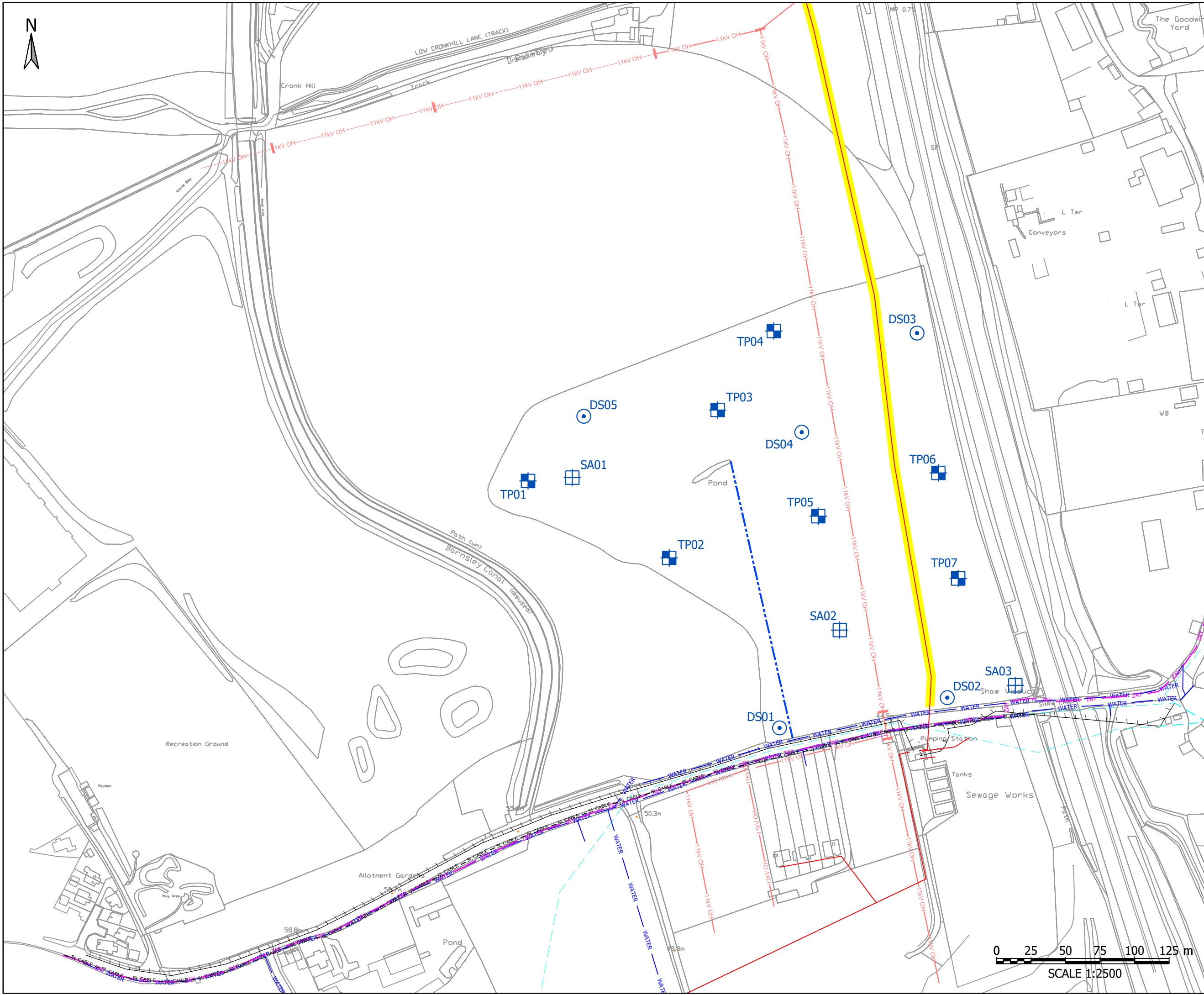
Projection = OSGB36
 xmin = 418900
 ymin = 398200
 xmax = 459100
 ymax = 421000



Map produced by MAGiC on 19 July, 2019.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGiC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

APPENDIX G – SURFACE WATER DRAINAGE ASSESSMENT

Infiltration Assessment
Greenfield Runoff Rate
Surface Water Storage



- KEY:**
EXISTING SERVICES
- BT TELECOMS BT (EXG)
 - BT OH TELECOMS BT OVERHEAD LINES (EXG)
 - WATER WATER MAINS (EXG)
 - TRUNK WATER TRUNK MAINS (EXG)
 - FOUL WATER SEWER RUN (EXG)
 - SURFACE WATER SEWER RUN (EXG)
 - 3m SEWER EASEMENT (EXG)
 - COMBINED SEWER (EXG)
 - COMBINED WATER RISING MAIN (EXG)
 - NG NATIONAL GRID CABLES (EXG)
 - LVP LV ELECTRICITY CABLES (EXG)
 - HV HV ELECTRICITY CABLES (EXG)
 - 11KV OH HV 11KV ELECTRICITY CABLES
 - EHV EHV ELECTRICITY CABLES (EXG)
 - SL CABLE STREET LIGHTING LV ELECTRICITY CABLES (EXG)
 - GAS GAS (EXG)
 - GLP GAS LOW PRESSURE (EXG)
 - GMP GAS MEDIUM PRESSURE (EXG)
 - GAS GAS HIGH PRESSURE (EXG)
 - COMMS VIRGIN MEDIA TELECOMS (EXG)
 - DUCTS (EXG)
 - INS LEVEL 3, GLOBAL CROSSING (UK LTD, GLOBAL CROSSING PEC and FIBERNET UK LTD (EXG)
 - VER VERIZONE (EXG)
 - ZAY ZAYO (EXG)
 - - - BELOW GROUND DRAIN (APPROXIMATELY 18"Ø)

- TETRA TECH GROUND INVESTIGATION 2021**
- TRIAL PIT
 - DYNAMIC SAMPLE BOREHOLE
 - SOAKAWAY TEST
 - SOAKAWAY TEST SUBJECT TO GROUND CONDITIONS

FOR INFORMATION ONLY

01	FIRST ISSUE	02.11.21	CM	NB	NB
Rev	Description	Date	CM	NB	NB
	Document Control				

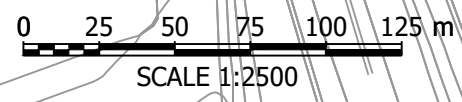
Issuing Office:
Tetra Tech Manchester
 Quay West at Media City UK,
 Trafford Wharf Road, Trafford Park,
 Manchester, M17 1HH
 Tel: +44 (0)161 872 3223
 www.tetratetechnology.com

Client:

Project Name:
**SHAW LANE
 BARNSELY**

Sheet Title:
EXPLORATORY HOLE LOCATION PLAN

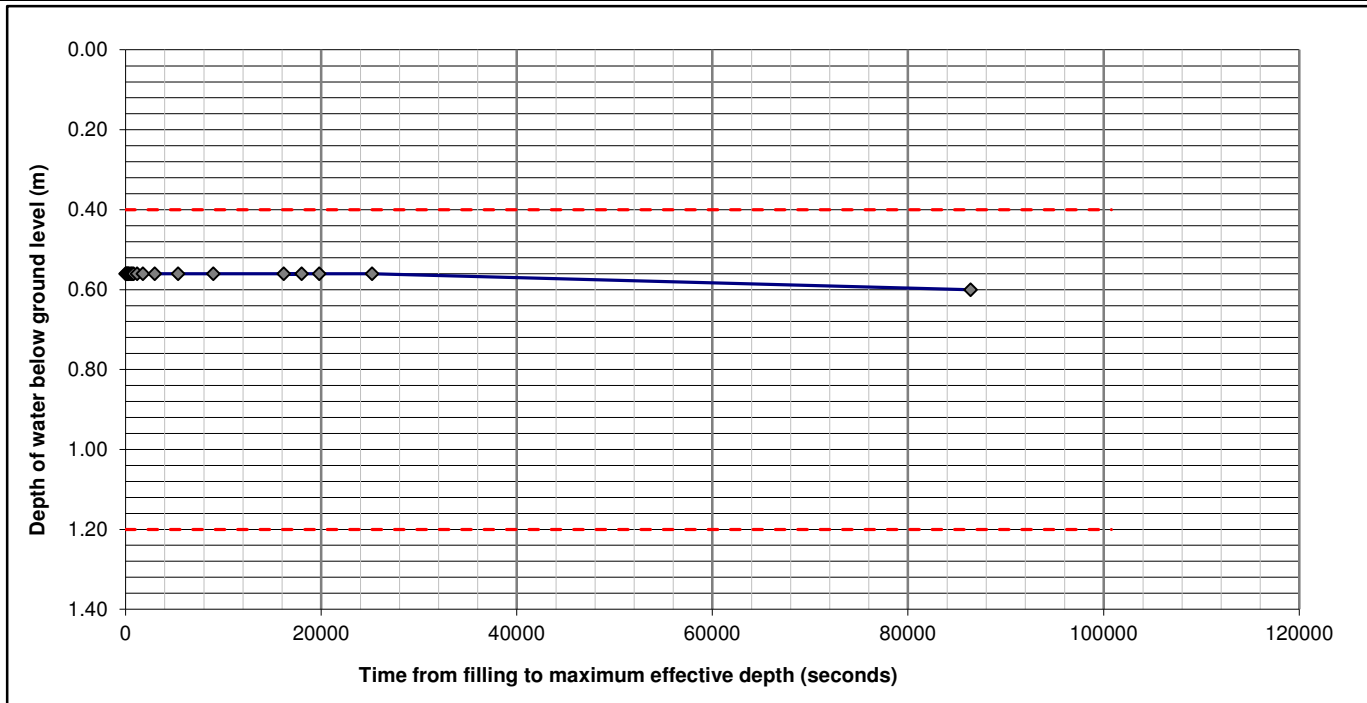
TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale @ A3	Stability
B029129	CM	06.09.21	NB	02.11.21	NB	02.11.21	1:2,500	S2
Client Project Number	Originator	Volume/System	Level/Location	Type/Code	Role	Number	Revision	
B029129	TTE	- 00 -	XX - DR - U -	0002			01	





DATE:	14/09/2021
PROJECT No:	B029129
PROJECT NAME:	Shaw Lane, Carlton
CLIENT:	Network Space
TRIAL PIT ID:	SA01
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



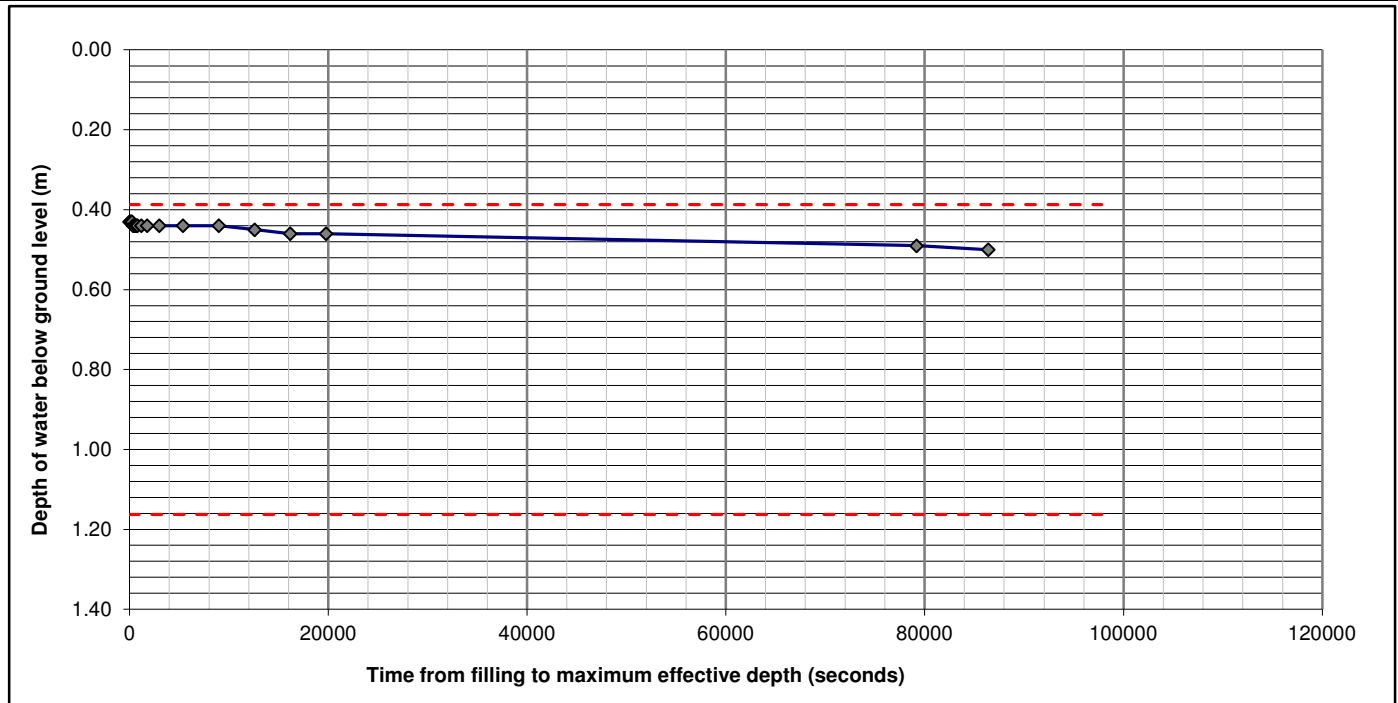
Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
0	0.00	0.56
30	0.50	0.56
90	1.50	0.56
150	2.50	0.56
210	3.50	0.56
270	4.50	0.56
360	6.00	0.56
480	8.00	0.56
600	10.00	0.56
720	12.00	0.56
840	14.00	0.56
1200	20.00	0.56
1800	30.00	0.56
3000	50.00	0.56
5400	90.00	0.56
9000	150.00	0.56
18000	300.00	0.56
16200	270.00	0.56
19800	330.00	0.56
25200	420.00	0.56
86400	1440.00	0.60
100800	1680.00	0.60

PIT LENGTH (m):	2.70	Pit construction	
PIT WIDTH (m):	0.60	TEREX TML 32 - Wheeled Excavator	
PIT DEPTH (m):	1.60		
INPUT PARAMETERS:			
Total volume of pit	(m ³)	2.59	
Pit volume between 75% and 25% depths = L x W x 1/2D	(m ³)	1.30	
Effective depth of Pit	(m)	1.60	
Proportion of pit volume occupied by gravel solids	(0-1)	0.00	
Maximum potential volume of Water	(m ³)	2.59	
Level of water in pit at 75% effective depth (p ₇₅)	(m)	0.40	
Level of water in pit at 25% effective depth (p ₂₅)	(m)	1.20	
Effective volume between 75% & 25% depth V _{p75-25} = V x P _g	(m ³)	1.30	
Surface area of pit up to 50% effective depth (A _{p50})	(m ²)	6.90	
Time at 75% effective depth (p ₇₅)	(s)	#N/A	
Time at 25% effective depth (p ₂₅)	(s)	#N/A	
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A	
OUTPUT:			
SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	#N/A
WATER INPUT:	Unkown in 3 Minutes		
GEOLOGY OF TEST SECTION:			
Light grey mottled with orangish brown sandy silty CLAY.			
Compiled by:		TB	
Checked by:		NB	



DATE:	14/09/2021
PROJECT No:	B029129
PROJECT NAME:	Shaw Lane, Carlton
CLIENT:	Network Space
TRIAL PIT ID:	SA02
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



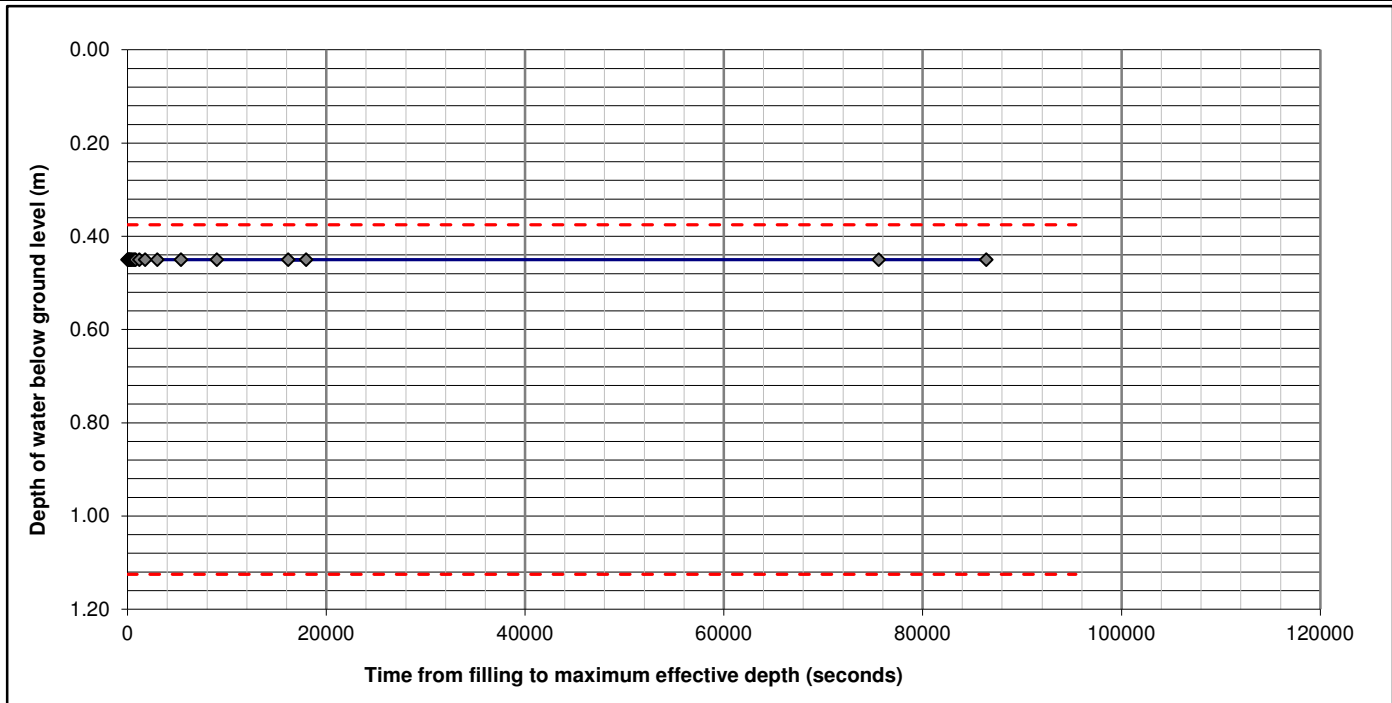
Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
0	0.00	0.430
30	0.50	0.430
90	1.50	0.430
150	2.50	0.430
210	3.50	0.430
270	4.50	0.430
360	6.00	0.440
480	8.00	0.440
600	10.00	0.440
720	12.00	0.440
840	14.00	0.440
1200	20.00	0.440
1800	30.00	0.440
3000	50.00	0.440
5400	90.00	0.440
9000	150.00	0.440
12600	210.00	0.450
16200	270.00	0.460
19800	330.00	0.460
79200	1320.00	0.490
86400	1440.00	0.500
97800	1630.00	0.520

PIT LENGTH (m):	2.60	Pit construction	
PIT WIDTH (m):	0.50	TEREX TML 32 - Wheeled Excavator	
PIT DEPTH (m):	1.55		
INPUT PARAMETERS:			
Total volume of pit	(m ³)	2.02	
Pit volume between 75% and 25% depths = L x W x 1/2D	(m ³)	1.01	
Effective depth of Pit	(m)	1.55	
Proportion of pit volume occupied by gravel solids	(0-1)	0.00	
Maximum potential volume of Water	(m ³)	2.02	
Level of water in pit at 75% effective depth (p ₇₅)	(m)	0.39	
Level of water in pit at 25% effective depth (p ₂₅)	(m)	1.16	
Effective volume between 75% & 25% depth V _{p75-25} = V x P _g	(m ³)	1.01	
Surface area of pit up to 50% effective depth (A _{p50})	(m ²)	6.11	
Time at 75% effective depth (p ₇₅)	(s)	#N/A	
Time at 25% effective depth (p ₂₅)	(s)	#N/A	
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A	
OUTPUT:			
SOIL INFILTRATION RATE (f)	$\frac{V_{p75-25}}{A_{p50} \times T_{p75-25}}$	(m/s)	#N/A
WATER INPUT:	Unkown in 2.5 minutes		
GEOLOGY OF TEST SECTION:			
Light grey mottled with orangish brown slightly sandy gravelly silty CLAY.			
Compiled by:		TB	
Checked by:		NB	



DATE:	14/09/2021
PROJECT No:	B029129
PROJECT NAME:	Shaw Lane, Carlton
CLIENT:	Network Space
TRIAL PIT ID:	SA03
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
0	0.00	0.450
30	0.50	0.450
90	1.50	0.450
150	2.50	0.450
210	3.50	0.450
270	4.50	0.450
360	6.00	0.450
480	8.00	0.450
600	10.00	0.450
720	12.00	0.450
840	14.00	0.450
1200	20.00	0.450
1800	30.00	0.450
3000	50.00	0.450
5400	90.00	0.450
9000	150.00	0.450
18000	300.00	0.450
16200	270.00	0.450
75600	1260.00	0.450
86400	1440.00	0.450
95400	1590.00	0.450

PIT LENGTH (m):	2.80	Pit construction	
PIT WIDTH (m):	0.55	TEREX TML 32 - Wheeled Excavator	
PIT DEPTH (m):	1.50		
INPUT PARAMETERS:			
Total volume of pit	(m ³)	2.31	
Pit volume between 75% and 25% depths = L x W x 1/2D	(m ³)	1.16	
Effective depth of Pit	(m)	1.50	
Proportion of pit volume occupied by gravel solids	(0-1)	0.00	
Maximum potential volume of Water	(m ³)	2.31	
Level of water in pit at 75% effective depth (p ₇₅)	(m)	0.38	
Level of water in pit at 25% effective depth (p ₂₅)	(m)	1.13	
Effective volume between 75% & 25% depth V _{p75-25} = V x P _g	(m ³)	1.16	
Surface area of pit up to 50% effective depth (A _{p50})	(m ²)	6.57	
Time at 75% effective depth (p ₇₅)	(s)	#N/A	
Time at 25% effective depth (p ₂₅)	(s)	#N/A	
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A	
OUTPUT:			
SOIL INFILTRATION RATE (f)	V _{p75-25}	(m/s)	#N/A
	A _{p50} x T _{p75-25}		
WATER INPUT:	Unkown in 2.5 minutes		
GEOLOGY OF TEST SECTION:			
Light grey mottled with orangish brown sandy silty CLAY.			
Compiled by:		TB	
Checked by:		NB	

- KEY**
- SURFACE WATER SEWER AND MANHOLE
 - INDICATIVE LOCATION OF EXISTING SURFACE WATER SEWER
 - FOUL SEWER AND MANHOLE
 - INDICATIVE LOCATION OF EXISTING COMBINED SEWER EASEMENT
 - POND WITH RETAINED WATER LEVEL.
 - DETENTION BASIN - DETAINED VOLUME 1359m³ AT 0.5m DEPTH ABOVE REDUCED GROUND LEVEL.

TOTAL VOLUME OF DETENTION BASINS 2154m³.
 VOLUME TO BE PROVIDED WITHIN PIPE DRAINAGE SYSTEM USING OVERSIZE PIPES 1699m³.
 TOTAL ATTENUATION VOLUME 3853m³.



ATTENUATION

- DETENTION BASIN ATTENUATION 2154m³
- OVER SIZE PIPE DRAINAGE 1699m³

TOTAL VOLUME 3853m³

FOR INFORMATION ONLY

Rev	Description	Date	By	CHK	APP
P03	SITE LAYOUT REVISED	21.1.22	DH	GM	GM
P02	STORAGE LOCATIONS REVISED	27.9.21	GM	GM	APF
P01	FLOOD RISK ASSESSMENT	23.9.21	GM	GM	APF

Issuing Office
Tetra Tech Manchester
 Quay West at Media City UK,
 Trafford Wharf Road, Trafford Park,
 Manchester, M17 1HH
 Tel: +44 (0)161 872 3223
 www.tetrateteurope.com

Client

Project Name
**SHAW LANE
 CARLTON**

Sheet Title
INDICATIVE SITE DRAINAGE

TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale @ A1	Suitability
B029129	GM	SEP 21	DH	SEP 21	APF	SEP 21	1:1000	S0

Client Project Number	Originator	Volume/System Level/Location	Type/Code	Role	Number	Revision
B029129	TET	- XX - XX	- SK -	-	0001	P03

Calculated by:

Site name:

Site location:

Site Details

Latitude:

Longitude:

Reference:

Date:

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site characteristics

Total site area (ha):	<input type="text" value="7.5"/>
Significant public open space (ha):	<input type="text" value="1.746"/>
Area positively drained (ha):	<input type="text" value="5.754"/>
Impermeable area (ha):	<input type="text" value="3.794"/>
Percentage of drained area that is impermeable (%):	<input type="text" value="66"/>
Impervious area drained via infiltration (ha):	<input type="text" value="0"/>
Return period for infiltration system design (year):	<input type="text" value="10"/>
Impervious area drained to rainwater harvesting (ha):	<input type="text" value="0"/>
Return period for rainwater harvesting system (year):	<input type="text" value="10"/>
Compliance factor for rainwater harvesting system (%):	<input type="text" value="66"/>
Net site area for storage volume design (ha):	<input type="text" value="5.75"/>
Net impermeable area for storage volume design (ha):	<input type="text" value="4.07"/>
Pervious area contribution to runoff (%):	<input type="text" value="30"/>

Methodology

esti

Q_{BAR} estimation method:

SPR estimation method:

Soil characteristics

	Default	Edited
SOIL type:	<input type="text" value="4"/>	<input type="text" value="4"/>
SPR:	<input type="text" value="0.47"/>	<input type="text" value="0.47"/>

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	<input type="text" value="--"/>	<input type="text" value="63"/>
Rainfall 100 yrs 12 hrs:	<input type="text" value="--"/>	<input type="text" value="83.93"/>
FEH / FSR conversion factor:	<input type="text" value="1.09"/>	<input type="text" value="1.09"/>
SAAR (mm):	<input type="text" value="628"/>	<input type="text" value="628"/>
M5-60 Rainfall Depth (mm):	<input type="text" value="20"/>	<input type="text" value="20"/>
'r' Ratio M5-60/M5-2 day:	<input type="text" value="0.4"/>	<input type="text" value="0.4"/>
Hydrological region:	<input type="text" value="3"/>	<input type="text" value="3"/>
Growth curve factor 1 year:	<input type="text" value="0.86"/>	<input type="text" value="0.86"/>
Growth curve factor 10 year:	<input type="text" value="1.45"/>	<input type="text" value="1.45"/>
Growth curve factor 30 year:	<input type="text" value="1.75"/>	<input type="text" value="1.75"/>
Growth curve factor 100 years:	<input type="text" value="2.08"/>	<input type="text" value="2.08"/>
Q _{BAR} for total site area (l/s):	<input type="text" value="31.89"/>	<input type="text" value="31.89"/>
Q _{BAR} for net site area (l/s):	<input type="text" value="24.47"/>	<input type="text" value="24.47"/>

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Design criteria

Climate change allowance factor:

Urban creep allowance factor:

Volume control approach:

Interception rainfall depth (mm):

Minimum flow rate (l/s):

Site discharge rates	Default		Edited		Estimated storage volumes	Default		Edited	
1 in 1 year (l/s):	24.5	24.5	24.5	24.5	Attenuation storage 1/100 years (m ³):	3759	3759	3759	3759
1 in 30 years (l/s):	24.5	24.5	24.5	24.5	Long term storage 1/100 years (m ³):	0	0	0	0
1 in 100 year (l/s):	24.5	24.5	24.5	24.5	Total storage 1/100 years (m ³):	3759	3759	3759	3759

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at <http://uksuds.com/terms-and-conditions.htm>. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Calculated by:

Site name:

Site location:

Site Details

Latitude:

Longitude:

Reference:

Date:

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Runoff estimation approach

Site characteristics

Total site area (ha):

Methodology

Q_{BAR} estimation method:

SPR estimation method:

Soil characteristics

Default Edited

SOIL type:

HOST class:

SPR/SPRHOST:

Hydrological characteristics

Default Edited

SAAR (mm):

Hydrological region:

Growth curve factor 1 year:

Growth curve factor 30 years:

Growth curve factor 100 years:

Growth curve factor 200 years:

Notes
(1) Is $Q_{BAR} < 2.0$ l/s/ha?

When Q_{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

(2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

(3) Is $SPR/SPRHOST \leq 0.3$?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

Greenfield runoff rates

Default Edited

Q_{BAR} (l/s):	<input type="text" value="31.89"/>	<input type="text" value="31.89"/>
1 in 1 year (l/s):	<input type="text" value="27.43"/>	<input type="text" value="27.43"/>
1 in 30 years (l/s):	<input type="text" value="55.81"/>	<input type="text" value="55.81"/>
1 in 100 year (l/s):	<input type="text" value="66.33"/>	<input type="text" value="66.33"/>
1 in 200 years (l/s):	<input type="text" value="75.58"/>	<input type="text" value="75.58"/>

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.