

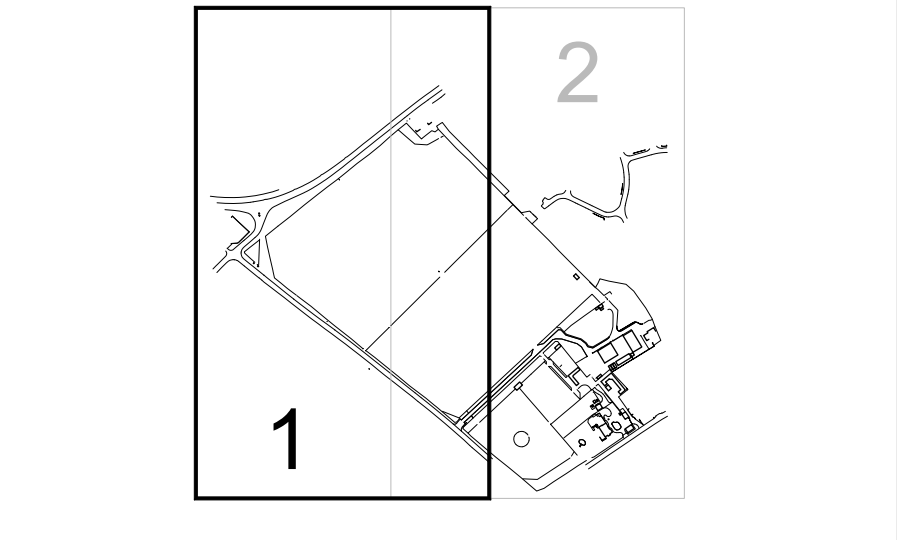
PAS 128:2022 Quality Level Guide

Quality Level	Description	Accuracy
QB4 (GL-B4)	A utility is expected to exist but cannot be detected (e.g. RFI, RFI, VFI)	Unverified
QB1 (GL-B1)	Horizontal location only using one geophysical technique	± 200mm Horizontal Unverified Vertical
QB2P (GL-B2P)	No depth information - TOL	± 200mm Horizontal ± 175mm Vertical
QB2 (GL-B2)	Horizontal and vertical location only using one geophysical technique	± 200mm Horizontal ± 40% of depth where there is greater
QB1 (GL-B1)	Horizontal and vertical location only using two geophysical techniques	± 150mm or ± 15% of depth where there is greater
QA (GL-A)	Service confirmed in an open excavation, inside an inspection chamber / view pit, or at the point the service enters / exits the ground	± 50mm Horizontal ± 50mm Vertical

Desktop Utility Records

Utility Type	Provider Details	Date Acquired
Drainage	Thames Water	09/04/2024
Water	Arbury Water	09/04/2024
Gas	Cablest	09/04/2024
Electricity	UK Power Networks	09/04/2024
Telecoms	Openreach	09/04/2024
CATV	Virgin Media	09/04/2024
Tunnels & Pipelines	BPA	24/04/2024
Tunnels & Pipelines	Linesearchbeforeyoudig	09/04/2024

Sheet Layout: (Not to Scale)



Station	Description	Easting	Northing	Level
R1	ROAD NAIL	501075.847	203007.347	157.278
R3	R3D	500871.960	203016.847	157.344
R3B	R3B	500782.760	203128.596	156.651
R3D	HILLT1 NAIL	500602.653	203227.786	156.426
R4	ROAD NAIL	500678.787	203280.102	157.287
R5	ROAD NAIL	500739.230	203328.172	157.475
R6	ROAD NAIL	500812.855	203387.123	156.894
J1	ROAD NAIL	501018.523	203543.891	155.309
J2	ROAD NAIL	501089.753	203505.015	156.738
J3	ROAD NAIL	501043.213	203401.725	152.278
J4	ROAD NAIL	501074.968	203329.558	151.147
J5	ROAD NAIL	501062.935	203267.585	152.770
J6	ROAD NAIL	500995.586	203295.276	151.699

Survey Information

Feedback dates	16/04	19/04	22/04	23/04	24/04
Weather conditions	☀	☀	☀	☀	☀
Ground conditions	Day	Day	Day	Day	Day

R1 DETECTION SURVEY REPORT

GENERAL
This survey was carried out in accordance with PAS 128:2022 (Publicly Available Specification from BS) by an experienced surveyors, qualified to a minimum of QCF Level 3. After a pre-survey consultation with the client it was agreed to carry out the detection survey using methodology M1 as per Table 2 of the PAS 128:2022. The survey boundary has been shown on the drawing, please see location section of the key for reference.

DESKTOP UTILITY REPORT
Prior to the survey commencing record information was gathered and compiled in a separate desktop utility report. This report should be read in conjunction with the information contained in this utility detection survey. For a full list of the providers searched, records received and the dates the information was obtained, please refer to the attachments page of the desktop utility report.

DETECTION SURVEY
DRAINAGE
Drainage was lifted with pipe sizes and invert levels recorded from surface level, no allowance has been made for confined space entry unless otherwise stated. Whenever possible the chamber sides have been recorded and positioned on the drawing. All connections from gullies, external rainwater pipes and external soil stacks have been proven wherever possible into manholes and sewer runs by radio sonde location and/or GPR. Where a saddle connection is present the position is assumed only until proven to QB2 or above. In instances where other detection methods were unsuccessful connections between manholes have been assumed to be straight and labelled as QB4. All drainage should be cross checked in critical areas by CCTV survey or verification survey type A.

WATER
Water mains have been located where possible using EML techniques with electronically derived depths recorded to quality level QB2. In areas where GPR techniques have also been used to confirm position and depth the quality level is enhanced to QB1. In areas where both EML and GPR techniques have been unsuccessful record information has been transcribed to quality level QB4. Recommend trial excavations in critical areas to confirm position and depth of utility.

GAS
Gas could not be located using EML and GPR methods. These services which could not be located have been transcribed from recent drawings to quality level QB4 but are indicative only. Trial excavations are recommended to confirm depth and position in critical areas.

ELECTRICITY
Electricity cables have been located using EML techniques with electronically derived depths recorded to quality level QB2. In areas where GPR techniques have also been used to confirm position and depth the quality level is enhanced to QB1. Recommend trial excavations in critical areas to confirm position and depth of utility.

TELECOM
Telecom ducts have been traced with depths recorded. Due to laws protecting British Telecom apparatus all ducts have been located using remote detection techniques only and compared with record information. Chamber sizes have been recorded using GPR techniques wherever possible. For further information regarding BT apparatus please contact Openreach directly.

CATV
CATV ducts have been located located using EML techniques with electronically derived depths recorded to quality level QB2. In areas where GPR techniques have also been used to confirm position and depth the quality level is enhanced to QB1. Recommend trial excavations in critical areas to confirm position and depth of utility.

UNKNOWN
Unknown utilities have been located using EML techniques with electronically derived depths recorded to quality level QB2. In areas where GPR techniques have also been used to confirm position and depth the quality level is enhanced to quality level QB1. Unable to confirm identity of unknown utilities. Some unknown targets identified on the drawing using GPR are classified as "non-linear targets". These are not consistent with what we expect to see when identifying a buried utility, and appear on the drawing as single targets with depths (i.e. not linking two or more depth readings). This does not mean they are not utilities, we are just unable to positively identify them as a utility. We would strongly recommend that further verification surveys (PAS 128:2022 survey type A) are carried out to identify these targets in critical areas. Recommend trial excavations in critical areas to confirm position, depth and identity of utility.

SEE CAUTIONARY NOTES WITHIN THE UTILITY KEY

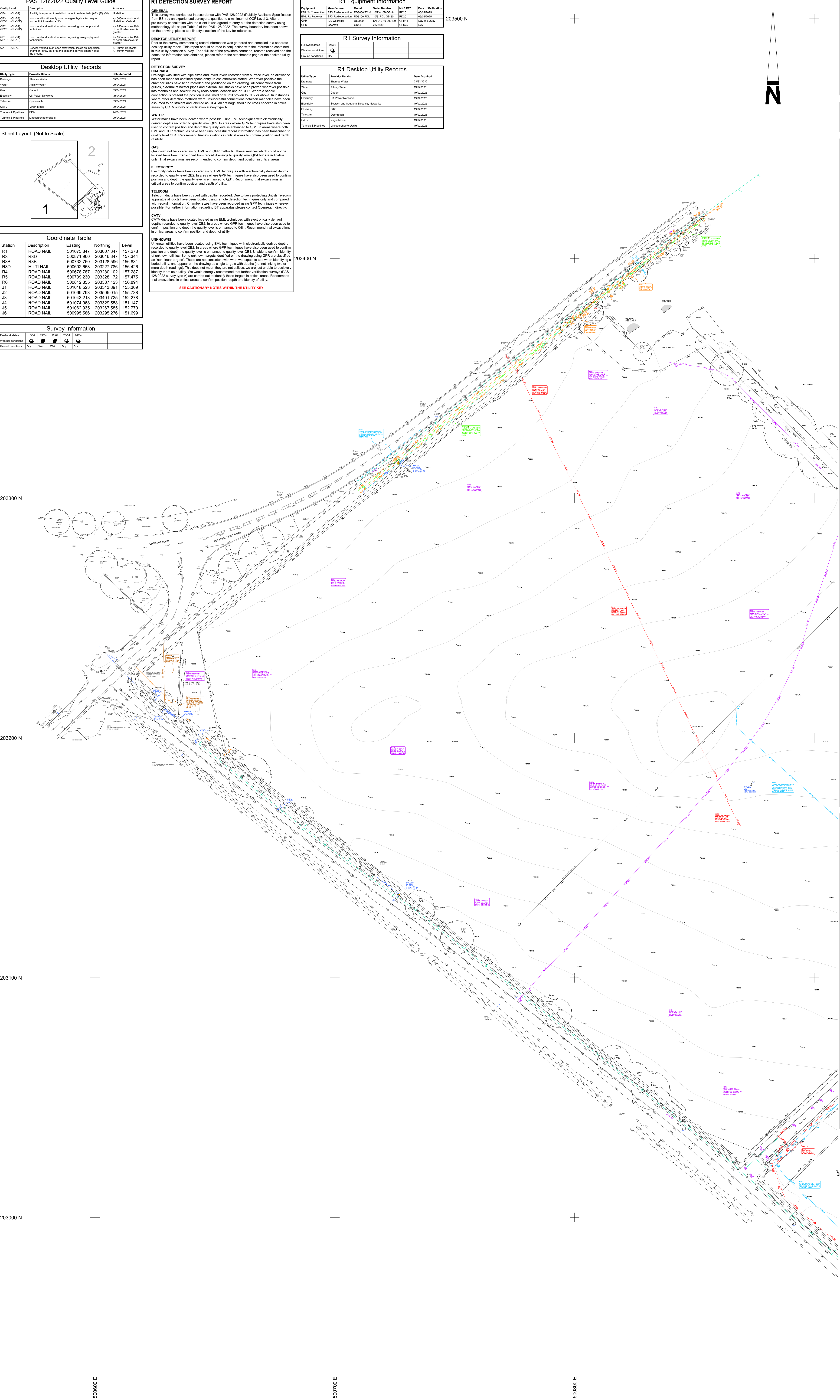
Equipment	Manufacturer	Model	Serial Number	MCS REF	Date of Calibration
EML Tx Transmitter	SPR Radiodetection	RD9000 TX10	107X-108-GB-04	R020	06/03/2025
EML Rx Receiver	SPR Radiodetection	RD9000 RX10	108X101-GB-01	R020	06/03/2025
GPR	ICE Geoscan	GG3000	5ha-016-16-00409	GPR14	Day of Survey
GPR	Geoscan	GS14	2875589	GPR25	N/A

R1 Survey Information

Feedback dates	21/02
Weather conditions	☀
Ground conditions	Day

R1 Desktop Utility Records

Utility Type	Provider Details	Date Acquired
Drainage	Thames Water	17/07/1997
Water	Arbury Water	19/02/2025
Gas	Cablest	19/02/2025
Electricity	UK Power Networks	19/02/2025
Telecoms	BT	19/02/2025
Electricity	Scottish and Southern Electricity Networks	19/02/2025
Telecoms	BT	19/02/2025
Telecoms	Openreach	19/02/2025
CATV	Virgin Media	19/02/2025
Tunnels & Pipelines	Linesearchbeforeyoudig	19/02/2025



- Notes:**
- THIS UTILITY SURVEY WAS ADDED TO MK TOPOGRAPHICAL SURVEY 20306 R3. NO SITE VERIFICATION CARRIED OUT AT TIME OF UTILITY SURVEY.
 - GRID AND LEVELS BASED ON ORDNANCE DATUM. DERIVED FROM THE NATIONAL GIS NETWORK. LOCAL SCALE FACTOR REMOVED AT STATION 03.
 - HISTORIC SURVEY INFORMATION TAKEN FROM MK SURVEYS PROJECT NUMBERS 2028 & 0271 HAS BEEN ORIENTATED TO NATIONAL GRID AT STATION 03. LEVELS WHICH WERE PREVIOUSLY RELATED TO AN ORDNANCE SURVEY BENCHMARK HAVE BEEN RELATED TO ORDNANCE DATUM DERIVED FROM THE NATIONAL GIS NETWORK (THIS RESULTING IN ALL LEVELS BEING LOWERED BY 101mm). HISTORIC SURVEY INFORMATION HAS NOT BEEN CHECKED OR VERIFIED DURING PROJECT 20306 R1.
 - TREE AND HEDGE SPECIES HAVE BEEN IDENTIFIED AS ACCURATELY AS POSSIBLE, BUT SHOULD BE CROSS CHECKED IN CRITICAL AREAS.
 - THIS SURVEY SHOULD ALWAYS BE READ IN CONJUNCTION WITH THE DESKTOP UTILITY REPORT WHICH WAS CARRIED OUT AS A PREREQUISITE TO THIS DETECTION SURVEY.

Equipment Information

Equipment	Manufacturer	Model	Serial Number	MCS REF	Date of Calibration
EML Tx Transmitter	SPR Radiodetection	RD9000 TX10	107X-108-GB-04	R020	06/03/2025
EML Rx Receiver	SPR Radiodetection	RD9000 RX10	108X101-GB-01	R021	13/02/2025
GPR	ICE Geoscan	GG3000	5ha-016-17-00002	GPR0	Day of Survey
GPR	Geoscan	GS14	286902-000001	GPR05	N/A

KEY	
TOPOGRAPHICAL KEY	PIPE MATERIALS
SURVEY STATION	AC ASBESTOS CEMENT
5	AL ALUMINUM
FENCE	BN BRICK
WALL	CB CAST IRON
BUILDING	CK CORRUGATED IRON FENCE
OPEN SIDED BUILDING	CM CORRUGATED IRON FENCE
GLASSHOUSE	CL CHAIN LINK FENCE
OVERHANG CANOPY	CR CORRUGATED IRON FENCE
DUCTILE IRON	CS CORRUGATED IRON FENCE
POLYETHYLENE	CU CORRUGATED IRON FENCE
MEDIUM DENSITY PE	CV CORRUGATED IRON FENCE
PITCH FIBRE	DL DRAINAGE
POLYPROPYLENE	DU DRAINAGE
POLYURETHANE	EL ELASTIC
ULTRA HD PE	EM EMERALD
STEEL	EN ENAMEL
BITUMEN	EP EPIC
CONCRETE	ES ES
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