


C.2 Utility Survey





Notes

- Topographical information has been taken from drawing '18885-200-04 2D', some information may have been removed or modified. Please refer to original drawing for full details.
- This drawing should be read in conjunction with the utility survey report.
- All depths are taken to top of service, unless 'L.' is indicated. All depths are taken to invert of the pipe. This is for drainage pipes of manholes only.
- As this is a non-intrusive survey only, all utilities should be located by safe digging practices to confirm depths and alignments of the utility.
- Non-intrusive surveys cannot guarantee every possible service under the ground is located. Care must be taken when site works begin, as services that are not locatable through non-intrusive methods may exist.

DISCLAIMER

This drawing and information contained within is issued in confidence and is the copyright of Precision Utility Mapping. If the topographical information or base map is supplied by a Third Party, the Utility Mapping is not liable for any inaccuracies contained therein. If incorporated to a detailed map, the responsibility for the accuracy of the information lies with the surveyor. Disclosure of this information to third parties and unauthorised copying or replication of this data without approval is forbidden.

The data presented in this drawing have been collected using a combination of topographic surveying, non-intrusive surveys and inspection chambers; ground penetration and chamber; electromagnetic location techniques; these features have been derived in accordance with BS PAS128 Specification for Underground Detection, Verification and Location using the search methods of GPR, EDD and GPR.

This drawing should be used in conjunction with the accompanying report which details the limitations of these techniques and any hindering factors encountered during this survey.

Unless otherwise stated, all utilities shown on this plan have been surveyed using approved detectors and the connections between inspection chambers, if unable to be located, are inferred. The detection confidence for each utility segment is depicted to the right of the utility line. Information depicted as QL-C or QL-B is based on historic utility records which can be inaccurate and incomplete.

The utility routes depicted may reflect the routes of multiple cables or pipes. It is not always possible to differentiate between buried construction features, utilities or other lines. Features shown on these plans are therefore these features are not utility related, and due to the limitations of the detection equipment used, these features should be treated with caution and verified prior to use during design/building works.

If the location or depth of utilities and features is of particular importance to a project then it is recommended that discussions are held with Precision Utility Mapping regarding possible limitations of the survey.

Please note that not all buried pipes, cables and ducts can be detected and mapped due to consideration of their depth, location, material type, geology and proximity to other utilities. Even on appropriate and professionally executed surveys, it may be necessary to use other techniques to locate them. Where an area of utility is likely to affect client project requirements, it is strongly recommended that a PAS128 Quality Level A verification survey is carried out.

No utility mapping survey can be considered a 100% accurate depiction of the underground environment. It is the responsibility of the client to make the requirement for the use of safe digging techniques at all times. Any excavations undertaken on site are to be in accordance with HSA Code of Practice for Avoiding Damage from Utility Services 2016.

SUB-SURFACE KEY	
COMBINED HEATING AND POWER	
DISTRICT HEATING	
DRAINAGE COMBINED	
DRAINAGE FOUL	
DRAINAGE SURFACE	
DRAINAGE UNIDENTIFIED	
FLOW DIRECTION DENOTED BY ARROW (S) (C) IF KNOWN	
ELECTRIC	
ELECTRIC LV	
ELECTRIC MV	
ELECTRIC STREET LIGHTING	
GAS	
SOIL FUEL PIPELINE	
STREET FURNITURE CABLES	
TELECOMS - FIBRE OPTIC	
TELECOMS - RF	
TELECOMS - UHF	
TELECOMS - VHF	
TELEVISION	
TELEVISION - HIGH MEDIA	
ERCOM	
TRAFFIC CONTROL	
WATER	
UNIDENTIFIED UTILITY	
UNIDENTIFIED CABLES	
UNIDENTIFIED EMPTY DUCT	
GRIP LINEAR FEATURE	
EM LINEAR FEATURE	
GRIP AREA ANOMALY	
GRIP AREA ANOMALY - REBAR	
CHAMBER EXTENTS	
MEASURED DEPTH TO PIPE/DUCT	
POLLER LEVEL OF PIPE/DUCT (TO OS DATUM)	
SORTI LEVEL (TO OS DATUM)	
COVER LEVEL OF INSPECTION CHAMBER (TO OS DATUM)	
DIAMETER OF PIPE/DUCT IN MILLIMETRES	
(BOL - BELOW GROUND LEVEL)	
AREA UNABLE TO BE SURVEYED DUE TO SURFACE OBSTRUCTIONS, VEGETATION OR LACK OF ACCESS	
TRENCH SCAR / SURFACE SCAR	
EXTENT OF SURVEY - BOUNDARY	

UTILITY CONFIDENCE LEVELS (Listed from High to Low)	
(A)	HORIZONTAL AND VERTICAL POSITION VERIFIED VISUALLY (Accuracy Horizontal 10mm, Vertical 10mm)
(B1P)	HORIZONTAL AND VERTICAL POSITION DETECTED BY MULTIPLE METHODS WITH POST PROCESSING OF GPS DATA (Estimated Accuracy <10mm OR 10% of detected depth)
(B1)	HORIZONTAL AND VERTICAL POSITION DETECTED BY MULTIPLE METHODS (Estimated Accuracy <10mm OR 10% of detected depth)
(B2P)	HORIZONTAL AND VERTICAL POSITION DETECTED VIA POST-PROCESSED GPR (Estimated Accuracy <20mm OR 40% of detected depth)
(B2)	HORIZONTAL AND VERTICAL POSITION DETECTED BY A SINGLE METHOD (Estimated Accuracy <20mm OR 40% of detected depth)
(B3P)	HORIZONTAL POSITION DETECTED VIA POST-PROCESSED GPR (Estimated Accuracy <50mm in the Horizontal - Depth is undefined)
(B3)	HORIZONTAL POSITION DETECTED BY A SINGLE METHOD (Estimated Accuracy <50mm in the Horizontal - Depth is undefined)
(B4)	A utility segment which is suspected to exist but has not been detected and therefore shown as an assumed route. (Accuracy Unverified)

01 11/10/21 C.D. SURVEY COMPLETED K.S. J.M.
Rev Date Drawn Description Chkd Appd

PRECISION
UTILITY MAPPING

Rothmore
Munreg
Munreg
Ireland
w.Precision-UM.ie

Client

Limerick 2030

Title

Cleaves

Utility Survey
Sheet 3 of 5

Surveyor K. Beirne K.B. Eng check - -

Drawn C. D. C.D. Coordination - -

Dwg check K. Sheehan K.S. Approved J. Markham J.M.

Scale at A0 1:200 Status Complete Rev 01

Drawing Number PUM-10801-U-DR-0001-01

Notes

ABBREVIATIONS		PAS128 SURVEY METHODOLOGY KEY	
AS	ASSUMED ROUTE	MAP - EML SEARCH TRANSACT AT 2m INTERVALS - TRACED AT 0.5m INTERVALS. GPR SURVEY GRID AT 5m x 5m INTERVALS. GPR MARK-UP ON SITE.	
BTIC	BRITISH TELECOM CHAMBER	MIP - EML SEARCH TRANSACT AT 2m INTERVALS - TRACED AT 1m INTERVALS. GPR SURVEY GRID AT 1m x 1m INTERVALS. GPR MARK-UP ON SITE.	
CA	CAVEAT	MD - EML SEARCH TRANSACT AT 2m INTERVALS - TRACED AT 1m INTERVALS. GPR SURVEY GRID AT 1m x 1m INTERVALS. GPR MARK-UP ON SITE.	
BB	BACKBONE	MI - EML SEARCH TRANSACT AT 2m INTERVALS - TRACED AT 1m INTERVALS. GPR SURVEY GRID AT 1m x 1m INTERVALS. GPR MARK-UP ON SITE.	
BBH	BURIED HATCH SIGHT	ML - EML SEARCH TRANSACT AT 2m INTERVALS - TRACED AT 1m INTERVALS. GPR SURVEY GRID AT 1m x 1m INTERVALS. GPR MARK-UP ON SITE.	
BH	BURIED HATCH SIGHT	MR - EML SEARCH TRANSACT AT 2m INTERVALS - TRACED AT 1m INTERVALS. GPR SURVEY GRID AT 1m x 1m INTERVALS. GPR MARK-UP ON SITE.	
BL	BLIND	ML - EML SEARCH TRANSACT AT 10m INTERVALS - TRACED AT 5m INTERVALS. GPR SURVEY AS APPROPRIATE. GPR MARK-UP ON SITE.	
BLT	BLIND LAYER	MR - EML SEARCH TRANSACT AT 10m INTERVALS - TRACED AT 5m INTERVALS. GPR SURVEY AS APPROPRIATE. GPR MARK-UP ON SITE.	
BLT	BLIND LAYER	ML - EML SEARCH TRANSACT AT 10m INTERVALS - TRACED AT 5m INTERVALS. GPR SURVEY AS APPROPRIATE. GPR MARK-UP ON SITE.	
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