

**PAS 128: 2014 QUALITY LEVEL GUIDE**

| Q-LEVEL | DESCRIPTION                         | ACC     | Q-LEVEL | DESCRIPTION                              |
|---------|-------------------------------------|---------|---------|--|
| QL-D    | Service location taken from records | Assumed | QL-B2   | Rectangular brick chamber using only one |
| QL-C    | Assumed routes taken from records   | Assumed | QL-B1   | Rectangular brick chamber using multiple |
| QL-B4   | Assumed routes taken from records   | Assumed | QL-A    | Rectangular brick chamber using multiple |
| QL-B3   | Assumed routes taken from records   | Assumed |         |  |

**DETECTION METHOD IN ACCORDANCE WITH PAS 128: 2014 SURVEY TYPE B**

**Drainage Survey**  
All accessible Manholes and Inspection chambers have had their respective covers lifted with pipe sizes, inverts, chamber sizes/types and service data recorded from ground level. All connections from DPs, Gullies, Drains, VPs, RE's and lampholes have been proven wherever possible using audible connections (AC) and/or sonde instrumentation where applicable. Where these methods have proved unsuccessful then assumed (AR) straight line connections will be shown.

**CCTV Drainage Survey**  
All accessible Manholes and Inspection chambers have had their respective covers lifted with pipe sizes, inverts, chamber sizes/types and service data recorded from ground level. Pipework has been traced, accessed and collected for post processing. Drainage layout, including manhole covers not located by topographical survey, may be taken from CCTV chainage and will be shown as indicative only.

**Electricity**  
Elec cables will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required.

**British Telecoms**  
BT cables will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required. Due to current laws and legislation protecting all BT apparatus, cabling can only be located remotely. We therefore compare all our telecom findings against record information to produce the final service layout. In some instances, where high amount of cable ducts are present, we may only be able to identify a linear centre peak signal rather than identifying all the individual duct positions. For further information regarding Telecoms apparatus, please contact Openreach directly.

**Cable TV & Communications**  
Cable TV and/or com cables will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required.

**Fibre Optic**  
FO cables will have been predominantly located using GPR methodology. This is due to the materials used within fibre optic cabling. In some rare instances, tracer cabling or conductible non fibre optic cabling will be present within some or all ducting. When this is the case, both EML and GPR methodology will be combined to identify service network and achieve greater quality levels.

**Lighting, Traffic Signal & Security Cables**  
LC, TS and/or Sec cables will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required.

**Gas & Water Inc. Fuel Pipes and Hot Water Pipes**  
GMSGS and/or WMWS pipe work will have been attempted and located using both EML & GPR methodology with electronically derived depths shown for the former and depths to crown levels shown for the latter. When the Gas/Water pipe work is constructed using conductive materials, then we are able to employ multiple geophysical techniques to identify service network and achieve greater quality levels. When a non conductive material is used, GPR methodology will be employed to locate and plot the final service layout.

**Ground Penetrating Radar**  
GPR methodology is used to identify and locate all non metallic, non conductible piping and cabling. We also employ GPR to obtain a greater accuracy levels on EML located services. The GPR has a greater success rate on pipe or service diameter upward of Ø63mm, Ø150mm, as size increments increase, so does the chance of detection. The GPR can produce varying results and as such, wouldn't be used as an independent utility surveying instrument.

**Unidentified Traces**  
All UTs will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required. Every effort has been made to identify the service but in this instance, is not achievable. We recommend excavation work to determine identity and depth where applicable.

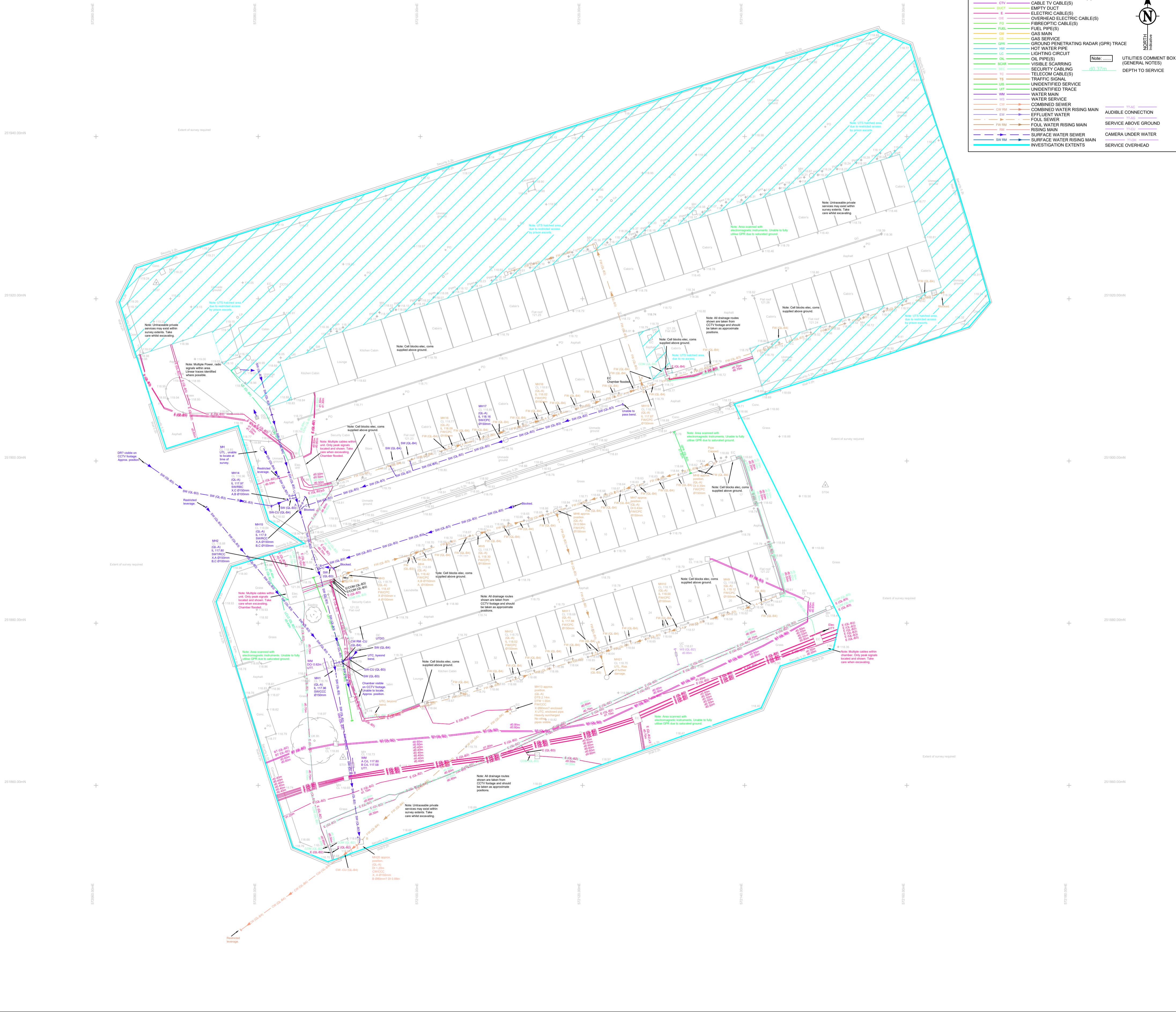
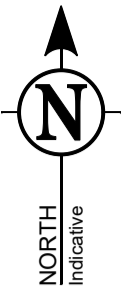
**Scarring (QL-C)**  
Scarring has been identified on site with a potential of an undetectable service present.

**Assumed Routes & Taken from Records (QL-B4/D)**  
Assumed routes (AR) are shown if there is evidence that a service exists but we are unable to trace it whilst on site. The surveyor will attempt to locate various (service evidence) etc. around site area to successfully determine an assumed route between these points. If there is little evidence on site but they believe a service is still present, then a common sense approach to an assumed route shall be employed.

Taken from records (TFR) are service routes that are taken from STAT record plans or previous survey information and overlaid onto our drawings.

**SURVEY RECOMMENDATIONS**

The areas of restricted access to be open to allow access if any of these areas are deemed critical or of high importance.  
We recommend full statutory record information be obtained to confirm site findings and to position undetectable which may be present.  
Due to the geophysical nature of subsurface technology, we always recommend excavation works to be carried out within critical areas for verification and to eliminate the possibility of undetectable services present.



**UTILITIES & UNDERGROUND INVESTIGATIONS ABBREVIATIONS & SYMBOLS**

| ABBREVIATION | DESCRIPTION               | ABBREVIATION | DESCRIPTION                  |
|--------------|---------------------------|--------------|------------------------------|
| ID SC        | 1 Duct 5 Cables           | DCI          | Depth To Crown               |
| D            | Diameter                  | DI           | Depth To Invert              |
| AC           | Audible Connection        | DS           | Depth To Silt                |
| AG           | Above Ground              | DTB          | Depth To Base                |
| AR           | Assumed Route             | DTW          | Depth To Water               |
| BL           | Base Level                | DTS          | Depth To Surcharge           |
| CB           | Concrete Borehole         | EBD          | External Backdrop            |
| CBC          | Circular Brick Chamber    | EDT          | End Of Trace ->              |
| CCC          | Circular Concrete Chamber | IBD          | Internal Backdrop            |
| CL           | Cover Level               | IL           | Invert Level                 |
| CPC          | Circ Plastic Chamber      | OH           | Overhead                     |
| CL           | Crown Level               | POR          | Point Depth Response         |
| CU           | Camera Under Water ->     | RB           | Rest Bend                    |
|              |                           | RBC          | Rectangular Brick Chamber    |
|              |                           | RCC          | Rectangular Concrete Chamber |
|              |                           | RE           | Rodding Eye                  |
|              |                           | SA           | Survey Abandoned             |
|              |                           | SL           | Silt Level                   |
|              |                           | SuL          | Surcharge Level              |
|              |                           | TFR          | Taken From Records           |
|              |                           | UTC          | Unable To CCTV               |
|              |                           | UTDO         | Unable To Determine Outfall  |
|              |                           | UTL          | Unable To Lift               |
|              |                           | UTS          | Unable To Survey             |
|              |                           | UTT          | Unable To Trace              |
|              |                           | WL           | Water Level                  |

**UTILITIES & UNDERGROUND INVESTIGATIONS DRAWING NOTES**

All below ground details shown have been identified from above ground without excavation. Survey Solution use electro-magnetic and/or ground penetrating radar (GPR) methods to investigate for underground utilities, services and features. Results using these methods are not infallible and we recommend trial excavations are carried out to confirm any identifications, positions and depths.  
Any areas on the drawing where services or features have not been shown are not necessarily clear of services or features but are an indication that no items have been identified during our investigations. All reasonable care and normal good practice should still be employed during design and construction processes.  
Certain types of services such as plastic or concrete pipes, some conduit and ducting where direct access can't be achieved for tracing may not be shown and alternative locating methods should be used.

Survey Solutions has used all reasonable care to research available service records but the completeness or use of the service records supplied to or by Survey Solutions cannot be guaranteed. Therefore Survey Solutions cannot be held responsible for any features annotated as 'taken from records' (TFR).  
Depths obtained using electro-magnetic or GPR are effected by ground conditions and should be treated as indicative only. Electro-magnetic depths to utilities and services are generally taken to the centre of a feature. GPR depths to the top of a feature and drainage depth shown to inverts, unless otherwise indicated.

Drainage pipe sizes will be obtained without entering the chamber and therefore should be treated as approximate. Pipe dimensions which have not been obtained visually will be taken from records when available.

All services, drainage and utilities routes are assumed straight between access points, unless otherwise stated. The numbers of cables in runs will not be shown unless specifically requested. All services are below ground unless indicated.

Services, utilities and features may not have been surveyed if obstructed or not reasonably visible or accessible at the time of survey.

Survey Solutions accept no responsibility for the completeness or accuracy of either the topographical survey or base mapping on this project.

All critical dimensions and measurements should be checked and verified with any errors or discrepancies notified to Survey Solutions immediately. The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work.

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Do not scale from this drawing.

**GENERAL SYNOPSIS**

This survey has been carried out in accordance with PAS 128: 2014 & our version of the Royal Institution of Chartered Surveyors (RICS) specification for Measured Surveys of Land, Buildings and Utilities. Our survey extents have been agreed and confirmed with formal acceptance of 467ENUG from MACE LTD. If you have any queries regarding the final services layout, please may we ask you to carefully read all the information within this title block in its entirety before continuing to do so.

**TOPOGRAPHICAL/DWG DRAWING INFORMATION**

| TOPOGRAPHICAL SURVEY DATE 10/01/2023 |                  |                          |
|--------------------------------------|------------------|--------------------------|
| SURVEY TYPE                          | DESCRIPTION      | EFFECT ON SURVEY RESULTS |
| TOPO                                 | SURVEY SOLUTIONS | NONE                     |
| QUOTED                               |                  |                          |
| OS                                   |                  |                          |
| NTS                                  |                  |                          |

**GENERAL SITE CONDITIONS**

| AVERAGE                |                          |
|------------------------|--------------------------|
| ADDITIONAL INFORMATION | EFFECT ON SURVEY RESULTS |
|                        |                          |
|                        |                          |

**DESKTOP UTILITY RECORDS (PAS 128: 2014 SURVEY TYPE D) PREREQUISITE FOR PAS 128: 2014 SURVEY TYPE B COMMISSIONED: YES**

| UTILITY     | AVAILABILITY | UTILITY COMPANY PROVIDER                |
|-------------|--------------|---|
| SEWER       | PUBLIC       | ANGLIAN WATER                           |
| WATER MAIN  | PUBLIC       | ANGLIAN WATER                           |
| GAS MAIN    | PUBLIC       | CAUDENT GAS                             |
| TELECOM     | PUBLIC       | BRITISH TELECOM/CITY FIBRE24/UKIARELION |
| CABLE TV    | PUBLIC       | YVRGN MEDIA                             |
| ELECTRICITY | PUBLIC       | UKPN                                    |
| OIL PIPES   | N/A          | N/A                                     |
| OTHER       | NO           | N/A                                     |

| REV | DESCRIPTION | DRAWN | CHECKED | APPR | SURVEY DATE |
|-----|-------------|-------|---------|------|-------------|
|     |             |       |         |      |             |

**SURVEY SOLUTIONS**

LAND SURVEYING  
BUILDING SURVEYING  
UNDERGROUND SURVEYING  
SITE ENGINEERING  
MONITORING

0845 040 5969  
survey-solutions.co.uk

IPSWICH BEDFORD COVENTRY GLASGOW LONDON MANCHESTER NORWICH NOTTINGHAM YEOUL

PROJECT TITLE  
HMP HIGHPOINT SOUTH, STRADISHALL, NEWMARKET, SUFFOLK, CB8 9YG.

DRAWING DETAIL  
UTILITIES AND CCTV DRAINAGE SURVEY.  
SHEET 1 OF 1

|                                |                           |
|--------------------------------|---------------------------|
| CLIENT<br>MACE LTD             | SCALE<br>1:250            |
| SURVEYOR<br>LJT/EBW            | SURVEY DATE<br>07/03/2023 |
| CHECKED BY<br>JAB              | APPROVED BY<br>GSB        |
| DWG STATUS<br>FINAL            | REVISION                  |
| DRAWING NUMBER<br>46676BWUG-01 | ISSUE DATE<br>15/03/2023  |

