

PAS128 – Type C Survey

PAS128 Survey type C shall comprise a site reconnaissance to identify physical features that support the existence of utilities within the survey area.

Where the utility records can be matched to surface features, the quality level achieved shall be documented as QL-C in accordance with the Table below.

Survey type (Establish with client prior to survey)		Quality level (Practitioner to determine post survey)	Post-processing	Location accuracy		Supporting data
				Horizontal ¹⁾	Vertical ²⁾	
D	Desktop utility records search	QL-D	—	Undefined	Undefined	—
C	Site reconnaissance	QL-C	—	Undefined	Undefined	A segment of utility whose location is demonstrated by visual reference to street furniture, topographical features or evidence of previous street works (reinstatement scar).
B	Detection ³⁾	QL-B4	No	Undefined	Undefined	A utility segment which is suspected to exist but has not been detected and is therefore shown as an assumed route.
		QL-B3	No	±500 mm	Undefined (No reliable depth measurement possible)	Horizontal location only of the utility detected by one of the geophysical techniques used.
		QL-B3P	Yes			
		QL-B2	No	±250 mm or ±40% of detected depth whichever is greater	±40% of detected depth	Horizontal and vertical location of the utility detected by one of the geophysical techniques used. ⁴⁾
		QL-B2P	Yes			
		QL-B1	No	±150 mm or ±15% of detected depth whichever is greater	±15% of detected depth	Horizontal and vertical location of the utility detected by multiple ⁵⁾ geophysical techniques used.
QL-B1P	Yes					
A	Verification	QL-A	—	±50 mm	±25 mm	Horizontal and vertical location of the top and/or bottom of the utility. Additional attribution is recorded as specified in 9.2.5.

¹⁾ Horizontal location is to the centreline of the utility.
²⁾ Vertical location is to the top of the utility.
³⁾ For detection, it is a requirement that a minimum of GPR and EML techniques are used (see 8.2.1.1.2).
⁴⁾ Electronic depth readings using EML equipment are not normally sufficient to achieve a QL-B2 or higher.
⁵⁾ Some utilities can only be detected by one of the existing detection techniques. As a consequence, such utilities cannot be classified as a QL-B1.

Note: Where only one surface feature is identified relating to a specific utility, then the QL-C given for that segment will comprise a point on the utility. Where two or more surface features reference a specific utility, then the QL-C given for that segment will comprise a length on the utility.

Where the utility records cannot be matched to surface features, the quality level achieved shall be documented as QL-D in accordance with Table above.

Methodology

Site reconnaissance shall comprise on-site checks to validate the utility records and to assess if there are any conflicts that need to be resolved.

Note: These might be records and drawings provided by utility owners obtained via a type D survey or might comprise historic drawings, records and digital data from other sources.

On-site checks shall document:

- a) The presence, type and markings of utility-related surface features.
- b) Measurements between known surface features on the ground compared with those depicted on the plan.
- c) Differences between the map/drawing or digital features supplied and those extant on the ground.



Note: Documentation of on-site checks may include, but are not limited to, the mark-up and annotation of existing plans, the inclusion of supporting photographic evidence and/or a written report.

Surface features to be included in the on-site checks shall include as a minimum:

- a) Manhole and inspection chamber covers.
- b) Valve covers.
- c) Utility markers.
- d) Control and distribution pillars and columns, LV power, street lighting, traffic lights.
- e) Historic excavation scar lines.

