

Quickspec for topographical and measured building surveys

This quick reference Specification sheet – summarising the full RICS terms and conditions for land surveying services – new 3rd edition 2009, is intended for use on small or straightforward schemes and assumes that the first option clause (where appropriate) is used throughout. Margin numbers indicate the relevant main Specification sections or clauses.

The Specifier should tick the requirement(s) needed in each subject category. Where no item is selected for a particular category the surveyor will assume that there is no requirement. Additional information, where necessary, should be provided in a covering letter.

If this Specification sheet does not provide adequate opportunity to specify the survey then the main Specification document should be used to prepare the Survey Specification.

Clause	Subject	Choices						
1.1	Project information							
1.1.2	Client							
1.1.3	Contact & telephone							
1.2	Survey extent	Local plan attached	Textual description	Proposals Plans	(indicate items supplied by Specifier)			
1.3	Scales(s):1	50	100	200	500	Other		
2.1	Plan control grid	Local grid	Site grid plan	Based on national grid*				
2.2	Level datum	GPS derived national datum	Benchmark derived national datum	Stie datum	Local datum			
2.3	Detail survey	Boundaries	Outline	Full detail	(see also Buildings, Section 4)			
2.4	Trees	Foliage lines	Trunk over 0.15m dia.	All trees				
2.5	Height information	Spot heights	Contour interval	Road section spacing...				
3	Underground services	Cover position	Cover level	Invert/pipe size				
4	Buildings external	Outline	Full	Footprint	Eaves/ridges	Elevations		
4.1	Buildings internal	Ground floor	All floors	Roof	Sections			
5.1	Plan reproduction	Final drawings	Proof plots	Survey report				
5.2	Digital data	State format						
5.6	Computer media	Internet download	Email attachment	Portable hard drive	CD/DVD	Other		
	Remarks							

*Scale Factor applies

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Geomatics client guides

Scale

Avoid tripping up over step changes in scale



Is this relevant?

Certainly. Misunderstanding the meaning of scale and its application to the survey can result in products which do not meet the anticipated need. An expression of scale is a simple way of defining the overall content and accuracy of a survey. Scale does not define accuracy although in a graphical product it will limit the accuracy that can be achieved.

Just how much can anybody want – try asking for 1:1.

1:1 means what it says; a survey which is life size and probably costs as much as the object being surveyed! It does not mean ‘dimensioned in metres rather than drawing millimetres’.

For example, 1:100 means that an object 1m long on the ground will be 10mm long on the plan. When talking about relative scale size, a scale of 1:50 is larger than 1:100 and would require a larger hardcopy plan to represent the same physical object or area.

Understanding how to use scale enables a survey to be specified easily, producing the required amount of detail to the desired accuracy, without needing to understand all the processes involved. Of course, if you are familiar with specifying surveys then a full specification will get the best for your project but if that is not your favourite pastime then getting the scale right is a good second best.

Remember, this leaflet is a simple guide: if you are entering unmapped territory you need a Chartered Land Surveyor. To find a Chartered Land Surveyor within your area visit ricsfirms.com

So where do we start?

First of all, what accuracy do we need? Traditionally, surveyors will show detail correct to within 0.2mm at the plotted scale. So, if you want detail to be accurate to within 50mm, you should specify a plot scale of 1:250. But don't forget that this is a guide. It does not apply to underground services and if the accuracy of any feature is critical you should tell the surveyor.

Secondly, what detail needs to be shown (resolution)? Normally we show any point objects to scale if they are larger than 1mm at the plotted scale. This means that, for example, a 0.6m diameter circular manhole will be shown at 1:500 scale or larger. Where they have been specified for survey, point and linear objects will be shown symbolically at smaller scales.

Drawing type	Survey scale	Accuracy	Resolution	Use	Larger scale
Land Registry mapping	1:1250	0.25m	1.25m	Mapping to identify boundary mapping related to visible ground features	
Site plan	1:500	0.10m	0.50m	Planning	
Site plan	1:200	0.04m	0.20m	Planning, building footprint or detail design	
Outline floor plan	1:100	0.02m	0.10m	General arrangement drawings for space planning	

How much text?

Nothing makes a drawing (or a computer screen) more difficult to read than an overload of text: this way, that way, overwriting; a real alphabet soup. You might not want it, but so often that's just what a bad specification produces. Zooming in might make it readable in the office, but the worker on site has to read it on paper!

To ease the problem you can specify a plotting scale. Larger than the accuracy scale gives more room for text; smaller reduces the amount of text, but let's the survey print on a smaller piece of paper.

But remember, detail is accurate to the accuracy scale specified no matter what size the print is made.

Three dimensional data carries the heights of the surveyed points as well as their position. Two dimensional data plots the points but adds the heights as a piece of text – not the same thing at all. (Most architects use 2D information, many engineers will prefer 3D). On 2D data the surveyor will thin out the printed height text to suit the importance of the points and the space available for printing.

Making the choice

- Assess the needs of the project
- If one aspect needs a significantly higher accuracy then specify that separately as an enhanced accuracy area. Keep the rest to the general scale required
- Specify a plotting scale to cope with the amount of text you need
- If the project is simple a general description of the survey required, the intended use and the required scale may be good enough; otherwise ask the experts.

This client guide is one of a series from the MAPP Panel of RICS geomatics, the full series and professional guidance can be downloaded from www.rics.org/mapp