

3.3 Topographic features

Recommended good practice

The following tables provide a listing of features to be surveyed. This is not intended to be an exhaustive list and the client should add additional features and comments if required.

Some features have been pre-selected as ‘default features’. These are considered by RICS to be features which, if present on site, should be surveyed and presented on a standard topographic survey, irrespective of the accuracy band selected by the client. However, features not required for a specific survey can be identified by the client by removing the tick from the relevant box.

The following topographic survey features are to be surveyed:

3.3.1 Permanent buildings/structures

Feature	Required (tick or untick)	Accuracy band (if different to band stated in 3.1)	Comments
Archways, underpasses, culverts	✓		
Bridge over, bridge under	✓		
Buildings/ structures detailed at plinth line	✓		
Building/ structure corners (spot heights)	✓		
Foundations (where exposed)	✓		
Overhead features, canopies, porches, etc.	✓		
Ramps, loading bays	✓		
Ruins	✓		
Steps (generalised)	✓		
Gullies	✓		
Rain water down pipes	✓		
Rodding eyes	✓		
Features below will only be surveyed if specifically selected by the client. These are not typically surveyed/required at all accuracy bands			
Floor/threshold levels			

Steps: individual			
Steps and ramps, top and bottom (spot levels)			
Threshold/damp proof course levels			
Boot scraper			
Waste pipes			
Additional feature detail not requested above (specify detail required)			
Heights of features (specify detail required)*			
Other (specify)			

*Height detail could include spot heights, annotations, 3D graphics or other.

3.3.2 Temporary/mobile buildings

Feature	Required (tick or untick)	Accuracy band (if different to band stated in 3.1)	Comments
Garden sheds, greenhouses	✓		
Mobile buildings	✓		
Temporary buildings or structures	✓		
Overhead features, canopies, porches, etc.	✓		
Features below will only be surveyed if specifically selected by the client. These are not typically surveyed/required at all accuracy bands			
Additional feature detail not requested above (specify detail)			
Heights of features (specify detail required)*			
Other (specify)			

*Height detail could include spot heights, annotations, 3D graphics or other.

3.3.3 Road, path, track features

Feature	Required (tick or untick)	Accuracy band (if different to band stated in 3.1)	Comments
Channel line – road	✓		
Centre line – road	✓		
Camber line on roundabouts	✓		
Carriageway edge	✓		
Drop kerbs	✓		
Top of kerb	✓		
Road centreline, channel, kerb, pavement levels shown as text on drawings	✓		Surveyed at [...]m intervals
Crash barriers	✓		
Gullies, kerb outlets	✓		
Pedestrian barriers	✓		
Pedestrian crossings	✓		
Speed humps/ tables/traffic calming features	✓		
Traffic islands, details	✓		
Back edge of footway	✓		
Changes of surface material [hard detail]	✓		
Changes of surface material [soft detail]	✓		
Features below will only be surveyed if specifically selected by the client. These are not typically surveyed/required at all accuracy bands			
Road markings, painted			
Other road features, e.g. vehicle sensors			
Unmade tracks and paths [specify centre only, or sides required]			
Paving pattern details			
Additional feature detail not requested above [specify detail]			
Heights of features [specify detail]*			
Other [specify]			

*Height detail could include spot heights, annotations, 3D graphics or other.

3.3.4 Visible boundary features – walls, fences, hedges

Feature	Required (tick or untick)	Accuracy band (if different to band stated in 4)	Comments
Fences: with type, with height [if required]	✓		
Gates	✓		
Hedges and ditches	✓		
Walls: with type, with height [if required]	✓		
Wall buttresses	✓		
Cadastral features [boundary markers, stones, beacons, posts, stakes etc.]	✓		
Trees	✓		
Other			
Features below will only be surveyed if specifically selected by the client. These are not typically surveyed/required at all accuracy bands			
Gate: direction of opening shown			
Additional feature detail not requested above [specify detail required]			
Heights of features [specify detail required]*			
Other [specify]			

*Height detail could include spot heights, annotations, 3D graphics or other.

3.3.5 Street furniture

Feature	Required (tick or untick)	Accuracy band (if different to band stated in 3.1)	Comments
Belisha Beacons/ special road crossings	✓		
Barriers	✓		
Bollards	✓		
Bus stops, bus shelters	✓		
Junction/control boxes	✓		
Hoardings	✓		
Lamp posts	✓		
Telegraph/ electricity poles	✓		
Road signs	✓		
Traffic signals	✓		
Post boxes	✓		
Mile posts	✓		
Notice boards	✓		
Posts	✓		
Ticket machines	✓		
Troughs	✓		
Features below will only be surveyed if specifically selected by the client. These are not typically surveyed/required at all accuracy bands			
Flagstaffs			
Street name plates, wall mounted			
Vent pipes			
Drainage channels			
Cellar hatches and pavement lights			
Coal holes			
Cycle racks			
Litter bins			
Reflector posts			
Salt/grit bins			
Seats/benches			
Additional feature detail not requested above [specify detail required]			
Heights of features [specify detail required]*			
Other [specify]			

*Height detail could include spot heights, annotations, 3D graphics or other.

3.3.6 Statutory authorities' plant and utility covers where visible

Feature	Required (tick or untick)	Accuracy band (if different to band stated in 3.1)	Comments
Air valves	✓		
Cable TV inspection covers	✓		
Cabinets (identified)	✓		
Electricity covers	✓		
Electricity poles	✓		
Fire hydrants	✓		
Inspection covers/manholes with level	✓		
Gas/water stop valves and stop cocks [cover]	✓		
Water meter or gas meter covers [distinguished from valve]	✓		
Marker posts	✓		
Surveillance cameras	✓		
Telecoms inspection covers	✓		
Telegraph poles	✓		
Telephone call boxes	✓		
Features below will only be surveyed if specifically selected by the client. These are not typically surveyed/required at all accuracy bands			
Cable TV house points			
Pole stay wires			
Lamp posts			
Additional feature detail not requested above [specify detail required]			
Heights of features [specify detail required]*			
Overhead wires, [specify if building connections to be shown]			
Other [specify]			

*Height detail could include spot heights, annotations, 3D graphics or other.

Recommended good practice

Survey of underground utilities is specified in section 6. Also note that identification of service covers should be made where possible from the service cover annotation/appearance.

3.3.7 Trees, wooded areas, limits of vegetation

Trees to be surveyed to BS 5837:2012 or equivalent national standard Yes No

Recommended good practice

In the UK, surveys of trees in preparation for a Tree Survey to British Standard BS 5837:2012 requires additional survey work including survey of all individual trees with trunk girth greater than 74mm, when measured at 1m above ground level. This may incur additional cost. Clients and surveyors should refer to their national and/or international standards for tree surveys. If BS 5837:2012 is required for this survey the requirements of the standard will override any conflicting requirements in the following table.

Individual trees/bushes details to be annotated on drawing	
Individual trees/bushes to be numbered with details provided in a schedule	

Feature	Required (tick or untick)	Accuracy band (if different to band stated in 3.1)	Comments
Woodlands perimeter trees/ tree canopy	✓		
Bushes/shrubs	✓		Minimum girth to be surveyed [...]m
Individual trees	✓		
Isolated trees	✓		Minimum trunk girth [at 1m above ground level] to be surveyed [...]m
Ornamental/road side trees, including planting boxes	✓		
Edge of vegetation	✓		
Areas of saplings/young trees	✓		
Features below will only be surveyed if specifically selected by the client. These are not typically surveyed/required at all accuracy bands			
Staked saplings (individual)			

Tree numbers (specify detail required)			
Tree heights (estimated)			
Tree heights (measured)			
Tree spread (canopy diameter)			
Tree trunk girth at 1m above ground			
Tree species (may require specialist knowledge and input)			
Additional feature detail not requested above (specify detail required)			
Other (specify)			

3.3.8 Pitches/recreation

Feature	Required (tick or untick)	Accuracy band (if different to band stated in 3.1)	Comments
Pitch/playground limits only	✓		
Features below will only be surveyed if specifically selected by the client. These are not typically surveyed/required at all accuracy bands			
Pitch markings, goal posts			
Playground apparatus			
Additional feature detail not requested above (specify detail required)			
Heights of features (specify detail required)*			
Other (specify)			

*Height detail could include spot heights, annotations, 3D graphics or other.

3.3.9 Water features

Feature	Required [tick or untick]	Accuracy band (if different to band stated in 3.1)	Comments
Watercourses (drains, ditches, streams, rivers) levels to be shown on drawn plans at [...]m intervals	✓		
Waterline	✓		
Water level	✓		
Shore line (detail exposed at low tide)	✓		
Bodies of water (ponds, lakes, reservoirs)	✓		
Top of banks	✓		
Bottom of banks	✓		
Weirs	✓		
Locks	✓		
Flood defence structures	✓		
Flood/lock gates	✓		
Flood/harbour/ sea/retaining walls	✓		
Sheet piling	✓		
Groynes/sea defences	✓		
Pipes/outfalls/ culverts	✓		Minimum diameter pipe to be surveyed [...]m
Piers, jetties, walkways, gantries, landing stages, bridges	✓		
Fountains	✓		
Waterfalls	✓		
Gabions	✓		
Features below will only be surveyed if specifically selected by the client. These are not typically surveyed/required at all accuracy bands			
Direction of water flow			
Time of survey for waterline/ level			
High water mark (inc. date)			
Low water mark (inc. date)			
Wrack marks			

Bottom bank below water level, surveyed from bank where possible			
Bottom bank below water level, surveyed from within watercourse			
Hard bed levels [surveyed at [...]m intervals]			
Soft bed/silt levels [surveyed at [...]m intervals]			
Bed type/ material			
Scours			
Floating structures/ booms			
Crest/spill levels			
Pipe/outfall/ culvert dimensions [diameter/invert/ soffit levels]			Minimum diameter pipe to be surveyed [...]m
Machinery, pumps			
Telemetry equipment			
Navigation beacons			
Aprons, footings, sills, bases			
Steps, access ladders			
Mooring posts, bollards, rings, piles			
Life rings/life buoys			
Rubbing strips			
Ornamental water features			
Gauge boards			Relate readings on gauge board to survey height datum
Fishing platforms			
Pontoons			
Booms			
Additional feature detail not requested above [specify detail required]			
Heights of features [specify detail required]*			
Other [specify]			

*Height detail could include spot heights, annotations, 3D graphics or other.

3.3.10 Earth works

Feature	Required (tick or untick)	Accuracy band (if different to band stated in 3.1)	Comments
Bank bottom	✓		
Bank top	✓		
Hilltops, depressions and saddles (spot heights)	✓		
Mounds, spoil heaps	✓		
Quarries, pits and mineral workings (limit only)	✓		
Quarries, pits and mineral workings, detailed survey	✓		
Retaining wall, base	✓		
Retaining wall, top	✓		
Sloping masonry, bottom	✓		
Sloping masonry, top	✓		
Terraces	✓		
Features below will only be surveyed if specifically selected by the client. These are not typically surveyed/required at all accuracy bands			
Additional feature detail not requested above (specify detail required)			
Heights of features (specify detail required)*			
Other (specify)			

*Height detail could include spot heights, annotations, 3D graphics or other.

3.3.11 Industrial sites (e.g. treatment works, oil refineries, etc.)

Feature	Required (tick or untick)	Accuracy band (if different to band stated in 3.1)	Comments
Aerials	✓		
Cable tracks/ ducts (outline only)	✓		
Chimneys	✓		
Electric sub stations or transformers (perimeter fence only)	✓		
Filter beds (limits only)	✓		
Inspection pits	✓		
Inspection covers, gullies, ducts and conduits (spot levels)	✓		
Pipe work or ducts (outline only)	✓		
Overhead pipes/ cables	✓		
Overhead line tower/ freestanding mast or pylon, including visible bases	✓		
Tanks/storage chambers (outline only)	✓		
Features below will only be surveyed if specifically selected by the client. These are not typically surveyed/required at all accuracy bands			
Flood lights			
Water taps/stand pipes/troughs			
Earth rods			
Additional feature detail not requested above (specify detail required)			
Heights of features (specify detail required)*			
Other (specify)			

*Height detail could include spot heights, annotations, 3D graphics or other.