

RICS Associate Assessment Submission Documentation

Candidate Name:	James Hart
Membership Number:	1234567
Pathway:	Land/Engineering Surveying
Date:	2014

Please indicate and provide details below if you have any of the following disabilities, and wish the assessor to take this into account for your submission:

Learning, such as dyslexia
Access
Visual

Hearing
Speech
Other, please provide details

All of these must be supported in writing and certified accordingly. The supporting evidence must suggest what reasonable adjustments RICS should take into consideration.

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Example Only

Candidate details and checklist

1. Candidate details

Candidate Name:		
Candidate Number:		
Date of Birth:		
Pathway	Land/Engineering Surveying	
Number of years of relevant experience:	39	
Do you have relevant qualifications?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If 'YES' to either of the above, what subject?		
Employer/organisation:	ABC	
Mentor:		
Month and Year of Assessment:	July	2014
Any Special Considerations:	None	
Previously Referred at Associate:	No	NA
Case Study Title :	Survey of XYZ Pioneer Square Complex	

2. Checklist

	Candidate - enter 'X' to confirm complete (If you are a referred candidate only indicate the templates that you have updated for re assessment)	RICS (office use only)
Associate Submission		
Candidate Details	X	
Summary of Experience – Technical competencies	X	
Summary of Experience – Mandatory competencies	X	
Case Study	X	
Record of Professional Development	X	
Below to be completed by Referred candidates ONLY		
Which technical competencies are being reassessed?		

Summary of Experience - Mandatory Competencies

Mandatory Competencies	Summary of how you meet competency requirements
<p>Client care</p>	<p>Land Registry (LR) and Ordnance Survey (OS) Data Investigation Team are my regular clients. LR sends me requests for topographic surveys, age and nature and floor level surveys used for registration of land and properties.</p> <p>Data Investigation Team requests are usually public queries regarding mapping anomalies. For both customers I address their issues by updating OS mapping data to current specification. I check that for both customers, my replies are clear and accurate and act professionally, with discretion and without prejudice.</p> <p>I meet strict timescales to ensure my replies are received in a timely manner to conform to Service Level Agreements. Should the instructions be ambiguous or unclear I contact the appropriate person for clarification. I often support my written replies by supplying photographs and sketches to ensure clarity.</p>
<p>Communication and negotiation</p>	<p>As a trainer I communicate clearly when delivering courses and best practice sessions. People take on new information differently so I use a variety of delivery methods including PowerPoint presentations, oral, show-tell-do techniques, and validate my delivery by asking open-ended questions.</p> <p>As a union representative, I negotiate with my employer about issues relating to changes in terms and conditions and more commonly pay. I negotiate through written, oral, face to face or telephone communication. I thoroughly research the issue before any meeting and listen to what is being offered. If there comes a point where negotiations have stalled I am very comfortable with calling an adjournment to gather more evidence or seek advice from a higher authority. I take the appropriate time to consider all viewpoints and may use bargaining techniques to obtain a mutually agreeable outcome. I don't take things personally in negotiating and recognise both sides have an agenda.</p>
<p>Conflict avoidance, management and dispute resolution procedures</p>	<p>Land Registry cases can relate to adverse possession and property disputes so I ensure my impartiality and treat all parties with the same due care and attention as I am conscious that parties resorting to a dispute resolution service will end up with a costly outcome. I record relevant comments by affected parties and clarify that they accept what I have noted. I try my utmost to only deal with relevant information and never divulge information given me out to third parties.</p> <p>Should a situation become confrontational, I explain my fears and vacate the site. I relay the information back to LR. When parties cannot reach agreement and neither party has taken the case to court, LR can refer matter to the Land Registration division of the Property Chamber, First-tier Tribunal.</p>

<p>Data management</p>	<p>As a remote worker I use industry standard GeoMedia and ArcGIS software to plan, extract, update and databank work packages from the central digital database. I secure data by making regular backups both within the software and onto secure encrypted password protected USB drives.</p> <p>I regularly change my passwords to further ensure security. I only extract enough data required to complete blocks of work and return these files as early as possible ensuring it is available to update automated records for planning and progress reports and for the use of others.</p> <p>My tablet computer is kept secure and out of sight when not in use reducing the possibility of theft and lock my laptop when leaving it for short periods in the office.</p>
<p>Health and safety</p>	<p>I ensure my personal health and safety, and where reasonably practicable, that of others who may be affected by my actions in accordance of the 1974 Health and Safety at Work Act. I keep up to date with Health and Safety legislation amendments by reading corporate and trade union documentation and keep training current.</p> <p>I follow instructions from site managers and manage and mitigate risks when on site. I write method statements on a standardised template explaining how I will carry out my work when requested.</p> <p>I conform to Corporate Occupational Road Risk policy by taking recommended breaks when driving to avoid fatigue and from my Tablet PC to alleviate eye stain, for example.</p> <p>I take breaks on site when carrying survey equipment to reduce possibilities of strain or injury and wear appropriate personal protective equipment (PPE). I keep my CSCS (Construction Skills Certificate Scheme) current as it is a requirement to access many construction sites and complete mandatory online annual Civil Service Learning Health and Safety training modules when due.</p> <p>I sit on both the Ordnance Survey Corporate and Field Health and Safety Committees meeting twice a year to interpret accident reports and discuss safety legislation to influence corporate safety policy.</p>
<p>Sustainability</p>	<p>I batch my work where possible by location to maximise output and minimise travel time, fuel consumption and costs helping to reduce the departmental carbon footprint. I make daily checks of fluid levels and tyre conditions and have my vehicle regularly serviced ensuring it performs efficiently, economically and is more environmentally friendly. I drive at speeds recommended in OS Policy to conserve fuel and reduce emissions.</p> <p>When planning daily work I check weather forecasts and travel news to ensure trips out meet their full potential and that I have sufficient work should I be denied access, reducing unnecessary work and travel time. I attend a corporate transport meeting which influences decisions on selecting fleet vehicles dependent on their suitability for the role and how they will be used based on cost and size while conforming to Government Department guidelines on fuel efficiency and CO₂ emissions.</p>

Teamworking	<p>Team working is important to me as a lone working member of a geographically dispersed workforce. I regularly contact colleagues to discuss workloads and availability ensuring targets are met and identifying excess manpower which can be redeployed as needed.</p> <p>In my geographic group we hold regular team meetings which act as a forum for management to cascade information and for the team to discuss workloads and availability to cover high workloads, leave and sick. With staff members having different levels of skills it offers the opportunity to discuss technical issues and share best practice.</p> <p>I believe that networking with colleagues at these meetings reduces isolation that individuals can feel when working alone for long periods.</p>
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Example Only

Summary of Experience – Technical Competencies

Technical Competency	Summary of Experience
<p>1. Cadastre and land Management</p>	<p>Land Registry holds responsibility for the Land Register of England and Wales into which they record evidence of, and changes to, ownership of property. This evidence is recorded on Title Deeds and related Plans.</p> <p>I carry out topographic surveys for LR, providing information relating to the position of General Boundaries which are ground features shown on OS Data that could co-incidentally be a legal boundary of property ownership.</p> <p>When LR registers a Title Deed they often require extra information and in such cases I am requested to survey detail that is not to OS Specification. This detail can be marker pegs, changes in metalling or similar needed to register the ownership and occupied extent. I survey these and present the data on an annotated plot to pre-set scales showing the features in true planimetric positions</p> <p>As OS data contributes to the legal process of land registration, I take care to ensure that detail meets OS specification and accuracy criteria of the mapping scale. When I am satisfied with the accuracy I electronically supply the updated survey along with photographs, age and nature descriptions and a clarifying sketch of the site annotated to reflect my written descriptions to aid the case officer's understanding of what has been surveyed so they can interpret the data supplied.</p> <p>Should I have to move any existing feature due to historic inaccuracies I provide LR with an age and nature description to clarify that it is not a new feature. Stating age and nature in adverse possession cases is important as after 10 years possession the claimant is entitled to apply to be registered as the proprietor of that land replacing the current registered one.</p> <p>I also provide information on ownership, use and occupation of land, and supply photographs and witness statements to help clarify complicated surveys. Included in those statements I include the name and address of the witness and get authority from them that they understand that it will be included the report and could be used in the legal process of Land Registry should it be required.</p>

<p>2. Geodesy</p>	<p>I use a Leica GNSS GS15 Receiver converting signals from the GNSS (Global Navigation Satellite System) into ground points using the European Terrestrial Reference System 1989 (ETRS89). These are converted to OSGB36 National Grid and Ordnance Datum (OD) using the Newlyn tide gauge as sea level through an exact transformation and geoid model.</p> <p>GNSS signals on their own will not give a satisfactory solution to enable real time survey to national grid due to the signal being affected by atmospheric, particularly ionospheric distortion. To minimise these, the GS15 receives real time corrections broadcast by phone from 110 OS Net fixed stations across the country.</p> <p>I ensure that the receiver is vertically above the point to be surveyed and that it has good access, open skies and is not too close to obstructions such as buildings, trees or high fencing to ensure good satellite signal reception. I also avoid using GNSS too close to obstructions as the satellite signal can be affected by multipath errors where it is reflected and bounced off surfaces increasing the distance it travels to the GNSS Receiver causing positional inaccuracies. I also ensure I have acceptable Geometric Dilution of Precision (GDOP) indicating an acceptable computation of coordinates from satellites with good geometry enabling more accurate points.</p>
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Example

<p>3. GIS</p>	<p>I register jobs daily on OS's Geomedia based job planning tool defining site polygons on a raster mapping backdrop. The software generates a unique Work Item Identity number for each job and creates attribution fields that I update describing the site and adding dates to enable future work planning and scheduling dates that reflect Service Level agreements and production targets.</p> <p>I use the Customer Order (CO) tool based on ESRI ArcMap10. I analyse the point and polygon data relating to the job against a backdrop of vector data showing team and local authority boundaries and raster data showing mapping and aerial photography. I use the CO to plan day to day work packages generating reports to prioritise work backlogs and show output. I do this using various spatial and attribution definition queries to identify jobs, A typical example of a definition query;</p> <p><i>"CAT" In ('PRESTIGE_H', 'LR_H', 'SRF_H', 'CC_H', 'TR_LARGE_H', 'AP_TO_MATCH_H', 'AP_TO_IMPROVE_H', 'ITN_H', 'FRA_H', 'SS_H') AND "OWNER" = 'Mick Upfield'</i></p> <p>displaying my high priority work (prestige sites, LR, customer complaints, topographic revision, addressing to match or improve, and small scales) enabling me to produce tabulated information of economic survey work packages to aid planning and delivery to deadlines.</p> <p>I export these work packages as layers to my in-car satellite navigation system using the same symbology and use it to direct me to jobs cutting down on travel and fuel.</p> <p>I use an offline ArcBased address mapping tool that uses raster OS MasterMap as a backdrop on which I match addresses and geocode their positions. I forward the data via a zipped file to our head office for incorporating into the address layer.</p>
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<p>4. Mapping</p>	<p>To maintain Ordnance Survey's national seamless mapping dataset I carry out as-built surveys of topographic detail to two accuracy standards. In 1:1250 base scale areas, commonly large cities and towns, I survey to a positional Root Mean Square (RMS) accuracy of 0.42m in 1:1250 or urban areas and 1.10m in 1:2500 rural areas. In doing so I ensure geometric, relative and absolute accuracies.</p> <p>OS accuracy standards have derived from historical printed mapping that needed minimum sizes for juts and parallels set to relevant map scale or generalisation to ensure features maintain geometric fidelity and cartographically pleasing to the eye. I achieve by ensuring I move as little existing detail as necessary. Where new detail falls outside the accuracy standards I can transform it to improve the geometric fidelity.</p> <p>All surveyed features are structured and validated creating closed polygon areas which I describe and attribute with form and function to reflect the real world features they represent according to the Ordnance Survey Data Capture and Edit Guide (DCEG).</p> <p>I also collect names, descriptive text and vegetation type and integrate the capture and supply to customers with updated information relating to the address layer, routing information and smalls scales data.</p> <p>The Address Layer holds individual addresses from a Postal address File (PAF) which I match to the most suitable polygon and geocoded giving an accuracy of at least 50m.</p> <p>I update Road Routing Information which is data integrated into a layer of centre lines generalised within surveyed road casement. I do this by adding Information such as turn restrictions, speed, height, weight and width limits I collect from ground based evidence such as signage and road markings to the layer in my ArcMap based editor. Road names and Department for Transport classification and numbering are also incorporated into this layer.</p> <p>I collect information for OS small scale mapping products and supply it through screen dumps and textual descriptions to our Small Scales team electronically including tourist information, car parks, civic buildings and other information that is necessary</p> <p>A sample of my work goes through a Quality Control procedure to ensure the supply of consistent data to customers that meets specification. Each job is scored against set criteria relating to specification, content and accuracy. I have to continually meet the required standard to meet accreditation and prove my competence.</p>
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<p>5. Measurement of land and Property</p>	<p>I maintain the digital national mapping database of a specific geographic area carrying out topographical survey update of new residential and commercial property to two general accuracy standards</p> <p>Before every survey I do a reconnaissance of the site identifying the appropriate method of survey I will employ and identify existing detail to control a survey framework around the site I select and mark control stations where appropriate and plan my detail capture.</p> <p>I use a variety of survey methods and equipment depending on the limitations and accuracy of those methods and equipment for the type of survey being carried out. I check features I capture conform to OS accuracy standards prioritising on Geometric, relative and absolute accuracies as well as specification as laid out in OS Data Capture and Edit Guide The type of survey and equipment includes:</p> <ul style="list-style-type: none"> • Graphic survey for simple survey using a tape or Leica Disto in conjunction with an optical square creating a network of measured lines of sight, straights, offsets and intersections to reduce taping. Tying out lines between known points and equating lines when necessary helps preserve the accuracy. • Leica GNSS GS15 Receiver in most environments as it is by far the quickest method, but has limitations due to signals being obstructed by solid features or from multipath errors. I minimise multipath error by capturing points on alignments of features or for use as REDM station setups in open positions away from high buildings or fencing. Data supplied by this method can be verified by capturing existing data points at the start and end of survey. I also ensure that the pole is upright and that the latest software updates are installed • Leica TS106 REDM using controlled points supplied by Leica GNSS GS15 for more complicated shapes and structures that need surveying from a distance due to Health and Safety or geographic difficulties that may cause multipath errors. To ensure good sympathy with local existing survey and to minimise errors, a number of Reference Objects are observed at the start of the job. These are then re-observed throughout the survey and finally at the end to ensure the instrumental setup has not altered by knocking the legs. I ensure that the recommended servicing and calibration of the instrument are carried out. <p>On completion I perambulate the site checking for omissions and that the survey fits relative to existing detail and shapes by taking independent check measurements to existing detail. I edit completed data to OS Specification and export the files to the OS Database for customer supply.</p>
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<p>6. Remote Sensing and Photogrammetry</p>	<p>To survey from imagery it has to be Orthorectified meaning it is geometrically corrected ensuring uniformity of scale and that distortion caused by roll, tilt and rotation of the camera is removed best reflecting its planimetric position. It also models out differences using a DTM.</p> <p>As part of that process I survey Air Points pre-selected by the Remote Sensing (RS) team at Ordnance Survey. Air Points are well-defined ground points that can easily be identified on more than one photograph to enable aerial triangulation. Points are selected that stand out on imagery enabling future use, These points aid Geo-referencing of the features on the photography to national grid coordinates.</p> <p>To ensure best geo-referencing I carefully capture Air Points ensuring the quality is better than 0.050m in position and 0.100m in height and that GDOP is better than 3.0. I observe with a stable set up, taking two 10 second observations for each, switching off the GNSS Receiver between them.</p> <p>I use Orthorectified imagery captured at a height between 7000-10000 feet to survey detail in rural areas by fit and trace methods called monoplottting. This imagery is only suitable for surveys of 1.10m RMSE as it only has a ground sample distance (GSD), the distance between pixel centres relative to ground measurement, of 25cm.</p> <p>I overlay the photography with the relevant topographic data and capture new detail by fitting to local detail. There is a possibility of distortion to the image known as overthrow and to reduce the impact of this I identify roof lines of buildings on the imagery and use a transformation to move these to their building footprint point also visible on the imagery. Roof lines of different heights are moved using separate transformations. If I find that detail cannot be seen on imagery for surveying purposes I generate queries so that they can be verified using ground survey methods.</p> <p>To plot survey detail in urban areas where buildings tend to be closer together, stereo pairs of imagery with a GSD between 10-15 cm are used. Using ground completion methods on this type of capture I found the omissions were reduced as the stereo model enabled the operator to pick up more detail.</p>
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Exam

Case Study: Survey of XYZ Pioneer Square Complex

1. Context / Introduction

I am an Ordnance Survey (OS) surveyor with more than 40 years' experience. I started working for OS in April 1903 when I attended a nine month basic surveyor training course. Since then I have increased my skills and knowledge through training and practice of graphic survey, air ground methods, Land Registry surveys and requisition replies, preparing Boundary Perambulation Cards.

Prior to 1987 all survey work was drawn up on plastic Master Survey Documents but after 1987 survey work has been digitally captured and stored.

In 1996 I was introduced to a pen tablet to digitally capture simple line data in the field and this has now evolved into the data capture of today where line work is structured to form polygonised data that is attributed to reflect real world form and function.

I have seen survey instrumentation and capture methods evolve in that time too. I used to work in a team with two or three colleagues using Electronic Distance Measuring (EDM) that measured a laser beam reflected by a prism but now I work alone measuring from stations controlled by GNSS and surveying using Remote Electronic Distance Measurers which measure signals reflected off features. Although instrumentation and methods may have changed and is less labour intensive the theory is still the same. I still work from a framework of known survey points to capture new detail. I also use GNSS for surveying new detail but often have to use a combination of methods due to limitations of the method when satellite signals are obstructed by tall buildings and trees.

Currently I am responsible for updating the geographic OS MasterMap area covering Cherwell and parts of South Oxfordshire to OS specification as well as maintaining the associated layers of Address, Integrated Transport Network and Small Scales Intelligence Data to business defined timescales. I also attend to customer queries and respond to Land Registry survey requests.

I am a trainer and in that role I instruct in the use of the pen-tablet and how to incorporate the survey instrumentation to collect points and features and attribute them to current OS Specification. I write best practice sessions delivering to groups of surveyors highlighting specification changes and introduction of new equipment and software.

I am often involved in testing new software, hardware and processes feeding back findings to management verbally and in written form.

This case study describes the survey in June and July 2013 of Pioneer Square, XYZ which is a town centre complex consisting of a Sainsbury supermarket, a cinema and a multi-storey car park along with other smaller retail outlets. For the survey I used GNSS, REDM and Graphic skills to update the OS mapping database. In the case study I demonstrate my competence in Mapping and Measurement of Land and Property, surveying the site and attributing the line work and polygons to reflect real-world form and function and delivering that data to the current OS Specification.

2. The Approach

Planning the Survey

In June 2013 I accessed the Geomedia based job planning tool (JPC) navigating to the relevant survey job for Pioneer Square. Noting that it was due for survey I made a site visit. I contacted the site manager who informed me the first phase would be opening late July 2013. On site I confirmed that the footprint of data indicated in JPC covered the whole site. I ruled out using Remote Sensing due to time scales and the need for follow up ground completion, as many features would not be visible from the air due to overhanging rooflines. I decided to survey the site using a combination of GNSS, REDM and Graphic Survey methods for the following reasons;

- GNSS for picking up control stations, new roads and pavements as it is much the quicker method of capturing features of this type to the relevant accuracy standards than REDM and Graphic Survey methods. However I could not use GNSS for all points and features as the buildings at Pioneer Square were tall and close together raising the possibilities of multipath errors. These occur when satellite signals reflect or bounce off surfaces, increasing the distance they travel to the GNSS Receiver resulting in positional inaccuracies.
- REDM from GNSS positioned stations to pick up all relevant observable points on buildings, fences and posts. The shapes of the buildings are irregular comprising of angled and curved outer walls with juts and recess making well-sited REDM capture ideal given the limitations of GNSS and Graphic capture. REDM would also keep me off the roadways avoiding site traffic.
- Graphic Survey to complete the infill survey of features using short taped lines tying out to points and features captured by the other two methods.

While on site I noted the position for the REDM control stations but did not mark them on the ground as the site was still active and the position could be obstructed when I returned to carry out the survey. Back in the office I updated the footprint of data I required using the raster back drop on JPC to reference it to local existing detail.

Accessing the Data

During the second week of July 2013 I accessed Job Explorer (JE), an ARC10 GIS Software based tool that connects online to JPC, to extract the job item onto my pen tablet. JE is also used online to load the data into another ARC10 based tool, Object Editor (OE). Object editor is used to record the captured data on site

The Survey Control Framework

I returned to the site and contacted the site manager who informed me that contractors were still actively using plant on site. I assured him I would continually assess risks and mitigate them by wearing the appropriate PPE and avoiding scaffolding and moving plant.

I use Object Editor (OE) to load the data into a format to enable the capture of survey lines and to attribute them reflecting real world "form and function" as laid down in the Data Capture and Edit Guide (DCEG). Once I had the data loaded on to OE I checked the accuracy region of the data by toggling the relevant button and confirmed that it had a relative accuracy of ± 0.42 metres root mean square error (RMSE). This means that all new points I captured should fall within 0.2m of existing detail and that any point under 0.4m would not need action to address the inaccuracy.

I set the tolerances on the GNSS ensuring I had a good RTK fix with a Geometric Dilution of Precision (GDOP) of 3 or less. This meant that I was receiving signals from a spread of satellites with good geometry enabling an acceptable level of accuracy for the captured survey points.

I walked the site and ground marked the positions of my REDM control stations ensuring where possible they were visible from at least two other stations to ensure accuracy. I also deleted demolished features from the map data.

The Survey

Using GNSS I measured local points of existing survey detail around the site to both check that the existing data fell within the acceptable OS tolerance for 0.42m accuracy regions and that the GNSS equipment was correctly capturing position in sympathy with the existing data and without major errors that may result from, for example, equipment malfunction or multipath. The urban extent of XYZ was re-surveyed in late 1990s and my

experience from previous survey tasks in the town had always confirmed the accuracy in XYZ to be within that laid down in OS Guidelines for a 0.42m specification region.

The results from checking the points around the site proved the same, but if any had fallen outside tolerance I would have made further accuracy checks radiating out from the site picking up and comparing additional old detail points until I had confidence that the original survey was within tolerance. I would adjust as little old detail necessary to retain geometric, relative and if possible absolute accuracies as moving old detail could have an impact on customers holding that data. Examples of geometric fidelity and generalisation on site can be seen in the following two photographs with the position and direction taken indicated on *Screenshot 1* by red arrows.



Screenshot 1

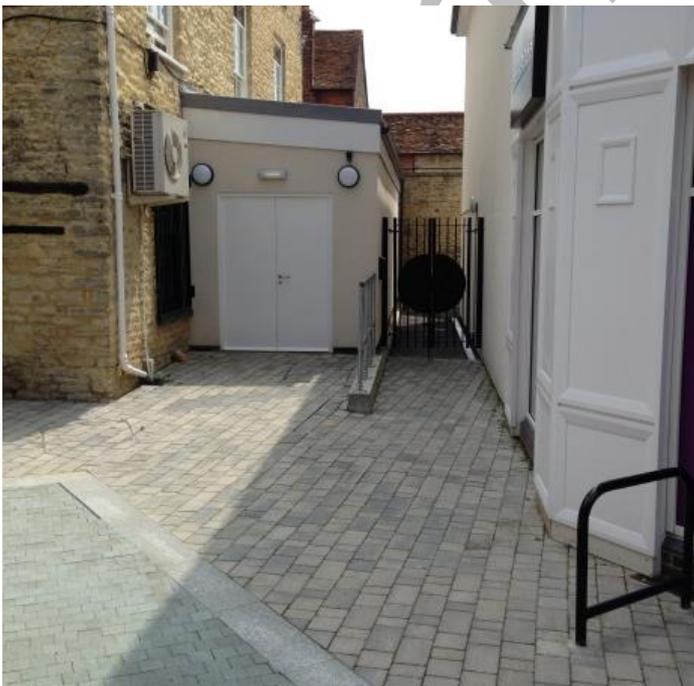


Photo 1



Photo 2

Comparing *Photo 1* with *Screenshot 1* shows that parallel features have retained their shape and *Photo 2* shows the real world gap between the trolley-shelter and wall is centimetres and in *Screenshot 1* that I have generalised the mapping to show just the trolley-shelter. Despite modern survey methods allowing more accurate data I generalise features conforming to OS specification rules. The rules are based on cartographic reasons and producing a consistent supply of data for customers.

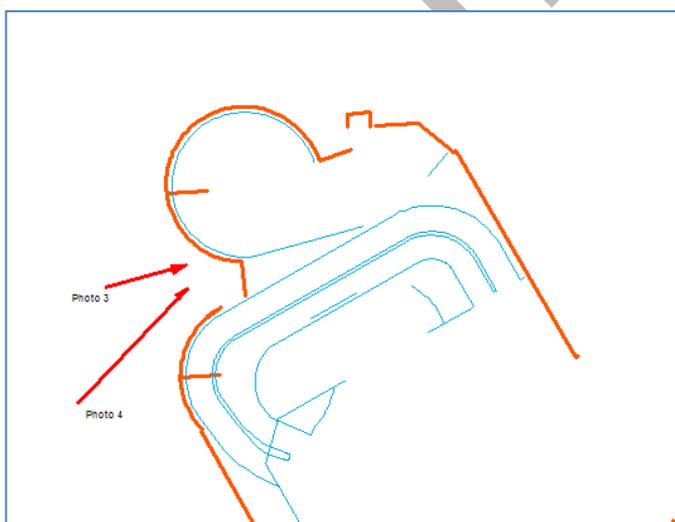
I commenced picking up REDM Stations positions as well as ground features such as road casement and path edges and the old points of detail, taking care to level the GNSS pole, checking GDOP and avoiding using GNSS near buildings to reduce the chance of multipath errors.

To capture survey features using a calibrated Leica T106 REDM (T106) I need to know station setup coordinates and the bearing to which I am measuring the distance. To do this I set up the T106 ensuring it was level and vertically above the initial station and observed to a known point of old detail that I had checked for accuracy earlier with the GNSS receiver on my recce. To check that the instrument was functioning correctly and to alleviate any observer error I took measurements to old points of detail and checked that they fell in the correct position. This proved the setup was correct.

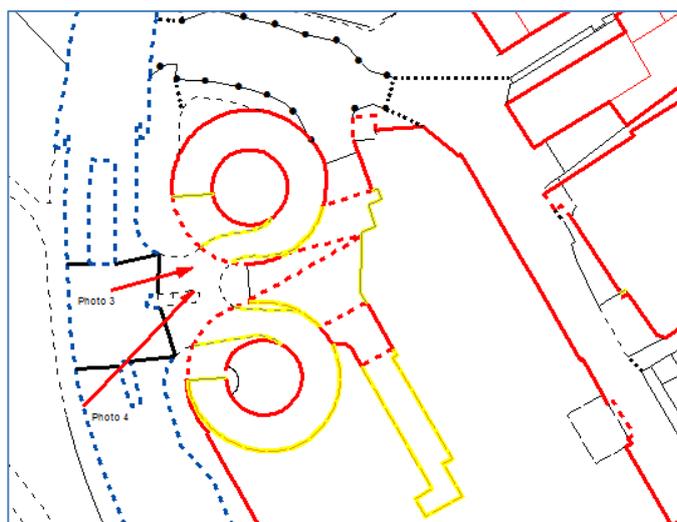
I picked up points on building outlines, fencing etc. and also measured to the other visible stations around the site. At the end of each round of station observations I repeated the check measurement to relevant independent points to ensure the setup had not moved.

When I had completed observations at all station set-ups I was left with a framework of controlled surveyed points and features that I then completed using graphic methods. I used a tape measure, Leica Disto and optical square to run short survey lines between known points checking that the measured distances are within tolerance to the distance as depicted in the data and equating any errors over the length of the line. I took check measurements when convenient to old detail to confirm accuracy and geometric fidelity. I also saved my work regularly to avoid losing data.

Due of the complexity of the site I needed to confirm that captured detail conformed to OS Specification as laid down in the DCEG. One example was to look up the depiction of spiral access ramps to the higher levels of the multi-storey car park (*Photos 3 and 4*). I had surveyed line work associated with the ramps using the REDM (*Screenshot 2*) and graphically in-filled the area but needed clarification about how to show it to current specification. The rules suggested it should be shown as depicted in *Screenshot 3*, i.e. with the different colours and line styles representing different feature codes such as solid building outline and overhead building outline



Screenshot 2



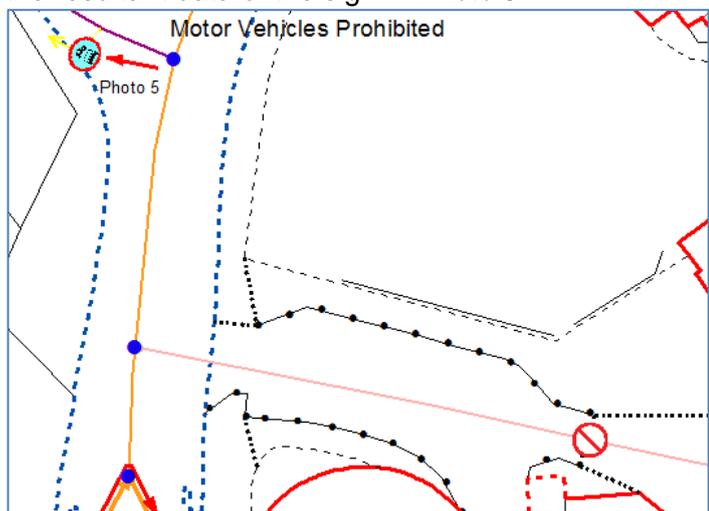
Screenshot 3

Photo 3

Photo 4

It was at this stage I identified lines and areas that need to be obscured. These are features that fall under the roof line but are still shown in OS data. In Pioneer Square these included walls, paths and posts.

As well as capturing survey data I updated the Integrated Transport Network and Address layers that are part of the intelligent mapping product OS MasterMap. In the Integrated Transport Network layer I added the alignment of roadways indicating by attribution that they had restricted access and were not publicly maintained. I collected the position of rising bollards, gates, turns and height width restrictions, one way systems, as well as classifying roads. Where signage described restrictions and qualifiers such as time, type and purpose I collected those too. *Screenshots 4 and 5* show how I attributed a vehicle prohibition in OE and the resultant data of the sign in *Photo 5*.



Screenshot 4



Photo 5

Screenshot 5

Validation

Once satisfied that I had fully completed the survey and it was to specification, I ran the validation routine to structure lines and build polygons. This routine enabled closed polygons to be attributed and eliminated polygon bleeds polluting the data. Once this was completed and I had fixed all of the discrepancies indicated by the process I attributed the lines and polygons to reflect real world form and function such as edge of public roads and roofed structures made sealed surfaces and the like. I ran a final discrepancy check ensuring the appropriate attributed line work encloses each polygon and discrepancies had been resolved

I matched the outstanding addresses from the Postal address File (PAF), to the appropriate Functional Site. A Functional Sites describes the main activity that occurs at a particular location and also holds proper name information including the evidence of how the name was collected.

I also updated Small Scales Tourist information for the car park which will be used on OS paper, digital and web based mapping products and services.

Before returning the data I ensured the routing layer was correct by toggling layers on OE to visually inspect the data and confirm road links and nodes had the correct attribution and that names were linked to the correct road link. I also confirmed that I had matched unmatched addresses and improved all the estimated positions possible in the editable area by checking the address file. It is important that all integrated products are updated and are compliant to OS Specification as customers depend on it for their requirements. Once satisfied I ran the job completion validation routine.

I submitted the job back onto the OS large-scale database, MAIA, through JE, where it went through further validation ensuring the job conforms to OS specification to supply to customers.

3. The result

Using change intelligence data in an off the shelf GIS Package I was able to plan and allocate my workload to complete the task. I am tasked to survey all new developments within six months of completion and I achieved this in Pioneer Square by updating the topographic mapping data to current agreed accuracies and

specification. I also improved the address layer, drive restriction Information and small scales data making all data available to customers within agreed timescales and Service Level Agreements.

4. Lessons Learned

During the survey I picked up detail that would not be shown due to specification restrictions. This was mainly internal and rooftop car park data and in hindsight I should have consulted the DCEG earlier for clarification, which I will do in future, and thus reduced wasted effort and saved time.

I now know what can be shown and am much more knowledgeable about surveying complicated structures and the specification relating to them.

Competencies demonstrated in this case study

Technical competencies	Mandatory competencies
1.Mapping	GIS
2.Measurment of Land and Property	Geodesy
3.	Health and Safety
4.	Client Care
5.	Data management
6.	

Total Word Count: = 1995

Example

Record of Professional Development

Date	Professional Development	Hours
07/08/2013	<p>Activity type: Work Based Learning Purpose: To Develop my understanding of Health and Safety Procedures, particularly within the property of Bristol Port authority Description: - Attended Bristol Port Authority Health and Safety induction. I watched 30 minute video on staying safe in Avonmouth and Portbury Docks. After the video I had to take a test to show I had understood the content of the video which I passed. Learning Outcomes: I am now covered by Bristol Port Authority Health and Safety rules to work within the dock for three years from the date of induction. I now have knowledge of dockside markings and safe passage routes recognising warning sirens and their meaning, identifying areas of high risk and I can adjust my work methods to minimise the risk they can cause. These skills can also be transferred for H&S on other sites.</p> <p>Formal</p>	1 hour
01/06/2013 – 01/07/2014	<p>Activity type: Private Study Purpose: To improve my understanding of Health and Safety in areas outside of my direct business but which I may come in contact with carrying out my everyday tasks Description: Read RoSPA's Safety Express and TUC produced Hazards Magazines which are published every 2-3 months Learning Outcomes: Learned about incidents that have been reported over recent months the most relevant was a centre spread article on hazards on farms which put me on alert for potential dangers when working on farms. I also alerted this to colleagues through Union H&S reps. Learning Outcomes: I now have a better understanding of H&S Issues throughout industry both in Britain and abroad and can investigate legislation that may directly affect me. One particular article on safety on farms was extremely relevant.</p> <p>Informal</p>	6 hours
01/06/2013 – 01/07/2014	<p>Activity type: Private Study Purpose: To broaden my knowledge and understanding of issues throughout the RICS Family and putting what I do into perspective Description: Read Modus and Surveyor magazine Learning Outcomes: The magazines have helped in understanding more about what is going on in the world of RICS. I have read tips on how CPD can be more affordable, about Apps for phones that can help record times when working, a brief note about the new Eco town in XYZ which is in my area of interest, plus much more.</p> <p>Informal</p>	6 hours

26/09/2013	<p>Activity type: Structured learning Purpose: Being responsible for Information Description: The course provided me with useful information and advice to help me protect and share information safely and appropriately Learning Outcomes: I now understand how to protect and share information safely and appropriately. I also have also had an introduction to an understanding of aspects regarding fraud and bribery and how to avoid it Formal.</p>	1 hour
30/09/2013	<p>Activity type: Structured learning Purpose: Display Screen Equipment awareness Description: The course covered how I could set up a workstation, use computer equipment safely and looks after my personal welfare when working with DSE. Learning Outcomes: I have refreshed my understanding of how I can safely work at a workstation including, adjusting a chair for posture, setting the screen for height and distance and what breaks should be taken to alleviate eyestrain and repetitive strain. Formal</p>	1 hour
30/09/2013	<p>Activity type: Structured learning Purpose: Health and Safety Awareness Description: The course provided me with an understanding of health and safety and why it is important Learning Outcomes: I now have a better understanding of how to maintain a safe and healthy working environment, understand the roles and responsibilities of key staff e.g. line managers; TU safety representatives, safety committees I now understand our my Health and Safety responsibilities Formal</p>	1 hour
30/09/2013	<p>Activity type: Structured learning Purpose: Working safely as a Lone Worker Description: The course covered subjects that need to be considered when working alone Learning Outcomes: I have now refreshed my awareness of hazards that could affect my safety at work and how to plan it. I have also refreshed my understanding of how to set up my communication chain and Outlook Calendar especially regarding. emergency planning Formal</p>	1 hour
11/12/2013	<p>Activity type: Presentation Purpose: To improve knowledge of OS Specification in relation to Mapping and the Quality Process that is in place and how it is changing Description: Presentation by OS Specification team who gave an overview of specification and quality trends that have been noticed over the last year and how Accepted Quality Levels (AQLs) are set. Learning Outcomes: I now have a better understanding of what is required of me in respect of AQLs and how the quality of my work is assessed Formal</p>	1 hour

09/01/2014	<p>Activity type: Training Course Purpose: To enable me to produce Land Registry Plots in an improved format making it easier to produce and giving a better more consistent output Description: attended an OS run training session given by OS Staff on how to produce LR Plots using new methods and software application. The training included class room questions and answers sessions with practical demonstrations and hands on practice.. Learning Outcomes: I am now producing better quality easy to read Land Registry plots that are consistent with those produced throughout the business. . Formal</p>	1 hour
09/01/2014	<p>Activity type: Training Course Purpose: simplify how I notify my internal customer Small Scales Intelligence of changes to the Smalls Scales Data Base that is used in the production of our small scales mapping portfolio. Description: attended an OS run training session given by OS Staff on how to feedback small scales intelligence to our Head Office based team. Learning Outcomes: I am now producing intelligence updates that are easier to produce and in a more simplified method. Formal</p>	1 hour
03/03/2014	<p>Activity type: Presentation Purpose: Boundary disputes. Description: A presentation by a Legal Surveyor on boundary disputes and the difference between legal and physical boundaries. Learning Outcomes: I now have a better understanding of what constitutes a legal boundary. I also understand that property boundary disputes can be a drain on resources and are better resolved amicably rather than through litigation.. Formal</p>	1 hour
01/05/2014	<p>Activity type: Structured learning Purpose: Understanding how I show mooring jetties on a canal marina. Description: Read the OS online survey and edit guide to learn how to show detail in a solar farm due to a change in specification. Learning Outcomes: I used this information surveying a solar farm in Ambrosden, Oxfordshire. Informal</p>	1 hour
07/05/2014 – 08/05/2014	<p>Activity type: Course Purpose: Introduction to Employment law Description: A trade union perspective of Employment Law Learning Outcomes: I now understand the basics of Employment Law and what is deemed discrimination and the nine defined grounds and the difference between direct and indirect discrimination. I also my legal rights at work and the process of Industrial Tribunals and fees. Formal</p>	1 hour

12/05/2014	<p>Activity: Structured learning Purpose: Ordnance Survey Data and Edit Guide update Description: Ordnance Survey Data and Edit Guide update showing good practice for searching the guide with structured exercises using the guide. Learning Outcomes: I now have a better knowledge of the guide and more able to use the guide in a more effective way. Formal</p>	1 hour
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Example Only

03/07/2014	<p>Activity type: Structured learning Purpose; Read specification on how to show a Solar Farm Description: Read the OS online survey and edit guide to learn how to show detail in a solar farm due to a change in specification. Learning Outcomes: I used this information surveying a solar farm in Ambrosden, Oxfordshire. Informal</p>	1 hour
16/07/2014	<p>Activity type: Training Course Purpose; manual handling and safe lifting Description: Course on manual handling and safe lifting with references to looking after your back. Learning Outcomes: I understand the safe technique for lifting and weight .limit and will implement this knowledge in future Formal</p>	2 hours

Example

Associate Declaration

Application for assessment as an Associate Member of RICS

(This declaration must be signed by the candidate and the mentor/proposer)

Candidate to complete:

I have read, understand and undertake the following:

- to comply with the RICS Charter, Bye laws and Regulations as they now exist, or as they may in the future be amended and also to comply with such other requirements as Governing Council shall determine;
- to promote the objects of RICS as far as in my power;
- not at any time after ceasing to be a member to use or permit to be used in conjunction with my name, or name of any organisation with which I may at anytime be associated, any designation or expression denoting or suggesting membership or any connection with RICS
- to pay promptly any monies due to RICS, including but not limited to any fee, subscription, levy, arrears, fine or other penalty, or reimbursement in accordance with any scheme of compensation, or in respect of any goods or services commissioned by me from RICS
- To declare any criminal conviction within 30 days
- That should I wish to terminate my membership, to so signify in writing to the Chief Executive

I confirm the following:

- The work I am submitting for assessment is my own work and a true reflection of my experience, qualifications and development.
- I have disclosed any charge or conviction of a criminal offence where the penalty could be imprisonment, unless it is now a spent conviction, as provided in a rehabilitation of offenders Act 1974 or the equivalent in my jurisdiction.
- I have disclosed the full details of any pending disciplinary proceedings or adverse findings made against me by another regulatory body within the last 3 years.
- I have disclosed whether I am undischarged or bankrupt, or within the last 3 years have been subject to any insolvency proceedings or other arrangements with creditors in respect of my debts (such as insolvency voluntary arrangement)

I understand and accept that I am accountable for the truth of this declaration, that RICS reserves the right to interview me, or contact my mentor/proposer or employer as part of the Associate Assessment quality assurance process.

If at any time RICS discovers that I have failed to disclose any of the above or that I have provided false information it has the right to terminate my membership with immediate effect. (With no further obligation to refund any subscriptions or fees)

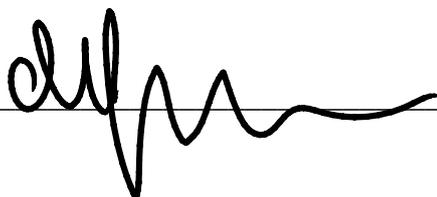
Candidate

Name (block capitals)

Membership Number

Firm Name

Signature _____



Date

Mentor/proposer to complete:

Candidate name

Candidate membership number

I, the undersigned, having read and understood the summary of experience, case study and professional development of the candidate. I can verify this is a true and accurate representation of the candidate's own work, training and experience.

All required documentation is present and has been prepared in line with the requirements of the RICS Associate Assessment process. The candidate has met the competencies for his/her chosen pathway as defined by RICS.

I, propose and support the above named candidate from professional knowledge of his/her professional competence and achievements as being a fit and proper person to be admitted as an Associate member of RICS.

I understand and accept that I am accountable for the truth of this declaration in support of the above named Associate candidate. I am aware that as part of the assessment quality assurance process, RICS reserves the right to contact me and the company I represent to verify any element of the application. Any false declaration may also result in my professional qualification and standing falling under investigation.

Mentor

Name (block capitals)

Membership Number

Grade of membership held with RICS

Firm Name

Signature

Date

Proposer

Name (block capitals):

Membership Number:

Grade of membership held with RICS:

Firm Name:

Signature

Date: