RICS Associate Assessment Submission Documentation

Candidate Name:	Hannah Collins
Membership Number:	1234567
Pathway:	Quantity Surveying and Construction
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	☐	Hearing	☐
Access	☐	Speech	☐
Visual	☐	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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Contents

Associate Getting Started

Membership of RICS gives you a genuine competitive advantage in your career and is highly regarded by employers and clients around the globe. Becoming an RICS Associate (AssocRICS) provides the opportunity, if you have relevant work experience or qualifications (or a combination of the two), to enhance your status and gain the recognition you deserve.

This documentation must be completed with reference to the Associate candidate guide and your relevant pathway guide.

Introduction

For the Associate Assessment, you are required to complete all the relevant templates within the Associate Submission document to demonstrate your competence for your specific role. You must submit the whole document electronically in a PDF format.

You must provide the following written evidence:

- Summary of experience against required competencies for your chosen pathway
- Case study
- Record of professional development

This document provides the templates you need to complete to provide the assessor with the information, evidence and documents they need to assess you.

Submission templates

This submission document must be completed by all Associate candidates; it is made up of 7 templates. The purpose of each template is outlined below:

Candidate details and **checklist**

Purpose - to supply basic information about you and to ensure you include all the relevant documents for your Associate Assessment.

Summary of Experience - Mandatory competencies

Purpose - to confirm you have achieved the defined level of mandatory competencies for your chosen pathway. (1000 words in total) You are not required to write Conduct rules, ethics and professional practice because you will demonstrate this by completing the RICS ethics module and test.

Summary of Experience - Technical competencies

Purpose – to provide a record of the experience you have gained in relation to **SIX** technical competencies for your chosen pathway. (2000 words in total).

Case Study

Purpose – to illustrate your level of professional practice. The focus of the case study must be on one recent project that enables you to show what involvement you have had in the project, what support you provided and what decisions you took and why. The project you choose should allow you to demonstrate at least TWO technical competencies. (2000 words in total)

You may attach supporting documents to your case study such as illustrations, calculations or plans.

Professional Development Record

Purpose - to capture all your professional development you have completed over the past 12 months. (A minimum of 24 hours). If you are a referred candidate this will need to be updated to reflect the professional development you have completed since your last assessment this should be 2 hours per month since you last took the assessment.

Associate Declaration

Purpose - to confirm you and your mentor have read, agreed and signed the Associate Declaration.

For Referred Candidates ONLY

Associate Referral Report

Purpose – to confirm you have attached a copy of your Associate Referral Report, this is so the Associate Assessors can see the areas that you were told to develop further in your previous assessment.

Please note if you are submitting within 12 months of your last assessment then you only need to amend the competencies you were referred on.

Please ensure you follow the instructions in each section and do not exceed the word count given as this may result in your submission being returned. Please do not include the Associate Getting Started section within your submission.

Candidate details and checklist

1. Candidate details

Candidate Name:	Hannah Collins	
Candidate Number:	1234567	
Date of Birth:	XXX	
Pathway	Quantity Surveying	
Number of years of relevant experience:	4 years	
Do you have relevant qualifications?	Yes [X] No [ ]	
If 'YES' to either of the above, what subject?	BSc Quantity Surveying (First Class Honours)	
Employer/organisation:	XXX	
Mentor:	Name XXX	RICS Membership Number XXX
Month and Year of Assessment:	April	2015
Any Special Considerations:	No	
Previously Referred at Associate:	No	N/A
Case Study Title :	*XXX ESTIMATE*	

2. Checklist

Associate Submission	**Candidate (enter 'X' to confirm complete – if referred only indicate the templates that you have updated for re assessment)**	**RICS (office use only)**
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

There are eight mandatory competencies – these are the 'softer' skills that all responsible practitioners need, regardless of their RICS pathway. Please refer to your Associate pathway guide for the details of the mandatory competencies. These competencies are essential: they demonstrate your ability to work with colleagues, meet client requirements, manage your own work and act with honesty and integrity. Please provide a brief example for each to demonstrate you have met each of them in the relevant box below. You are not required to write about Conduct rules, ethics and professional practice because you will demonstrate it by completing the RICS ethics module and test. **Please note you have a 1000 - word limit in total.**

Mandatory Competencies	Summary of how you meet competency requirements
Client care	The majority of my work comes from repeat business with existing clients and therefore providing a professional service is essential. Having clear lines of communication is paramount in understanding exactly what the client expects and aids me to consistently exceed the clients' requirements. Throughout the projects I work on I keep an ongoing dialogue with the client on deliverables of the team, this helps XXX to provide the correct grade of surveyor to meet their needs. I work with range of clients including government, local authorities, Highways England and contractors. By providing efficient services to these I help build a good reputation for XXX in a variety of regions with a wide range of clients thus creating opportunities for new business. At the end of each project the client is sent a feedback form with which they can communicate their satisfaction or otherwise with my performance. This helps to continually improve the standard of my work in line with peer driven reviews.
Communication and negotiation	Effective communication is a key skill requirement to be successful in work situations. A lot of my communication is done via e-mail as it is an efficient way of contacting a number of people simultaneously whilst also providing a clear record of correspondence. Sometimes it is difficult to convey or understand specific requirements via an e-mail and where this is the case telephone conversations or face to face meetings, if practicable, can be invaluable in removing ambiguity and giving clarity of instructions. I often use a combination of these methods to ensure clarity with regards the requirements of the client and to get my point across. This helps reduce the likelihood of conflict arising and ensures that everyone is working towards the same goal and that needs are met. I also issue formal communications to clients in the form of cost plans, letters and valuation certificates When negotiating, whether it be dispute or transaction based I endeavour to utilise principled negotiation techniques over positional.
Conflict avoidance, management and dispute resolution procedures	My final year dissertation addressed the possibility of using Dispute Boards on XXX Government Projects. Whilst carrying out research for this I became familiar with the many avenues available in the field of dispute resolution starting with negotiation, mediation, adjudication, arbitration and through to litigation.

	I mainly work within civils and heavy engineering and as a result the contract of choice is predominantly the XXX suite of contracts. This uses Early Warning Notices and Risk Registers as ways to identify potential disputes and mitigate the likelihood of them occurring.
Data management	I am IT literate and regularly use Microsoft Office in my daily work. Other software I use regularly is RIPAC for bill of quantity production, RIB for estimating and AutoCAD for measuring from and viewing contract drawings. One of the projects I am currently working on utilises 4 Projects for the management of project data. All drawings, specifications etc. are uploaded and stored on the system. The data is accessible to individuals working on the project who have been invited to join it by the administrator of the group only. I utilise the software for issuing payment certificates and Professional Service Contract reports. The certificates and reports are based on standard company templates.
Health and safety	The Health and Safety Act 1974 is a key piece of legislation for the industry. The CDM regulations are compulsory for all projects I work on and have recently been updated and came into effect on the XXX. Transitional arrangements have been put in place for projects started prior to this date and continuing beyond it. Before retraining as a quantity surveyor I worked as a shuttering carpenter and was a ganger on some jobs. Given the nature of the work which includes working at heights, cranes and heavy machinery operating in close proximity, heavy formwork and rebar, I frequently had to liaise with Health and Safety representatives and senior management on site to ensure safe working conditions were maintained at all times e.g. ensuring work was carried out in line with Risk Assessment Method Statements. The work I have done on rail projects has raised my awareness of the strict health and safety measures required on these. For example the requirements in relation to Positions of Safety when working trackside.
Sustainability	Sustainability is a key consideration in the heavy civils and infrastructure work I am involved in. As an example a lot of highway schemes I work on, which are located nationwide, are utilising SuDS as part of the drainage solution. Routes for road schemes consider the impact it will have on the local economy by driving inward investment and attracting businesses. One current scheme I am involved in is considering utilising locally sourced PFA as fill material for the central core for a reinforced earth structure. Also increasingly concrete central barriers are being used on new highway schemes as well as replacing steel barriers which have reached the end of their life cycle. They have a life cycle which far exceeds that of a steel barrier.
Teamworking	Effective teamwork is key to successfully completing a project. The different skills provided by varying individuals when utilised effectively can create a formidable team working environment. The bill preparation work we do can be extensive, have a variety of packages and require a quick turnaround. This makes it impractical for one individual to carry out all the work. Usually a number of us will work simultaneously on a project. Generally one person will manage it and liaise with the client. I will work on a specific package of work but will be in constant communication with my colleagues to ensure that we are not duplicating work and that we pick up all items. As part of this process I also liaise with members of the clients' team including engineers and estimators. On projects like the XXX a lot of people in a variety of locations were working together to complete the work. We held meetings frequently to ensure progress was sufficient and deal with any issues that arose.

Summary of Experience – Technical Competencies

Your summary of experience should be no more than 2000 - words in total.

Technical Competency	Summary of Experience
1. Construction Technology and Environmental Services	I have recently worked on a number of XXX. The majority have been at XXX stage 2 or 3 where feasibility and option selection are the main outputs. As a result design is limited at this stage. The project then moves onto XXX Stage 4 – Single Option development where outline design is carried out. Then at XXX stage 5 – Detailed Design, the full design is developed to which the project will be built. On one of the highway schemes I have worked on the abutment walls varied considerably in height across the scheme and the designers put forward two separate solutions. • <u>Traditional insitu abutment and wingwalls</u> This option was preferred when the height of the abutment wall did not exceed 1m. This was because the formwork could be constructed utilising timber instead of PERI pans reducing the requirement for a crane to be constantly present. This helps to mitigate the extra cost of casting a 1 -1.5 m wide abutment wall • <u>In situ columns with reinforced earth retaining walls</u>. This option was utilised once the abutment wall height exceeded 1m. Constructing the abutments with in situ columns, reinforced earth and precast panels above this height was far more economical from both a time and cost point of view. During preliminary design at key stage 3 of a contract I was involved in two solutions were considered for piling. Bored Cast-in-place piles and Precast concrete. The site was situated in docklands which had heavy industrial use in the past. The precast solution was favoured for a number of reasons with the main ones being: • The cast in place piles would require sleeves to protect the concrete whilst curing from any sulphates or other harmful chemicals in the ground whilst the precast could be pre-treated. • The disturbance and removal of material from the site was to be kept to a minimum and the driven precast piles facilitated this.
2. Contract Practice	XXX were approached by a client in respect of a road scheme they were carrying out for XXX County Council (XXX). The contract utilised on the project is the XXX Engineering and Construction Contract, Option B: Priced Contract with Bills of Quantities. The Bill of Quantities had been produced in accordance with the Method of Measuring Highways 4 (MMHW4) and accompanying preambles. I raised a number of compensation events based on errors and omissions with

	the original bill and issued them on behalf of the client to SCC in line with contractual procedure. On receipt of a project manager's instruction where they agreed that a compensation event had occurred I responded by compiling a rate for the work in line with the contract. For example when the rate was to be based on Defined Cost I had to utilise the information contained in Contract Data Part 2: Shorter Schedule of Cost Components in order to build up the rate. This included the percentage for people overheads, hourly rates for staff, equipment rates etc. I am currently engaged as a Cost Consultant for a scheme utilising a XXX Option C: Target Cost Professional Service Contract. The contractor submits valuations on a monthly basis in line with the contract. I assess these applications and agree a valuation prior to the issuing of a payment certificate.
3. Procurement and Tendering	XXX assisted a contractor tendering for a project which was being procured in line with the Official Journal of the European Union (OJEU) rules and regulations. Due to the contract size it was advertised in the Supplement to the OJEU in line with statutory requirements. On behalf of XXX I assisted the contractor to develop their tender. I raised some queries on their behalf based on errors and omissions in the contract documents. I have also been involved in the tender appraisal of a highways scheme using the Early Contractor Involvement procurement route. The scheme did not form part of a framework and was competitively tendered. The contract is the XXX Option C: Target Cost. My involvement included the appraisal of the Activity Schedules and the Risk Register. The tender is being scored on a 70:30 split between technical and financial respectively. For the Activity Schedules each contractor was issued with the same template containing common activity headings. The contractors populated this template with named staff and provided C.V's, as well as generic staff grades and included the amount of hours projected to be spent on each activity by each person/grade. On receipt of the completed schedules I worked out an average of the total hours and also the hours spent against each individual activity based on the submissions. I then flagged up whether a tenderer was either above 130% or below 70% of the average. I also considered how many staff were named and what percentage of hours were attributed to them and compared this with the amount of hours allocated to generic staff grades. A Risk Register was issued to the contractors containing some standard project risks. Each contractor had to allocate ownership to the risks listed whilst also adding risks of their own and apportioning ownership. They were also requested to score the risk on a matrix based on probability of occurrence and cost impact My review focused on how the contractor apportioned the risks between the parties and the number of new risks identified. I also identified how many risks had a cost risk score of greater than 10. Upon completion of my review I compiled a narrative of the salient points and submitted them to our client for use in their report. The next phase of the tender assessment will be based on price.
4. Project Financial Control and Reporting	Currently XXX is engaged as Cost Consultants by the Employers Agent for XXX Government on a highways project using the XXX: Target Cost contract. The contractor submits their application for payment on a monthly basis, accompanied by supporting information including signed timesheets and invoices. On receiving the application I undertake a review by cross checking it with the supporting information. I also ensure that the correct rates are being applied to personnel in line with submitted tender rates. In line with the contract Early Warning Notices can be raised. On receipt of these I assess and allocate them to a category and include the corresponding Professional Services Contractor Compensation Clause against it. If there is a cost implication and it has not already been issued as a Compensation Event I estimate a value for it. When the report is issued this figure is reflected in a

	potential Target Cost. On completion of these tasks the updated report and payment certificate are issued to the Employers Agent and the XXX Government for approval. I also report on earned value based on actual progress every month and signify CPI and SPI. Furthermore I have assisted Network Rail to perform a review of costs in relation to a number of projects. I was tasked with the authentication of costs for labour only subcontractors. I was provided with the relevant documentation in order to facilitate a thorough review including the subcontract, XXX: Engineering and Construction Short Subcontract as well as the signing in and out register weekly timesheets and invoices from the relevant agencies. I began by cross referencing the agreed rates in Contract Data Part 2 with those shown on the invoices to ensure that they corresponded. I then cross referenced the register, timesheets and invoices to ensure that the client was only paying for staff that were working on their projects. They were then cross referenced to ensure that the correct amount of hours was being paid for i.e. they should all indicate the same number of hours worked for each individual worker. Whilst reviewing the documents I assembled a list of anomalies and issues and upon completion I compiled the section of the report on labour only subcontractor costs which along with the other sections was issued to Network Rail. This report would be used as a basis for determining actual costs incurred by the contractor in line with the contract on the projects to date.
5. Quantification and Costing of Construction Works	I am involved in the production of XXX (XXX) for a range of clients and have worked on a variety of schemes. I have produced BoQ for highways, waste water treatment works, energy from waste plants, flood relief/defence schemes, rail infrastructure and dock schemes. The main method of measurement I use for these works is MMHW4 on Highways and CESMM4 on infrastructure. Once a work package has been received I assess the information provided and liaise with the client's engineers with regards any queries I have. This helps to ensure I have all the information required to complete the measurement in line with the prescribed method of measurement such as pavement construction types, concrete grades, pipe diameters etc. I have completed take offs for all the Series contained in MMHW4 and Classes under CESMM4. For example on the M3, M73 and M74 motorway improvement scheme I measured road lighting and electrical works, road restraint systems, kerbs and footways and a number of structures. I also carried out measurement checks on drainage and pavements. I transcribe measurement notes also on each work package I carry out to clarify what I have used to complete the measure e.g. drawings and specification used and on occasion any assumptions I have had to make. I was recently involved in the measurement and costing of work for land remediation. The measurement was carried out in accordance with CESMM4 and a bill of quantities was produced based on this measure. The work mainly consisted of earthworks operations and installation of drainage and ventilation pipes. On completion of the measure I built up rates from first principles i.e. labour, plant, material, subcontractors, profit and overhead where possible. The project was at a very early stage of design and complete information was not available on some work items, where this was the case provisional sums were utilised.
6. Design Economics and Cost Planning	As part of my duties I put together cost estimates for clients. As an example I put together a budget cost estimate for XXX City Council. There were two options put forward for the scheme. Due to the fact that the scheme was still at the option selection stage there was

	very little design information available from which to produce an estimate. I was provided with a single drawing for each option which was broken down into six separate areas based on location. These gave a very simple overview of the works required. To gain a better understanding of the requirements of the scheme I went on a site visit prior to carrying out the measure and estimate. As far as possible the measurement was conducted in accordance with MMHW4. Once the measurement was finalised I began to price up the various element using historic data and BCIS rates. For plant rates I consulted XXX. All prices and rates where then adjusted for date and location. Q2 XXX was used as the base date. As no detail was available with regard to Accommodation works this was included as a lump sum based on a percentage of the works. Similarly as no construction programme, information on phases or availability of work areas and constraints were provided Preliminaries were included as a lump sum based on previous similar schemes. The estimate included for construction costs only and no allowance was made for costs associated with land, compensation to business owners, design supervision, risk etc. Once the estimate was complete I assisted in preparing the report which outlined the total costs for each option as well as a breakdown of costs for each separate area within the options. As these areas were consistent between both options this gave BCC the opportunity to carry out some value engineering by substituting a more cost efficient area from one option to the other in order to utilise the budget efficiently.

Case Study

Submit one case study of **2000** words. The focus of the case study must be on one specific project you have been involved in recently. If possible select a project you have worked on in the last 2 years. The project you choose **MUST** allow you to demonstrate at least **TWO** technical competencies from your chosen pathway, and how you used the competency skills

Case study title – *XXX (XXX) XXX*

1. Context / Introduction

The office I work from undertakes a lot of Infrastructure and heavy civils work. In my time there I have produced contractor's bills for a variety of roads schemes as well as for some water treatment plants, energy from waste plants, flood mitigation schemes and docks. As well as this I have gained experience in audits, and have put together estimates for some highway schemes and land remediation as well as working on a number of rail projects.

The project I have chosen for my case study is the XXX. The scheme covers the electrification of the railway from Cardiff into the surrounding XXX to areas including but not limited to XXX, XXX, XXX, XXX, XXX, and XXX,. It also includes works to the XXX between XXX and XXX. Included in the scheme is the electrification of approximately 345 km of track, extensive work to existing structures including 44no. of reconstructions and 23 no. bridge jacking, extension of platforms, as well as other civils and associated works required to facilitate electrification. The current estimated cost for the delivery of the scheme stands at circa £XXX million.

Due to the requirements of overhead cabling and new clearance heights a number of structures on the scheme would be required to be demolished and rebuilt. My role in this project consisted of producing estimates for the reconstruction of these structures including road bridges, footbridges and pipe bridges.
The main technical competencies covered by this project are:

- Quantification and Costing of Construction Works
- Design Economics Cost Planning

And to a lesser extent

- Construction Technology and Environmental Services.

2. The Approach

The company I work for was approached by XXX (XX) with a view to updating the previous Governance for XXX (XXX) 2 estimate for the electrification of the XXX Lines to a XXX 2+ which would be used as a basis for an authority to proceed with the project based on a sound business case. XXX had been set a deadline of December 2013 to update the XXX Government on the scope, estimated cost and programme options for the delivery of the project. The project key stakeholders are XXX Government, the Department for Transport, XXX, XXX and Head of Strategy and Planning XXX.

The service provided involved preparing estimates for a large variety of work including but not limited to Overhead Line Electrification (OLE) structure and wiring, signalling works, extension of platforms, lowering of the tracks, jacking bridges and reconstructing bridges. I became involved in the project towards the end of October 2013. The main role I performed was in relation to providing estimates for the reconstruction of bridges.

Initially we were provided with a list of structures which did not have the required clearance to accommodate the OLE structure and equipment. For some structures based on their age, location or other mitigating factors only one engineering solution was practical. For others however a number of techniques could be applied e.g. track slew, track lower, jacking or reconstruction, and where this occurred XXX required us to provide estimates for all possible solutions so as to identify the most cost effective.

The scheme covers a large area and as a result there was a variety of bridges of different construction and varying clearance to assess. To rationalise this XXX's designers came up with a short list of five bridge construction types which could be applied scheme wide. They were as follows:

- Type 1 – Steel Footbridge for spans of less than 20m
- Type 2 – Steel Truss Footbridge for spans of greater than 20m
- Type 3 – Filler Beam Over bridge for spans of less than 12m
- Type 4 – Precast Prestressed Concrete for spans greater than 12m
- Type 5 – Conarch

A senior colleague and I compiled a template for estimating the two different types of footbridge reconstruction. This template was set up so that once the deck areas of the bridge were inputted the estimate would update automatically. XXX provided me with historical survey data for as many structures as possible but these did not always contain the span of the structure to allow me to ensure the bridge was classified correctly or decks lengths and widths to calculate the area. Due to the number of structures involved and the timeframe we had to work in, a site visit to each structure was impractical. XXX provided me with a detailed interactive map showing locations and coordinates of each structure. This allowed me to utilise satellite imagery to assess the span and deck area as well as any other factors in the surrounding area which may affect the reconstruction of the bridge i.e. a difficult to reach location may increase preliminaries.

I was tasked with locating these footbridges and ensuring that the correct construction type was applied. I also had to verify or calculate the deck area for each individual bridge depending on the quality of the information provided. As alluded to above, I also assessed the surroundings of each bridge and what likely effects this may have on the estimate. For example, whilst the majority of footbridges utilised stair access to each side some locations were accessed directly from the street and therefore, whilst not requiring two new stairs for access, they would require some minor works at the street level to tie in the new structure. Due to the large number of structures to be quantified I created a file structure which rationalised the storage of the completed estimates by type and location for ease of reference. This file structure was used for all further measurement and estimating work carried out on the project. Once the file structure had been completed I produced copies of the original excel based templates for each individual structure completing each structure as I went. On completion of all the estimates I transferred the final figure to a master document to allow comparison against the other possible solutions.

On completion of the footbridges I was given the responsibility of measuring and estimating the three distinct design types for overbridges. Templates needed to be prepared for each separate bridge type based on drawings provided by XXX's designers and relating them to structures from the scheme for each type of reconstruction as a base. These were measured as much as possible in line with the Rail Method of Measurement Volume 1: Cost Planning which was in draft format at the time of carrying out this work. As this was a new method of measurement for me I carried out some practice take offs in line with the method before carrying out any formal take off. I worked on the formulation of these templates alongside a colleague of mine who was more familiar with this method of measurement. The measurement included quantification of earthwork, structural elements i.e. precast concrete items, structural decks, surface finishes, reinstatement of carriageway and other elements. (See Appendix A section 5.7 for an example of a completed measure)

The templates were set up in such a way so as by inputting a small number of variables the estimate would update automatically. These included the following:

- Span
- Total length
- Deck Length
- Total Width
- Width Between Parapets (new)
- Parapet Thickness (existing)
- Parapet Thickness (new)
- Footway Widths

Once the structure itself was measured I had to look at what effect the raising of the bridge would have on the approaches. (See appendix A section 5.3 for an example of a completed estimate for the approach work)

Similarly to the footbridges we used satellite imagery to assess the immediate surroundings. Our templates used bridges with a large variety of work to approaches so that the number of new items requiring rate build up would be kept to a minimum when assessing the rest of the structures. The approach work was largely affected by how much the structure had to be raised up for clearance and by location i.e. urban, rural or semi rural.

On completion of the measure I worked in conjunction with a colleague to compile the rates for the estimate. These rates came from a variety of sources including XXX's Internal Cost database, XXX's own cost data base and previous schemes. These were all adjusted for base date and location. Once this was completed the three templates were reviewed by other senior staff in XXX to ensure the measure was comprehensive and accurate and that the rates used were appropriate.

Once the review was complete I once again located the structures as per the list provided by XXX and used data provided from surveys in conjunction with satellite imagery to compile the variables mentioned in the description of the measurement above to complete the measure and estimate for the reconstructed bridges (See Appendix A for a sample XXX). I then began to assess the work required on the approaches to the bridge. This varied quite a lot from one structure to another and on how much the structure had to be raised to facilitate the required clearance. For example some structures were located in a rural setting with a shallow gradient on the approaches and required very little work. Whereas others were located in urban areas with steep gradients on approach and residential buildings in close proximity or beside a roundabout etc. therefore requiring a large variety of work items to be considered. If new items were raised and required new rates I would compile the rate as before using XXX's Internal Cost database, XXXs cost data base and previous schemes. BCIS and CECA rates were also used when required.

The next step was to compile costs for preliminaries for each structure. Working in conjunction with a colleague we created templates for calculating costs of general preliminaries (see Appendix A Section 5.5) and temporary works (see Appendix A Section 5.6). We then went through a number of structures to ensure that the template was comprehensive. A lot of the cost was based on how long the reconstruction would take, location, if road closures were required, if simple traffic diversions could be put in place and proximity to other structures which could share preliminary costs. I then assessed the balance of the structures with regards preliminaries. To finalise the structure estimates I imported the figures for service diversion into my spreadsheet. The service diversion estimate was carried out separately by another colleague experienced in this type of work. Again like the footbridge estimates I transferred the final figure to a master document to allow comparison against the other possible solutions. The completed comparison spreadsheet and report was sent to XXX for consideration.

XXX reviewed our structure estimate comparison and compiled a final list detailing the preferred solution for each structure. Also the designers, who we liaised with throughout the project, came up with a solution which led to a reduction in the required clearance and thus reducing the number of structures requiring adaptation.

This resulted in me having to review the final list of structures and update the estimates to reflect the change in clearance requirements. This also led to a reduction in work required to some of the approaches.

I attended a number of meetings with XXX throughout the process, where I would report on progress and show examples of prepared estimates and estimate reports. These meetings were used to ensure that we were continually meeting the requirements of XXX in relation to the detail and content of each portion of the estimate for the project. They were also used to discuss the structure of the report and to establish layout and content requirements.

On completion of the reconstruction estimates XXX requested a detailed breakdown of the 10 most expensive reconstructions which I had to breakdown into the following costs: Construction, Approach Work, Parapets, Service Diversion and Preliminaries. This allowed them to see exactly where the costs sat and if they could be value managed.

As the project came to an end I assisted in compiling information for the report. This included inputting various estimates into RIB estimating software and compiling finished estimates into master spreadsheet to facilitate comparisons. I also checked the parapet measure and XXX for structures which was prepared by a colleague of mine. We then attended a final meeting to review the estimate and its content with XXX before it was issued to WG for consideration.

3. The result

I worked as part of a team which produced a robust and comprehensive report for one of the marquee infrastructure projects in the pipeline in XXX and which was for consideration at the highest level of the XXX Government.

4. Lessons Learnt

I learnt how to measure in accordance with a new method of measurement as well as developing my knowledge of the stages of a project as defined by XXX protocol. Working on this project taught me about the detail and resources required to produce quality estimates and has lead me to become more proficient in producing thorough estimates. I also learnt the importance of constant reappraisal of a project and its variables to gain best value for money for a scheme.

Competencies demonstrated in this case study

Please insert the technical and mandatory competencies demonstrated in this case study.

Technical competencies	Mandatory competencies
1.Quantification and Costing of Construction Work	Client Care
2.Design Economics and Cost Planning	Communication and Negotiation
3.Construction Technology and Environmental Services	Data Management
4.	Teamworking

5.	
6.	

Total Word Count: = 1907

5.1 SUMMARY			
Direct works		**£/m2 deck area**	**£/m2 bridge area**
Area		308.09m2	287.76m2
Bridge reconstruction	£ XXX	£ XXX	£ XXX
Environmental issues	£ XXX	£ XXX	£ XXX
Approaches	£ XXX	£ XXX	£ XXX
Services diversions	£ XXX	£ XXX	£ XXX
Prelims general	£ XXX	£ XXX	£ XXX
Prelims temporary works	£ XXX	£ XXX	£ XXX
Total	**£XXX**	**£XXX**	**£XXX**

5.2 CONSTRUCTION

Specification/Description	Quantity	Unit	Rate	Total
WORKS NOT INCLUDED ELSEWHERE				
Normal Hours (Unless Otherwise Stated)				
General site clearance	1	item	2,500.00	2,500.00
Demolish bridge deck and parapets; prepare for new work including abutments (54 hour possession)	1	item	80,000.00	80,000.00
Excavate fill behind abutments	31	m3	135.00	4,185.00
Disposal of excavated material	31	m3	Inc	0.00
Import 6N/6P material to structures	31	m3	131.00	4,061.00
Loose laid waterproofing membrane; geotextile layer above and below	181	m2	12.00	2,172.00
Remedial works to existing masoXXXy abutments/ pier	1	item	53,000.00	53,000.00
ABUTMENTS AND PIERS				
54 hour possession (unless otherwise stated)				
Supply precast concrete sills	37	m3	830.00	30,710.00
Place precast concrete sills including dowels and grouting	3	XXX	1,564.00	4,692.00
Bearing strip	80	m	75.00	6,000.00
DECK				
54 hour possession (unless otherwise stated)				
Supply and install precast concrete filler beam deck	128	m3	3,150.00	403,200.00
Deck concrete (capping slab) (normal hours)	21	m3	137.00	2,877.00
Surface finishes (normal hours) (normal hours)	300	m2	5.00	1,500.00
In-situ concrete stitches including silicone retention strip	163	m	50.00	8,150.00
Ducts cast into concrete (allowance - say 10XXX) (normal hours)	218	m	20.00	4,360.00
PAVINGS AND SURFACING				
Normal hours (unless otherwise stated)				
Excavate tarmacadam	119	m3	66.00	7,854.00
Disposal of excavated material	119	m3	Inc	0.00
ST2 concrete base to pavements	37	m3	150.00	5,550.00
Pavings to match existing (tarmac wearing and base courses)	113	m2	15.00	1,695.00
Road sub-base; 150mm deep	6	m3	34.00	204.00
Mobilisation & demobilisation (road & pavement surfacing)	1	item	1,390.00	1,390.00
Tack Coat	343	m2	0.25	85.75
Roadbase 200mm Dft cl 905 (abutments - assumed)	41	m2	28.00	1,148.00
Basecourse 100mm	230	m2	16.00	3,680.00
Wearing course 50mm	230	m2	13.00	2,990.00
Saw cut wearing course; fill with rubberised bitumen	17	m	10.00	170.00
Tie into existing c/way (either end)	1	item	Inc	0.00
Road markings (allowance)	1	sum	1,500.00	1,500.00
Break out existing kerbs	54	m	13.00	702.00
Lay kerbs straight with concrete haunch	54	m	17.50	945.00
Waterproofing (spray applied)	322	m2	10.00	3,220.00
FURNITURE AND LIGHTING				

Normal hours (unless otherwise stated)				
Remove, store and subsequently reinstate Belisha beacons	2	XXX	1,000.00	2,000.00
DRAINAGE TO STRUCTURES				
Normal hours (unless otherwise stated)				
Cut holes in existing masoXXXy for 150mm diameter pipes	4	XXX	215.00	860.00
150mm perforated drain; encased in no fines concrete	26	m	50.00	1,300.00
Rainwater pipes; cast iron (say 4m long)	4	XXX	1,700.00	6,800.00
			TOTAL	XXX

5.3 APPROACHES

Specification/Description	Quantity	Unit	Rate	Total
WORKS NOT INCLUDED ELSEWHERE				
Normal Hours (Unless Otherwise Stated)				
Remove Existing Fence	114	m	17.00	1,938.00
Prepare existing retaining wall for new extension	20	m	50.00	1,000.00
Demolish brick wall and prepare foundations to receive new retaining wall	29	m2	107.00	3,103.00
Alterations at junction North of Bridge	1	item	120,000.00	120,000.00
Alterations at domestic entrance South of Bridge	1	item	25,000.00	25,000.00
Retaining walls - say 1m high extension to existing walls	20	m	300.00	6,000.00
Fencing	114	m	104.00	11,856.00
EARTHWORKS				
Filling to embankments - assume Type 1	421	m3	66.00	27,786.00
PAVINGS AND SURFACING				
Normal Hours (Unless Otherwise Stated)				
Excavate tarmacadam	263	m3	66.00	17,358.00
Disposal of excavated material	263	m3	Inc	0.00
Pavings to match existing (tarmac wearing and base courses)	217	m2	15.00	3,255.00
Road sub-base; 150mm deep	211	m3	34.00	7,174.00
Mobilisation & demobilisation (road & pavement surfacing)	1	item	Inc	0.00
Roadbase 200mm Dft cl 905	974	m2	28.00	27,272.00
Basecourse 100mm	974	m2	16.00	15,584.00
Wearing course 50mm	974	m2	13.00	12,662.00
Tie into existing c/way (either end)	1	item	4,000.00	4,000.00
Road markings (allowance)	1	sum	500.00	500.00
Break out existing kerbs	114	m	13.00	1,482.00
Lay kerbs straight with concrete haunch	114	m	17.50	1,995.00
FURNITURE AND LIGHTING				
Normal Hours (Unless Otherwise Stated)				
Remove, store and subsequently reinstate street lighting	5	XXX	1,250.00	6,250.00
Remove, store and subsequently reinstate road signs - one or two posts	4	XXX	750.00	3,000.00
DRAINAGE				
Normal Hours (Unless Otherwise Stated)				
Re-align road drainage including road gullies; connect to existing at either end; remove redundant pipes and ancillaries	0	m	50.00	0.00
			TOTAL	XXX

5.4 SERVICE DIVERSION BREAKDOWN	
Service Diversions	**£**
Telecoms	
Gas	
Electricity	
Water	
Sewage	
Allowance for temporary diversions	
Allowance for re-alignment of services in approaches (Built Up Separately by another surveyor)	304,888.00
TOTAL	XXX

5.5 PRELIMINARIES BREAKDOWN

Description	%	Quantity	Unit	Rate	Total
PROJECT INFORMATION					
Project Duration:		26	Wks		
SITE ESTABLISHMENT					
Office Equipment					
Mobilisation	100%	1	Item	5,000.00	5,000.00
Demobilisation	100%	1	Item	2,000.00	2,000.00
Offices/Cabins	80%	26	Wks	100.00	2,080.00
Drying Room	80%	26	Wks	100.00	2,080.00
Toilets	100%	26	Wks	150.00	3,900.00
Mess Room/Canteen	80%	26	Wks	100.00	2,080.00
Stores	80%	26	Wks	50.00	1,040.00
Artificial Lighting And Power	80%	26	Wks	175.00	3,640.00
Consumables	80%	26	Wks	150.00	3,120.00
Phones, Fax, Copier (etc)	50%	26	Wks	150.00	1,950.00
Services Connections (Water/Electricity (etc))	50%	1	Item	2,500.00	1,250.00
Administration	50%	26	Wks	125.00	1,625.00
Site Transport (Vans (etc))	100%	26	Wks	250.00	6,500.00
Insurance	2%		Works Cost	649,501	12,990.02
General Plant	100%	26	Wks	500.00	13,000.00
Security	100%	26	Wks	1,000.00	26,000.00
				Sub Total	XXX
				Say	XXX
CONTRACT SUPERVISION					
Normal Working (On & Of Site)					
Project Manager & Car	20%	26	Wks	2,500.00	

					13,000.00
Agent & Car	20%	26	Wks	2,000.00	10,400.00
Engineer & Car	40%	26	Wks	2,000.00	20,800.00
Foreman & Car	100%	26	Wks	1,500.00	39,000.00
QS & Car	25%	26	Wks	2,000.00	13,000.00
Technical Officer	25%	26	Wks	1,500.00	9,750.00
Weekend and Mid Week Night Working					
Project Manager & Car	20%	120	Hrs	75.00	1,800.00
Agent & Car	20%	120	Hrs	65.00	1,560.00
Engineer & Car	50%	120	Hrs	55.00	3,300.00
Foreman & Car	100%	120	Hrs	40.00	4,800.00
QS & Car	0%	120	Hrs	40.00	-
Technical Officer	0%	120	Hrs	35.00	-
				Sub Total	XXX
				Say	XXX
SITE RENTAL/COMPENSATION					
Rental		26	Wks	500.00	13,000.00
Legal Fees Land Agent/XXX		1	XXX	1,500.00	1,500.00
Environmental Mitigation Measures					
				Sub Total	XXX
				Say	XXX
METHOD RELATED PRELIMINARIES					
Temporary Haul Road(s) (Average 4 m Wide) TRACKWAY		100	m	90.00	9,000
Site Compound		600	m2	25.00	15,000
Access Ramp(s)	100%	1	Sum	4,000.00	4,000
Scaffolding (Measured Works)	100%	0	Wks		
Lighting	100%	0	Shift		
Temporary Cable/Service Bridges (Measured Works)	100%	0	Sum		
Traffic/Pedestrian Management	100%	26	Wks	3,000.00	78,000
Temporary Works Design Checks	100%	1	XXX	1,000.00	1,000
Temporary Fencing (Site Compound)	100%	120	m	15.00	1,800
Temporary Protection Of Utility Services	100%	30	m	100.00	3,000
Attendance On Other Sub-Contractors	100%	1	Sum	5,000.00	5,000
Temporary Protection Of Tracks	100%	0	Sum		
Temporary Foundations For Crane Outriggers	100%	1	Sum	5,000.00	5,000

Access To Work Sites	100%	1	Sum	4,000.00	4,000
				Sub Total	XXX
				Say	XXX
POSSESSION MANAGEMENT					
		Duration	No.	Shifts Each	Total Shifts
Possessions		8 Hr	0	1	0
		24 Hr	0	2	0
		54 Hr	2	5	10
		72 Hr	0	6	0
			2		10
POSSESSION MANAGEMENT PROVISION	85%	10	Shift	500.00	4,250
PICOP £35/Hr Minimum Shift 12 Hrs	85%	10	Shift	420.00	3,570
COSS £30/Hr Minimum Shift 12 Hrs	90%	10	Shift	360.00	3,240
HANDSIGNALMAN £25/Hr Min.Shift 12 Hrs	90%	10	Shift	300.00	2,700
ES Planning/Attend Mtgs £20/Hr, Min.Shift 8 Hrs	90%	2	XXX	160.00	288
ES £25/Hr, Minimum Shift 12 Hrs	100%	10	Shift	300.00	3,000
				Sub Total	XXX
				Say	XXX
ISOLATIONS					
2 Man Isolation Team	0%	2	Shift		-
4 Man Isolation Team	0%	2	Shift		-
Planning/Attendance Meetings	0%	2	XXX		-
Temporary Bonds	0%	1	XXX		-
Heights And Stagger Survey	0%	1	Sum		-
Bond For Track Break	0%	1	XXX		-
				Sub Total	-
				Say	-
SUMMARY					
Site Establishment					88,260
Contract Supervision					117,410
Site Rental/Compensation					14,500
Method Related Preliminaries					125,800
Possession Management					17,050
Isolations					-
				TOTAL	XXX

5.6 TEMPORARY WORKS

Specification/Description	Quantity	Unit	Rate	Total
Fence				
Temporary fencing - allowance	100	m	10.00	1,000.00
Attendance				
Provide attendance to sub contractor	0	item	2,500.00	0.00
Lighting				
Lighting towers	26	weeks	305.00	7,930.00
Scaffolding				
Scaffold to bridge	1	item	5,000.00	5,000.00
Specialists plant				
Scissor lifts		weeks	228.00	0.00
500t Crane		shifts	6,050.00	0.00
250t crane	2	weeks	15,700.00	31,400.00
Track protection				
Provide track protection	1	item	19,000.00	19,000.00
Services				
Provide protection to S&T services	1	item	Inc	0.00
TM				
Traffic management of plant to and off site	6	months	5,000.00	30,000.00
Temporary screen				
Construct temporary screen 20m long		m	50.00	0.00
			TOTAL	XXX

5.7 MEASUREMENT

DESCRIPTION			Quantity
GENERAL			
SPAN	21.50	m	
TOTAL LENGTH	21.80	m	
DECK LENGTH	23.34	m	
TOTAL WIDTH	13.20	m	
WIDTH BETWEEN PARAPETS (NEW)	12.34	m	
PARAPET THICKNESS (EXISTING)	0.50	m	
PARAPET THICKNESS (NEW)	0.43	m	
PAVEMENT WIDTHS	2.00	m	
	1.80	m	
TOTAL AREA OF DECK ON PLAN	308.09	m2	
TOTAL AREA OF BRIDGE ON PLAN	287.76	m2	
COST PER M2 OF DECK (DIRECT WORKS ONLY)	£2,108		
OTHER			
CLEAR DEBRIS/ VEGETATION	1	sum	
DEMOLISH PARAPETS AND DECK AND PREPARE FOR NEW WORK	1	sum	
EXCAVATE AT ENDS OF BRIDGE AND DISPOSE	1	XXX	
	0.5	tri	
	3.10	L	
	19.98	W	
	1.55	th	
	0.33	pyr	15.84
	1	XXX	
	0.5	tri	
	1.00	L	
	19.98	W	
	1.55	th	15.48
			31.33 m3
CLASS 6N/6P BACKFILL	31.33	vol	31.33 m3
LOOSE LAID WATERPROOFING MEMBRANE; GEOTEXTILE LAYER ABOVE AND BELOW			
AT ABUTMENTS	1	XXX	
	4.46	gth	
	19.98	W	89.11
	1	XXX	

	4.58	gth	
	19.98	W	91.51
			180.62 m2
REMEDIAL WORKS	1	sum	
FOUNDATIONS			
N/A			
ABUTMENTS AND PIERS			
CONCRETE SILLS	2	XXX	
	20.88	L	
	0.92	W	
	0.56	D	
			21.51
	1	XXX	
	20.88	L	
	1.00	W	
	0.56	D	
			11.69
	3	XXX	
	20.88	L	
	0.35	W	
	0.19	D	4.17
			37.37 m3
BEARING STRIP	4	XXX	
	19.98	L	
			79.92 m
DECK			
STRUCTURAL DECK			128.45 m3
CONCRETE CAPPING SLAB	24.34	L	
	12.34	W	
	0.07	th	
			21.02 m3
SURFACE FINISHES	24.34	L	
	12.34	W	
			300.36 m2
IN-SITU CONCRETE STITCHES INCLUDING SILICONE RETENTION STRIP	7	XXX	
	23.34	L	
			168.38 m
DUCTS; ALLOWANCE (SAY 10XXX)	10	XXX	
	21.80	L	
			218.00 m
PAVINGS AND SURFACING			
EXCAVATE TARMAC AND DISPOSE ROAD AND PAVEMENT			
	23.34	L	
	12.34	W	
	0.35	th	100.81
	0.5	tri	
	3.10	L	
	19.98	W	
	0.35	th	10.84
	1.00	L	
	19.98	W	
	0.35	th	6.99
			118.64 m3

ST2 CONCRETE TO PAVEMENTS	2	XXX	
	26.89	L	
	2.10	W	
	0.33	D	
			37.27 m3
PAVINGS TO MATCH EXISTING (FOOTPATH) - TARMAC	2	XXX	
	26.89	L	
	2.10	W	
			112.94 m2
ROAD SUB-BASE	0.5	tri	
ASSUME ON ABUTMENTS ONLY	3.10	L	
	16.18	W	
	0.15	th	3.76
	1.00	L	
	16.18	W	
	0.15	th	2.43
			6.19 m3
ROAD SURFACE – ROAD BASE	0.5	tri	
ASSUME ON ABUTMENTS ONLY	3.10	L	
	16.18	W	25.08
	1.00	L	
	16.18	W	16.18
			41.26 m2
ROAD SURFACE - BASECOURSE	26.89	L	
	8.54	W	
			229.64 m2
ROAD SURFACE - WEARING COURSE	26.89	L	
	8.54	W	
			229.64 m2
SAW CUT WEARING COURSE; FILL WITH RUBBERISED BITUMEN	2	XXX	
	8.54	L	
			17.08 m
ROAD MARKINGS; PEDESTRIAN CROSSING AND ASSOCIATED ZIG-ZAGS	1	sum	
ROAD MARKINGS; INTERMITTENT WHITE LINES	1	sum	
ROAD MARKINGS; DOUBLE YELLOW LINES	1	sum	
ROAD MARKINGS; DIRECTIONAL ARROWS	1	sum	
ROAD MARKINGS; LETTERING	1	sum	
BREAK OUT KERBS	2	XXX	
	26.89	L	
			53.78 m
PRECAST CONCRETE KERBS	2	XXX	
	26.89	L	
			53.78 m
SPRAY APPLIED WATERPROOFING	24.34	L	
	12.34	W	300.36
	2	XXX	
	12.34	L	
	0.30	W	7.40
	2	XXX	
	24.34	L	
	0.30	W	14.60

				322.36 m2
FURNITURE AND LIGHTING				
REMOVE, STORE AND SUBSEQUENTLY REINSTATE BELISHA BEACONS		1	sum	
DRAINAGE TO STRUCTURES				
CUT HOLES IN EXISTING MASOXXXY FOR 150MM DIAMETER PIPES		4	XXX	
150MM PERFORATED DRAIN; ENCASED IN NO FINES CONCRETE		2	XXX	
		13.20	L	
				26.40 m
RAINWATER PIPES		4	XXX	
APPROACHES				
UPLIFT REQUIRED		5.10		
	DDT	(0.20)		
	DDT	(4.33)		
		0.57		
	TIMES	50.00		
		28.50		
EXCAVATE TARMAC AND DISPOSE (ROAD AND PAVEMENT)		2	XXX	
		28.50	L	
		13.20	W	
		0.35	th	
				263.34 m3
BREAK OUT KERBS		4	XXX	
		28.50	W	
				114.00 m
REMOVE FENCING		4	XXX	
		28.50	W	
				114.00 m
PREPARE EXISTING RETAINING WALL FOR NEW EXTENSION		2	XXX	
		10.00	W	
				20.00 m
DEMOLISH BRICK WALL AND PREPARE FOUNDATIONS TO RECEIVE NEW RETAINING WALL		2	XXX	
		10.00	L	
		1.43	H	
				28.60 m2
RETAINING WALL		2	XXX	
		10.00	W	
				20.00 m
NEW FENCING		4	XXX	
		28.50	W	
				114.00 m
FILL TO RAISE ROAD		114.00	L	
		13.20	W	
		0.28	th	
				421.34 m3
ROAD SUB-BASE		114.00	L	
		8.54	W	
		0.15	th	
				146.03
EXTRA FOR PAVEMENTS		2	XXX	
		114.00	L	
		1.90	W	
		0.15	th	64.98
				211.01 m3

PAVINGS TO MATCH EXISTING (FOOTPATH) - TARMAC	1	XXX	
	114.00	L	
	1.90	W	
			216.60 m2
PRECAST CONCRETE KERBS	1	XXX	
	114.00	L	
			114.00 m
ROAD SURFACE - ROAD BASE	114.00	L	
	8.54	W	
			973.56 m2
ROAD SURFACE - BASECOURSE	114.00	L	
	8.54	W	
			973.56 m2
ROAD SURFACE - WEARING COURSE	114.00	L	
	8.54	W	
			973.56 m2
ROAD MARKINGS; INTERMITTENT WHITE LINES	114	m	
ROAD MARKINGS; DOUBLE YELLOW LINES	114	m	
ROAD MARKINGS; DIRECTIONAL ARROWS	1	sum	
ROAD MARKINGS; LETTERING	1	sum	
REMOVE, STORE AND SUBSEQUENTLY REINSTATE STREET LIGHTING	6	XXX	
REMOVE, STORE AND SUBSEQUENTLY REINSTATE ROAD SIGNS - 1XXX POST	2	XXX	
STRUCTURAL DECK	23.34		
	13.20		
	0.40		123.24
	4		
	13.20		
	0.92		
	0.05		2.43
	4		
	13.20		
	0.20		
	0.25		2.64
			128.31 m3
GENERAL	2		
	24.34		
	2.00		
	0.43		
			41.86 m3

5.7 NOTES

Construction

It is assumed that 200mm of the required increased soffit height will be accommodated by the reduced deck thickness (modern construction methods)

It has been assumed that for every 5 m of construction 100mm of height increase can be lost.

It has been assumed that the road will be straightened out as much as possible by moving the bridge to the east slightly. Doing this will facilitate keeping the road open during construction

Parapets have been measured and estimated separately as requested by Network Rail

Approaches

The allowance for alterations at the junction North of Bridge include for the following work:
- Reprofiling of the road, footpaths and kerbs to suit new levels
- Removal and reinstatement of the pedestrian safety fencing
- Possible alterations to retaining walls and fencing to the west of the junction

The allowance for alterations at domestic entrance South of Bridge include for the following work:
- Reprofiling of entrance and yard to suit new levels
- Removal and reinstatement of fencing

Record of Professional Development

Please list the professional development you have completed over the past 12 months. You must refer to a minimum of 24 hours of training and development.

PLEASE NOTE - ALL ASSOCIATE CANDIDATES MUST NOW COMPLETE 48 HOURS OF CPD

Date	Professional Development	Hours
20/10/2013	**Activity type:** Private Study **Purpose:** To learn more about the amendments to the HGCRA (updating it to the LDEDCA) **Description:** Online e-learning video lecture provided by the RICS **Learning Outcomes:** I gained an understanding about the new payment system for contracts and how it should be applied whilst also learning about the other changes to the Act, for example, it now applies to contracts not wholly in writing and Tolent clauses have been banned. **Formal or Informal:** Informal	1 hr
30/10/2013	**Activity type:** Seminar **Purpose:** To learn about the new Construction Procurement Strategy in XXX **Description:** Seminar at RICS Wales office **Learning Outcomes:** I learned how the new Construction Procurement Strategy places an emphasis on the need for forward planning and promotes greater adoption of e-procurement. The seminar also taught me how standardisation of pre-qualification questionnaires and utilisation of the Supplier Qualification Information database can reduce the amount of administration needed to tender and potentially opening up tenders to more small and medium enterprises. **Formal or Informal:** Formal	2 hr
04/11/2013	**Activity type:** Work based learning **Purpose:** To gain an understanding of the level of detail required to compile estimates in relation to the stages as set out by the Guidance to XXX (XXX) **Description:** Discussion with senior colleague followed by reading the relevant sections of the Project Management Manual:PM04 – Cost Estimating **Learning Outcomes:** Being able to identify by the individual stage of the project i.e. XXX 2 or XXX 3 what information and how detailed that information needs to be in order to complete an estimate for that particular stage. At XXX stage 2 for example the take off is based on volume at Cost Element level. **Formal or Informal:** Informal	2 hr
11/11/2013	**Activity type:** Work based learning **Purpose:** To learn how to measure in accordance with the Rail Method of Measurement Volume 1: Cost Planning **Description:** Shown some examples by a senior colleague followed by familiarisation with the method through reading and carrying out practical examples **Learning Outcomes:** Being able to carry out a take off in accordance with the Rail Method of Measurement Volume 1: Cost Planning and later feeding that take off into an estimate. **Formal or Informal:** Informal	4 hr
20/11/2014	**Activity type:** Work Based learning **Purpose:** To learn how to use RIB estimating software **Description:** A senior colleague who is experienced in using RIB estimating software gave us a demonstration in how to create and	3hr

	populate an estimate in RIB followed by inputting some sample projects for practice **Learning Outcomes:** I learnt how to create estimates using RIB software. I also learnt how to add and delete levels and how to transfer bulk information from an excel sheet into a useable format in RIB. **Formal or Informal:** Informal	
18/01/2014	**Activity type:** Private Study **Purpose:** To gain an appreciation of the importance of pre-construction risk management. **Description:** Completed an online CPD module provided by CIOB. **Learning Outcomes:** I now have an understanding of some of the major risks inherent to construction projects and who, whether it be the client or the contractor, is best positioned to mitigate those risks. The CPD module also enlightened me as to how pre-construction risk management can help companies to identify what projects are best suited to their business model and employee profile. **Formal or Informal:** Informal	1hr
11/02/2014	**Activity type:** Private Study **Purpose:** To learn about the key features of the CIOB Contract for Complex Projects 2013 and what differentiates it from other construction projects **Description:** Completed an online CPD module provided by CIOB. **Learning Outcomes:** The article taught me how the aforementioned contract attempts to address the issues with the management of time, the monitoring and reporting of progress and the updating of the programme on construction projects, which was felt to be missing from other standard forms of contract. I learnt that this is proposed to be achieved under this contract by utilising a project time manager in conjunction with the requirement of detailed information to be submitted on each activity start, resources used, work completed and milestones achieved. All this is utilised to constantly update the working schedule giving a more accurate view of where the project is at any given time. **Formal or Informal:** Informal	1hr
04/03/2014	**Activity type:** Private Study **Purpose:** To learn about some of the most common risks associated with modern methods of construction **Description:** Completed a CPD module provided by Building magazine **Learning Outcomes:** This article taught me about some of the common risks associated with modern construction whilst also identifying ways of mitigating those risks. For example with regards the increasing use of offsite prefabrication in a factory environment it is clear from the CPD module that it is good practice to put in place a design freeze prior to carrying out any such works in order to mitigate the risk of these components not fitting updated design elements once delivered to site. **Formal or Informal:** Informal	1hr
29/06/2014	**Activity type:** Private Study **Purpose:** To develop my knowledge of BIM **Description:** Completed a CPD module provided by Building magazine **Learning Outcomes:** I gained an insight into Common Data Environments and how they are likely to work in practice. I now have a clearer understanding of what is expected from clients and contractors in order to show compliance with level 2 BIM. I also learnt of the potential cost savings for companies when using models such as Software-as-a-service (SaaS) to provide access to the software required to incorporate BIM into the working environment over the internet rather than the traditional method of purchasing a number of software licences. **Formal or Informal:** Informal	1hr
09/07/2014	**Activity type:** Work Based Learning **Purpose:** To increase efficiency when utilising RIPAC	

	Description: Undertook an Intermediate Course in the use of RIPAC billing and measurement software. **Learning Outcomes:** This course helped me to use the RIPAC software more efficiently. I learnt a number of quick short cuts for saving time such as cloning and reusing items as well as bulk deletions and copying of bulk items from one bill to another. I also learnt how to input rogue items into the library so that it remains there for others to use, saving time on inputting a repeating rogue item continuously and ensuring a consistency of description. I also learnt how to input more complicated measurement quantities into RIPAC saving time on producing a separate excel take off and then transferring the measurement totals to the billing software. **Formal or Informal:** Formal	4hrs
30/07/2014	**Activity type:** Private Study **Purpose:** To learn how to best deal with issues relating to delay and disruption on construction contracts **Description:** Studied the Society of Construction Law Delay and Disruption Protocol (October 2004 Reprint) **Learning Outcomes:** I learnt the effectiveness of proper record keeping and provision of a detailed and up to date programme in aiding to accurately assess the effect of a delay on the completion date and whether it gives rise to an Extension of Time (EOT). I also learnt about the purpose of an EOT, when a contractor is entitled to one, procedures for granting an EOT and how float relates to compensation. The protocol also gave good guidance on how assess concurrent delay and its effect on entitlement to compensation for prolongation. **Formal or Informal:** Informal	2hrs
02/10/2014	**Activity type:** Work Based **Purpose:** To get a basic appreciation of the NEC3 contract, specifically compensation events under Option B: Priced Contract with Bill of Quantities **Description:** Read the NEC3 Engineering and Construction Contract Option B: Priced Contract with Bill of Quantities and discussion with senior colleague experienced in the use of the aforementioned contract **Learning Outcomes:** I gained a basic appreciation for the compensations clauses of the contract. I also learnt about what constitutes a Compensation event, when and how quotations should be submitted, how they are assessed and when they are implemented. I also learned about the timescales imposed on replying and assessing compensation events. **Formal or Informal:** Informal	3hrs
11/11/2014	**Activity type:** Private Study **Purpose:** To learn about delay and complex projects **Description:** Completed an online CPD module provided by CIOB. **Learning Outcomes:** This course helped me to appreciate that the complexity of a project is not solely based on scale or cost. Other factors such as multiple contractors on site and sectional completion dates can lead to complexity in projects. I also learnt about the wide variety of factors which can lead to delay such as but not limited to insufficient clarity in contract requirements, failure by the engineer/project manager to administer the contract correctly, poor communication between the parties, lack of skilled labour/subcontractors and unrealistic employer timeframes. I also learnt that in order to best deal with a delay it must be identified promptly (as per the XXX and XXX suite of contracts), the effect it will have also needs to be ascertained whilst also apportioning liability. An up to date programme helps to identify and quantify delay whilst collaborative working practices help to minimise disruption caused by any delays. **Formal or Informal:** Informal	1.5hrs
18/11/2014	**Activity type:** Site Visit **Purpose:** To visit a major exemplar local infrastructure scheme and learn from the project team that is delivering it. **Description:** Presentation followed by site visit at the A465 Dualling Section 3 scheme **Learning Outcomes:** Learned how through innovation and collaborative working the project team have managed to keep to a tight schedule in a challenging environment whilst making cost savings where possible. And also how the project team utilised BIM to improve	2.5hrs

	the design and construction process. **Formal or Informal:** Formal	
03/12/2014	**Activity type:** Seminar **Purpose:** To bring people up to speed with the Rail Method of Measurement (RMM) which have been in development for a number of years now. **Description:** Presentation by XXX (XXX) Senior Estimating Manager on RMM 1, 2 and 3 **Learning Outcomes:** Learned about the newly updated RMM suite of measurement rules which can be applied to all rail schemes to facilitate standardisation of measurement and bill of quantity production across the sector and nationwide. This can then facilitate more accurate benchmarking. I learnt that it is meant to compliment the method of measurements already used for rail jobs such as XXXM and CESMM4 and expand on them to take into account rail specific work items. The presenter also explained how it would encourage transparency of costs by requiring that costs in relation to direct, indirect, risk, preliminaries, design etc. are separated out from one another and further broken down by work element. Thus giving a clearer picture of where major costs are and where potential savings can be made. **Formal or Informal:** Formal	2hrs
30/12/2014	**Activity type:** Private Study **Purpose:** To learn about BIM and Data **Description:** Completed an online CPD module provided by Building Magazine **Learning Outcomes:** I learned that there was two different types of BIM objects, Component and Layered. Component objects are building products that have defined sizes such as windows and doors whilst layered objects do not have a fixed shape e.g. carpets, walls. I learned how including data behind these objects can help provide more accurate and up to date information to the project team. **Formal or Informal:** Informal	0.5hrs
30/12/2014	**Activity type:** Private Study **Purpose:** To learn about Procurement Strategy In Construction – Public Tendering **Description:** Completed an online CPD module provided by CIOB **Learning Outcomes:** I learned how Government Procurement is regulated and harmonised by the European Union. The article covered everything from the issuing of a tender notice, the selection stage through to appointment in great detail. It described the various procedures including open, restricted, competitive negotiated etc. and indicated when it was appropriate to use each. I learnt about how the tender should be appraised on time, quality and price and how contracts are usually awarded on either lowest price or best value for money. **Formal or Informal:** Informal	1.5hrs
03/03/2015	**Activity type:** Seminar **Purpose:** To enhance my knowledge of Project Bank Accounts **Description:** Attended a presentation/seminar run by XXX on Project Bank Accounts **Learning Outcomes:** I learned what a Project Bank Account (PBA) was and why there was a need for them. We were shown the two potential types of PBA's and how to set them up and administered them. I also learned how they worked from both a clients and a contractor's point of view. PBA's are to become increasingly more common place on public sector jobs and attending this seminar has given me an understanding and knowledge to work confidently on any projects running a PBA. **Formal or Informal:** Formal	4hrs
20/03/2015	**Activity type:** Project Based Learning **Purpose:** To learn how to use 4 Projects software **Description:** Attended training presented by one of 4 Projects technicians and organised by the XXX Joint venture team. **Learning Outcomes:** The training provided an overview of what 4 projects can be utilised for, specifically targeting the project mentioned	2.5hrs

	above, which I am involved in. I learned how to navigate the software efficiently, insert shortcuts and customise my homepage so I am not constantly filtering through areas which are not relevant to my work. We were given an in depth tutorial on utilising the task function as this would be the main focus of the individuals in our particular training session. **Formal or Informal:** Formal	
29/04/2015	**Activity type:** Private Study **Purpose:** Familiarise myself with the global professional and ethical standards that underpin the behaviour of RICS members **Description:** Completed an online module in Professional Ethics for RICS Members on the RICS Online Academy **Learning Outcomes:** I now understand the importance of ethics to RICS, know the five global professional and ethical standards that RICS members observe as well understanding how the standards relate to the regulatory framework of RICS. I can also use the standards in an ethical analysis of a case **Formal or Informal:** Formal	3hrs

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

(Only required if your mentor is not an Associate Member (of four years of more), a Professional Member, or Fellow of RICS

Name (block capitals) _____

Membership Number _____

Grade of membership held with RICS_____

Firm Name _____

Signature _____

Date _____

Associate Referral Report

Please attach a copy of your referral report.