

Construction sectors and roles for chartered quantity surveyors

1st edition, information paper



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RICS information paper

1st edition (IP 36/2013)



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Type of document	Definition	Status
Standard		
International standard	An international high level principle based standard developed in collaboration with other relevant bodies	Mandatory
Practice statement		
RICS practice statement	Document that provides members with mandatory requirements under Rule 4 of the Rules of Conduct for members	Mandatory
Guidance		
RICS code of practice	Document approved by RICS, and endorsed by another professional body/stakeholder that provides users with recommendations for accepted good practice as followed by conscientious practitioners	Mandatory or recommended good practice (will be confirmed in the document itself)
RICS guidance note (GN)	Document that provides users with recommendations for accepted good practice as followed by competent and conscientious practitioners	Recommended good practice
RICS information paper (IP)	Practice based information that provides users with the latest information and/or research	Information and/or explanatory commentary

1 Introduction

1.1 Scope

This information paper summarises what is meant by the construction sectors before going on to review the various roles for the chartered quantity surveyor within the UK construction industry.

1.2 The construction industry

This section provides guidance on the UK construction industry. It is a unique, complex and often fragmented industry, but it is an important contributor to the wealth of the nation.

The fragmented nature of the industry has some advantages, in that it can cope fairly well with fluctuating demand in the short term. However, if demand fluctuations become too large or occur too quickly, the construction market as a whole becomes very unstable and prices may become erratic and difficult to predict.

The construction market as a whole is an imperfect market in that it lags behind movements in the broader economy. The resultant effect is that in a recession, the construction sector may still appear to be strong and thriving, even though the rest of the economy is slowing down. On the other hand, when the economy as a whole begins to pick up, due to the long lead-in period for new projects, the construction market appears to be weak, while the rest of the economy appears to be gaining momentum due to the long lead-in period for new projects.

2 Market drivers

Construction is an industry that is essentially client-led and is characterised by a large number of suppliers (i.e. construction firms), competing for a small number of comparatively high-value orders. Demand for construction and civil engineering work can be divided in broad terms into the public and private sectors. Public sector work is carried out by any public authority such as:

- government departments
- public utilities
- universities; and
- the National Health Service and local authorities.

Private sector work is for a private owner or organisation, or for a private client, and includes:

- property or development companies looking for investment, or to make a profit from the sale or letting of completed buildings
- industrial and commercial clients looking to provide themselves with facilities for carrying out their business; and
- private individuals.

Demand for construction is characterised and influenced by the following factors:

- Most construction projects arise as a direct result of prospective clients approaching the industry, rather than the industry marketing its products.
- Demand comes from a wide variety of sources, from mega-projects to hanging a new door.
- The construction industry has many different types of client, ranging from:
 - the experienced client with a detailed knowledge of the construction industry and large and ongoing programmes of work, e.g. national food retailers, central government, etc. to;
 - occasional clients, often private individuals, who may only build once in their lives.

- The industry is investment-led and therefore is vulnerable to economic influences, as witnessed by a number of periods of ‘boom and bust’ associated with the performance of the UK economy as a whole.
- Almost half of all construction works are commissioned by the public sector. Consequently, the construction industry has regularly been used by government as a method of regulating the economy and therefore, cut-backs in public sector spending on projects such as schools, hospitals, roads, etc. have a significant impact on construction demand and activity.
- The availability of reasonable cost credit is a vital requirement to a buoyant construction market, particularly for developers. When the sources of credit dry up, construction activity declines.
- Nearly half the output of the construction industry is in repairs and maintenance.

Supply for construction services is characterised and influenced by the following factors:

- The unique structure of the industry. The predominance of small firms makes it difficult to introduce industry wide initiatives and new working practices to increase productivity and efficiency, as it is generally only the larger organisations that have the time and resources to try to bring about change.
- A minority of construction firms carry out the majority of the work load.
- Less reliance on traditional construction skills such as bricklaying and plastering. Instead there has been a move towards an assembly process; for example, the extensive use of timber kits for low and medium rise structures.

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- The time lag between supplying in response to increased demand will nearly always result in a distortion of the market. For example, increased house building in response to increased demand, triggered by lower interest rates and full employment.
- With a standing housing stock of 25 million domestic units, in addition to office buildings, shops, etc. Repair and maintenance are also an important part of the construction industry.

2.1 Influence of construction industry reports

Since the construction industry is concerned mainly with the construction, adaptation and maintenance of buildings, its efficiency is vital to real property. The construction industry and quantity surveying have a history of producing self-analytical reports; the Latham and Egan Reports (1994 and 1998 respectively), are just some in a series of reports that tried to analyse the workings of the construction industry and suggest ways it could become more efficient and deliver better value for money. The principal message from the reports was that the construction industry needed to concentrate on and invest in, modernisation, innovation, and mass-production in order to become more like a true assembly sector.

3 Structure of the industry

This section looks in more detail at the structure of the construction sector.

3.1 General contracting

As defined in Section F of the UK Standard Industrial Classification of Economic Activities 2003, general contracting includes: new work; repair; additions and alterations; the erection of pre-fabricated buildings or structures on site, and also constructions of a temporary nature.

A general contractor is responsible for the construction of entire dwellings over a range of works including:

- housing
- retail
- commercial
- leisure
- health
- education
- defence; and
- custodial, etc.

Part of the work, or sometimes the whole of the work, can be carried out by specialised subcontractors. It is advisable to check the performance of contractors/subcontractors against reliable key performance indicators.

A general contractor can often specialise in one aspect common to different structures, requiring specialised skills or equipment, such as pile driving, foundation work, water well drilling, carcass work, concrete work, brick laying, roof covering and the like.

3.2 Civil engineering

Civil engineering involves the design, development and construction of a huge range of projects in the built and natural environment and ensures the safe, timely and well-resourced completion of infrastructure projects in many areas, including: highways construction, waste management, coastal development and geotechnical engineering.

Civil engineering is traditionally broken into several disciplines including the following:

- Transport and communications: roads, railways, bridges, tunnels, harbours, inland waterways, airports, and land-based facilities for telecommunications networks.
- Production and distribution of energy: power stations (including nuclear), overhead and underground power lines, dams for hydroelectric power generation, wind and wave power installations, oil and gas pipelines, gas mains, and other on-shore oil and gas facilities.
- Public health: dams and reservoirs for the storage of water; water purification facilities; water distribution networks; sewage treatment plants, and the sewerage.
- In addition, civil engineering contractors pave the way for all sorts of building developments, both residential and non-residential, by preparing sites and installing services. Remediation of contaminated land in preparation for the re-use of 'brownfield' sites is an increasingly important element of their work.

There continue to be mergers and acquisitions resulting in:

- consolidation into core businesses or contracting – or specific types of contracting
- shift of focus towards services – facilities management and maintenance; and
- consolidation of the housing sector through a series of takeovers.

3.3 Professional bodies/trade bodies

There are a number of professional institutions for building professionals, namely:

- Royal Institution of Chartered Surveyors (RICS)
- Royal Institute of British Architects (RIBA)
- Institution of Civil Engineers (ICE)
- Institution of Structural Engineers (MISTuctE)
- Chartered Institute of Building (CIOB)
- Institute of Clerk of Works
- Chartered Institution of Building Services Engineers (CIBSE); and
- Association for Consultancy and Engineering (ACE).

The main reasons for the establishment of the professional bodies was to:

- safeguard the public, for example by ensuring that all members working in private practice have adequate professional indemnity insurance
- enforce codes of conduct and encourage best practice
- lobby governments; and
- training and education.

3.4 Consultancy practices

Consultancy practices (architects, engineers, quantity surveyors, etc.) provide many of the professional activities required to support the construction process. The range in size of practice mirrors that of construction companies as it is characterised by a large number of small firms and a small number of very large ones. As with general contracting, the trend has been for mergers and amalgamations to form larger one-stop shops offering a wide range of services and solutions to clients.

4 The construction supply chain

This section looks at the practical considerations that should be made when considering the nature of the construction sector.

Construction is characterised by a high degree of specialisation. Many firms specialise in specific types of work, although the products of the industry (i.e. the completed projects) are more often bought by clients as complete entities. This means that there is a need during the production phase for a management layer, i.e. the main contractor, whose task is to integrate, control and co-ordinate all the various inputs required in order to deliver the completed to the client. In recent years, more and more specialist firms have been used by the main contractor, changing their role increasingly to one of management and co-ordination.

Although many main contractors now choose to use subcontract labour rather than employ tradespeople directly, some still retain some specialist trades within their organisation. Which trades are retained is generally a reflection of the main contractor's origins and roots.

The construction supply chain may be considered as the network of organisations involved in the different processes and activities that produce the materials, components and services that come together to design, procure and deliver a building.

The supply chain is traditionally assembled to carry out a single construction project,

sometimes known as a temporary multi-organisation. In many cases, the people involved in the design and construction processes differ from one project to another, with the construction team being formed and reformed for each new project. It must very quickly go through all the usual 'team-building' processes if it is to operate as an efficient working organisation.

Figure 1 illustrates part of a typical construction supply chain for a traditional procurement route (although in reality many more subcontractors could be involved). This represents lines of communication as opposed to contractual arrangements. The problems for process control and improvement that the traditional supply chain approach produces are related to:

- the various organisations coming together on a specific project, at the end of which they disband to form new supply chains
- communicating data, knowledge and design solutions across the organisations that make up the supply chain
- stimulating and accumulating improvement in processes that cross the organisational borders
- achieving goals and objectives across the supply chain; and
- stimulating and accumulating improvement inside an organisation that only exists for the duration of a project.

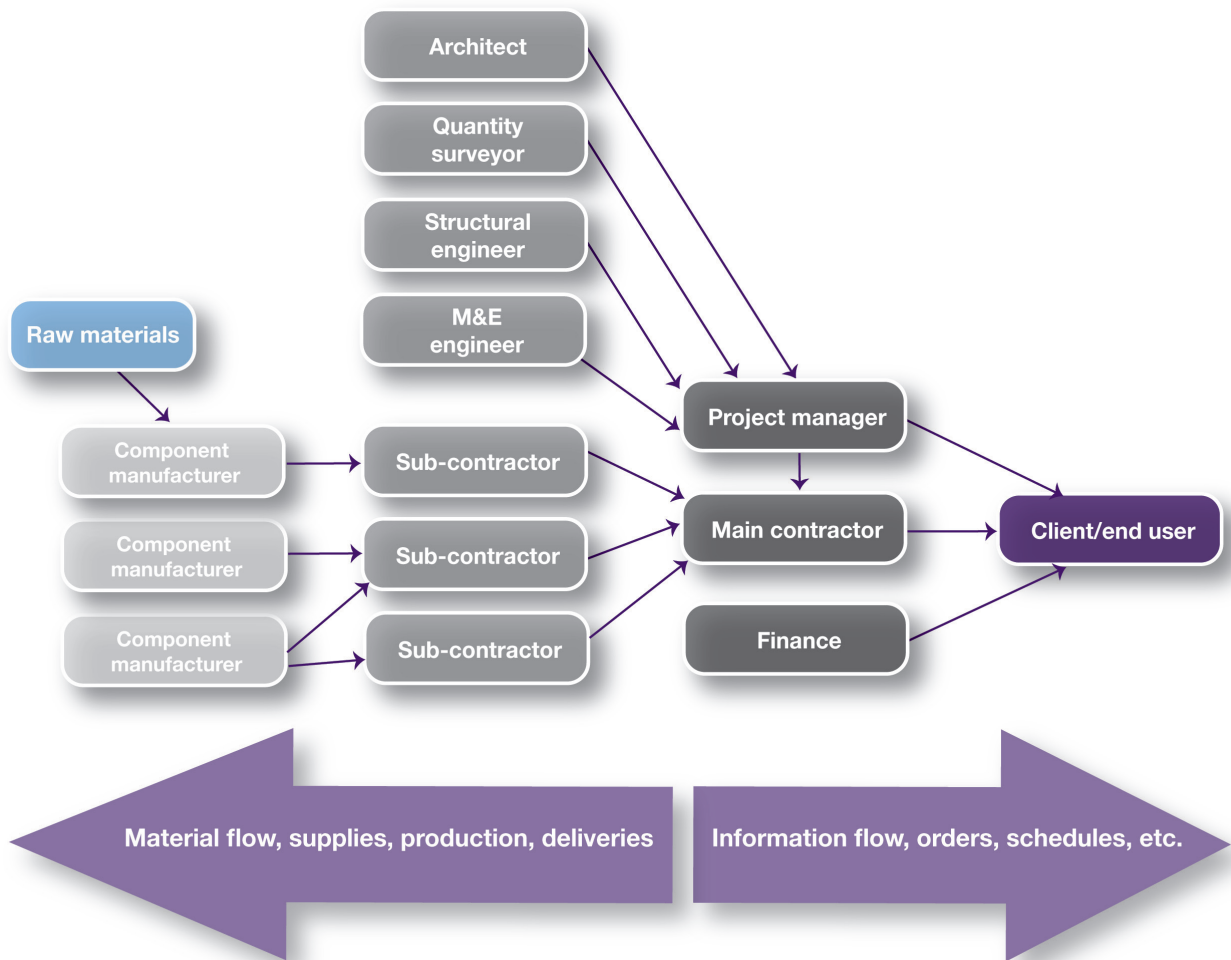


Figure 1: Typical construction supply chain for a traditional procurement route (reflects communication structure as opposed to contractual arrangements)

5 Subcontractors

Much of the work attributed to a general contractor is carried out by subcontractors. Subcontractors can be individuals or substantial firms who agree a contract with the main contractor to complete a section of a project, for example ground works and masonry. During the recent past, the percentage of work being carried out by subcontractors has increased considerably. For the main contractor, the advantages are:

- reduces the main contractor's liability to retain, on a full time basis, all the specialists necessary for day to day operations
- transfers risk to the supply chain
- subcontractors are used as and when required, thereby reducing overheads
- avoids having to pay operatives when work is scarce or having to pay redundancy; and
- introduces the potential for innovation.

The disadvantages to employing subcontractors are:

- programming; some types of subcontractors may, on occasions, be difficult to engage
- non-availability of the best subcontractors
- less control of health and safety issues
- control and co-ordination of subcontractors
- quality of work; and
- potential for clashes of culture and philosophy.

Standard forms of contract vary in the amount of information they are required to provide about subcontractors, and the degree of authority vested in those responsible for giving permission for work to be subcontracted.

There are a number of different types of subcontractor as follows:

- domestic subcontractors
- named subcontractors; and
- nominated subcontractors, although increasingly less common.

5.1 Domestic subcontractors

Domestic subcontractors are employed directly by the main contractor as a private arrangement between the two parties. Domestic subcontractors do not have a contract with the client, but work on site as if they are the main contractor's personnel and they are co-ordinated by the main contractor's site management team. Domestic subcontractors have a responsibility to deliver work that complies with the approval of the client and architect/contract administrator and are paid by the main contractor from monies received from the client in interim valuations.

The subcontract terms are negotiated between the domestic subcontractor and the main contractor. Although the various forms of contract vary slightly, as long as the main contractor informs the architect/contract administrator that certain parts of the works are to be carried out by domestic subcontractors, consent cannot be reasonably withheld. Domestic subcontractors are commonly used as:

- subcontractors that carry out complete sections of the work, including supplying all materials; and
- labour and plant.

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Labour only subcontractors; as the title suggests, supply only labour to the main contractor. Fears have been expressed over the use of this sort of labour, particularly over:

- lack of training and skills
- accountability; and
- payment of taxation and other statutory obligations.

The contractual relationship in the case of the above two types of subcontracting is between the main contractor and the subcontractor only. The main contractor retains the responsibility for ensuring domestic subcontractors comply with all relevant statutory legislation and is answerable to the architect/contract administrator for the works done and materials supplied.

5.2 Named subcontractors

Named subcontractors are often used in public sector projects and for projects based on a form of contract where there is no provision for nomination. If a named subcontractor has not been appointed at the time that the tender documents are ready for despatch then a provisional sum is included for provision of the works to be carried out by the named subcontractor. The main features of named subcontracting are as follows:

- The tender documents, include the names of potential named subcontractors. The main contractor has the opportunity to reasonably object to any firm on the list.

- The main contractor leads the tender process for each named subcontractor package by assembling the tender documents, issuing and receiving tenders, and selecting a named contractor.
- After appointment, the named subcontractor is, for all intents and purposes, a domestic subcontractor. The main contractor is only paid the rates in the accepted subcontract tender.

The contractual relationship between a named and a domestic subcontractor is similar, however, a named subcontractor is allowed for by the inclusion of a provisional sum.

5.3 Nominated subcontractor

A small number of standard forms of contract include the provision of appointing nominated subcontractors in cases where the architect/contract administrator or client wishes to restrict and control certain aspects of the project works. It may also be used in cases where, at the tender stage, parts of the project have not been fully detailed and therefore the use of nominated subcontractors allows the job to go to tender, with the nominated works being dealt with at a later date. The principal differences between domestic and nominated subcontractors are:

- the tender process is organised and run by the architect who invites suitable subcontractors to submit a tender; and
- the architect selects the preferred tender and then instructs the main contractor to enter into a contract with the subcontractor.

6 The client's requirements

This section of the information paper addresses the client's requirements and objectives, and the various roles for the chartered quantity surveyor.

6.1 Understanding the client

A client may decide to procure a built asset for a variety of reasons and it is important that the chartered quantity surveyor fully understands the nature of the client's business, as well as the motives for the client to build. For example, the clients may be:

- a public sector entity concerned with the delivery of services such as healthcare or education in new and innovative ways
- a developer for whom the primary concern is producing a project that will be let or sold for the maximum commercial advantage; or
- an owner occupier concerned with functionality and performance in the long term, including adding value to their core business activities.

The above list is by no means exhaustive and for each of the categories, the project objectives and perception of value will be different. However, the prime objective of all construction clients is to seek construction solutions that can fulfil their particular requirements in terms of:

- optimum functionality
- time

- cost
- quality; and
- value.

Bear in mind that value has different meanings for different clients, but generically may be seen as:

- spatial quality, measured in terms of the spatial configuration of the facility and its urban environment, designed to encourage interaction between staff or to reduce crime, etc.
- indoor environmental quality and its impact on the efficiency and the effectiveness of the people who work in the facility
- symbolism in terms of the extent to which the facility communicates the identity and the value of its owners; and
- financial value; a capital asset for exploitation or sale.

Many construction projects suffer from lack of definition due to incomplete design work or time constraints so it is advisable that the client's brief is as comprehensive and complete as possible. It is also recognised that chartered quantity surveyors should have the ability to manage cost effectively, equating quality and value with individual client needs and ensuring that procurement strategy mirrors corporate strategy.

7 The briefing process

Increasing numbers of clients are now demanding that construction procurement is not detached from their mainstream business operations, and that procurement should mirror corporate strategies.

Depending on the circumstances, understanding a client's needs may include producing solutions that satisfy the following criteria:

- flexible and adaptable facilities
- maximises use of existing assets
- immediate start and early finish
- minimal waste and defects
- lower and predictable whole life costs
- greater predictability of cost and time
- a long-term vision of short term agendas
- the ability to demonstrate pro-activity and innovation by questioning and challenging clients' needs; and
- developing the ability to question and challenge conventional practice, on the basis that in many cases so far, it has not produced satisfactory solutions.

The briefing process is one of the most important and difficult tasks in the delivery of a successful project as is the correct interpretation of the client's brief and the clear establishment of client's objectives. Chartered quantity surveyors are in an ideal position to interpret a client's user requirements and assist in the preparation of a business case. The difficulties in establishing a successful brief are well documented as follows:

- Briefing is the process of gathering, analysing and synthesising information needed in the building process in order to deliver buildings with optimal functionality.
- The development of the brief should be an iterative process and it is recommended that adequate time is allowed. If the brief is

inadequate, the project may face avoidable difficulties throughout its life.

- Large corporate clients can be complex institutions, possibly with many departments and with differing and perhaps hidden agendas.
- Clarifying the mission of the organisation and the function of the construction project is perhaps the initial and most important part of the briefing process.
- A technique that is often used to identify the function(s) of a new building is value management.
- The level of advice required will be influenced by the type of client. Large corporate clients with experience of building will need less input than individual or corporate bodies who build on an irregular basis.
- Clients can be encouraged at the briefing stage to consider the impact of costs-in-use and sustainable issues. Advice on the impact of tax breaks for including green elements can be explained.

The approach to clients can vary according to the type of client, for example:

- owner/occupiers
- developers; or
- public sector.

It is often said that the drivers for project delivery are cost, time and quality. Historically, it has been the case that the key requirement for clients is the delivery of projects at the lowest initial capital cost. However, it has been proved that projects that have low initial costs are generally more expensive to operate and maintain during their life cycle. Increasingly, the emphasis is moving from cheapest capital cost to best value over the life cycle of the building. In order to deliver best value, whole life costs and sustainable values are now the norm.

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A leader in the provision of best value has been the public sector, although now private sector clients and developers have come to realise that the market is increasingly aware of the impact of life cycle costs in total project costs.

8 The client's role and responsibilities

The client plays a very important part in the construction process. Table 1 illustrates the client role and responsibilities in the various stages of a project. The stages referred to are as the RIBA Plan of Work 2007 (amended 2008).

Table 1: Client's role in pre and post contract stages

Preparation	Design	Pre-construction	Construction	Use
Appraisal/design brief	Design/concept/design development	Production information/tender documentation/tender action	Mobilisation/construction to practical completion	Post practical completion
Develop business case for project	Procurement strategy	Design overview	Design overview	Commissioning
Appoint adviser	Design overview	Cost control overview	Cost control overview	Occupation and takeover
Define client's responsibilities	Cost control overview	Time control overview	Time control overview	
Project brief	Whole-life costs	Quality control overview	Quality control overview	
Appointment of project manager (if appropriate)	Value engineering	Change control overview		
Appointment of design and cost consultants	Time control overview			
Procurement strategy	Quality control overview			
Value management	Appointment of constructors			
Resources	Confirming the business case			

8.1 Types of client

One way of considering clients is as follows:

- small one-off clients or large corporate investors
- occasional or experienced clients; and
- public or private sector clients.

It is advisable that any client briefing is conducted with client representatives who are able to take and make decisions. In addition, if applicable, the views of wider groups such as end users can be sought, as is the case when a value manager is included in the process.

9 Roles for the chartered quantity surveyor

The construction industry is global and extends across all real estate and infrastructure markets. Chartered quantity surveyors work in all sectors of the construction industry worldwide, including involvement in new and refurbishment projects. Not all of the services referred to in this section are core quantity surveying skills and it is anticipated that some specialist skills will need to be acquired. It is also advisable to ensure that any non-core services are included within the cover and terms of professional indemnity insurance.

In real estate this covers:

- residential
- commercial
- industrial
- leisure
- agricultural
- retail
- education
- health
- custodial; and
- defence.

In infrastructure, the sectors covered include:

- roads
- railways
- airports
- waterways
- sea ports
- coastal defences
- power generation; and
- utilities.

Chartered quantity surveyors may also work in process engineering, such as chemical engineering plants or oil rigs and it is recommended that they understand all aspects of construction over the whole life of a building or facility.

Increasingly, chartered quantity surveyors are being used in a number of wide and diverse client support roles including:

- quantity surveying:
 - demand (client) side
 - supply (contractor/subcontractor) side
 - public sector
 - civil engineering; and
 - energy (oil and gas)
- development management
- employer's agent
- project manager; and
- project monitoring.

9.1 Quantity surveying

Demand side

A traditional chartered quantity surveying role, advising clients on a range of areas including:

- design economics and cost planning
- whole life costing
- procurement and tendering
- contract administration; and
- commercial management.

Supply side

The role of the chartered quantity surveyor in contracting concentrates more on the commercial management of construction projects. The required competencies include the financial processes used to achieve profitability and how these integrate with the overall delivery of the project – project cash flows and reconciliation of cost to income.

Public sector

The public sector is any public authority, such as:

- government departments

- public utilities
- universities; and
- the National Health Service and local authorities, etc.

Civil engineering

Civil engineering projects are generally major works involving considerable size, scope and complexity. The work is more method related than building work, with much greater use of mechanical plant and temporary works. Quantity Surveyors working in this sector will be involved with monitoring the utilisation of large volumes of labour, plant and materials.

Heavy and industrial engineering, including energy (oil and gas)

This work includes such areas as onshore and offshore oil and gas, petrochemicals, nuclear reprocessing and production facilities, process engineering, power stations, steel plants and other similar industrial complexes. Chartered quantity surveyors working in this area are often referred to as cost engineers.

Information on basic quantity surveying services is set out in the RICS Standard Form of Consultant's Appointment for Quantity Surveyors. Services are separated into core services for a variety of contracts and supplementary services and it is advisable to refer to this guidance.

9.2 Quantity surveying service

Preparation

- liaising with clients and the professional team
- advice on cost
- preparation of initial budget/cost plan/cash flow forecasts.

Design

- prepare and maintain cost plan
- advise design team on impact of design development on cost.

Pre-construction

- liaise with professional team

- advise on procurement strategy
- liaise with client's legal advisors on contract matters
- prepare tender documents
- define prospective tenderers
- obtain tenders/check tenders/prepare recommendation for client
- maintain and develop cost plan.

Construction

- visit the site
- prepare interim valuations
- advise on the cost of variations
- agree the cost of claims
- advise on contractual matters.

Use

- arrange release of retention funds
- prepare the final account
- prepare recommendations for liquidated and ascertained damages.

Supplementary services

- preparation of mechanical and electrical tender documentation
- preparation of cost analyses
- advice on insurance claims
- facilitate value management exercises
- prepare life cycle calculations/sustainability
- capital allowance advice/VAT
- attend adjudication/mediation proceedings.

9.3 Development manager

There are several definitions of the term development manager. Table 2 shows a comparison of the development management process as defined by:

- the RICS *Development management* guidance note
- CIOB's Code of Practice for Project Management for Construction and Development; and
- Construction Industry Council (CIC) Scope of Services (major works).

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It can prove valuable to refer to the above guidance notes/codes of practice.

The RICS guidance note *Development management* defines the role as:

‘The management of the development process, from the emergence of the initial development concept to the commencement of the tendering process for the construction of the works.’

The role of the development manager therefore, may include giving advice on:

- development appraisals
- planning application process
- development finance; and
- procurement – see also section 3.

9.4 Development appraisals

It is recommended that development appraisals and valuations are determined and carried out in accordance with the RICS Valuation – Professional Standards (the ‘Red Book’).

Table 2: RICS guidance on development management (2009)

Development management process	RIBA’s Outline Plan of Work	CIOB’s Code of Practice for Project Management for Construction and Development	CIC’s Scope of Services (major works)
Phase 1 – Developer’s initial concept	A. Appraisal	1. Inception	1. Preparation
Phase 2 – Site acquisition strategy	A. Appraisal	2. Feasibility (site selection and acquisition)	1. Preparation
Phase 3 – Outline appraisal	B. Strategic brief and C. Outline proposals	2. Feasibility	2. Concept
Phase 4 – Outline planning permission	C. Outline proposals	3. Strategy	2. Concept and part of 3. Design development
Phase 5 – Full planning permission	D. Detailed proposals	4. Pre-construction	3. Design development

9.5 Employer’s agent

It is advisable to remember that an employer’s agent is employed to administer the conditions of contract, but does not perform the same function as the architect, contract administrator or project manager. For the chartered quantity surveyor, therefore, the exact position of the employer’s agent can be confusing and in particular the duties, if any, that they owe to the contractor.

Most commonly, an employer’s agent is used with the JCT Design and Build contract. This contract envisages the employer’s agent undertaking the employer’s duties on behalf of the employer and is provided for in Article 3.

It is worth considering in situations where the employer’s agent is required to make decisions on issues in which the employer’s and contractor’s interests may not coincide, the employer’s agent has a duty to act in a manner that is independent, impartial and fair.

In order to try to clarify the position of the employer’s agent, RICS has prepared a schedule with a list of potential services, with a

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tick box against each. The schedule is suitable for use with the RICS Standard and Short Forms of Consultant's Appointment.

Acting on behalf of the client/employer in respect of administration of a 'design and build' contract incorporating issue of notices and certificates, can include the following:

- Preparation of employer's requirements documentation, in association with the client and other consultants.
- Instructions in respect of expenditure of provisional sums interim payment certificates for valuations of works and materials on and off site.
- Instructions in respect of variations, changes, confirmation of information and consents, and opening up works for inspection. Instructions in procedure to be adopted in respect of antiquities found on site; advising on conflicts within the contract documentation and value instructions, including the effects of postponement of design and/or construction works such as any loss and/or expense.
- Statements identifying the part or parts of the works taken into early possession by the employer.
- Non-completion certificates.
- Certificates of Practical Completion and accompanying schedules of defective works.
- Certificates of Making Good Defects at the end of the defects liability period or at the completion of defects (whichever is the latter).
- Final Payment Certificate following agreement of Final Statement of Account with contractor and certificate at end of Defects Liability Period.
- Costs and expense properly incurred by the employer should either party determine the contract.

Bear in mind as with general project management appointments, there is no commonly accepted standard role and service for the role of employer's agent. However, assuming a broad role both pre- and post-contract, the following could form the basis of an agreed role.

Pre-construction

Employer's agents can assist with all facets of pre-construction planning, from assessment of the brief and its communication to team members, to identifying the project execution plan.

The scope of service for pre-construction also includes:

- appointment of the team to suit the procurement and programme constraints
- production of a comprehensive master programme
- development of a risk register
 - establishing a management framework
 - development of an information required schedule and design strategy
 - managing the signing-off of the master plan, master programme, project brief and delivery strategy; and
 - change control procedures
- delivery of a procurement route strategy.

Construction

- Pre-qualification and selection of contractor(s).
- Preparation of the employer's requirements if a design and build route is selected.
- Management of the procurement process.
- Refinement of the construction methodology, employer's requirements and contractor's proposals.
- Administration of the terms of the contract.
- Monitoring the site performance of the contractor to ensure that key milestone dates are achieved.
- Management of the phased completion of the project.
- Management of the flow of information between the contractor and the design team.

Post-construction

- Managing the process of issuing of operation and maintenance (O&M) manuals, and ensuring adequate training is given to any facilities management.
- Management of the post construction

process to ensure any post-PC issues are rectified.

- A true employer's agent will not act unreasonably, dishonestly or capriciously in withholding approvals or certificates but has little or no discretion and will obey the employer's instructions.
- Sometimes the role of employer's agent is combined with the role of certifier. Certifiers have much wider discretion in performing their duties. A certifier will form and act on their own opinion when performing the role. Combining the two roles can create potential conflict.

The true employer's agent is a creation of the JCT Design and Build Contract where the contract envisages that the employer's agent undertakes the employer's duties on behalf of the employer. Article 3 gives the employer's agent the full authority to receive and issue:

- applications
- consents
- instructions
- notices
- requests or statements; and
- otherwise act for the employer.

The employer's agent has no independent function, but is the personification of the employer; they will act as instructed by the employer and have no discretion. The employer's agent will take care to act within the terms of the authority given to them by the employer.

Employer's agents can be put in a difficult position in the case of an employer who is acting unreasonably, whereas they are required to act fairly and honestly.

The certifier

An employer's agent may also act as a certifier which is different to and separate from the role of agent.

The employer's agent has very little discretion in carrying out their duties. However, once the role extends to include issuing certificates or approvals, and requires the exercise of discretion and professional expertise, then the position becomes more complicated.

9.6 Project monitoring

Background

Project monitoring is distinct from both project management and construction monitoring and is defined in the RICS *Project monitoring* guidance note (2007) as:

'Protecting the client's interests by identifying and advising on the risks associated with acquiring an interest in a development that is not under the client's direct control.'

It is advisable to refer to this guidance note prior to accepting an appointment as a project monitor.

Project monitoring can be carried out for a range of clients, including:

- a funding institution, which acquires the scheme as an investment on completion
- a tenant or purchaser, who enters into a commitment to lease or purchase a property on completion
- a bank, where a loan matures at the end of the development period
- grant funders; or
- private finance initiative funders and end users.

Note: when used on PFI contracts the advice also includes a commentary on the whole life costs for the period of the concession agreement.

The project monitor acts as investigator and adviser to the client on the risks associated with a development and protects the client's interests as the development proceeds.

Types of project monitoring may include

Matters relating to:

- land and property acquisition
- statutory compliance
- competency of the developer
- financial appraisals
- legal agreements
- construction costs and programmes; and
- design and construction quality.

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The key stages in project monitoring are said to be:

- initial audit role
- progress reporting; and
- practical completion.

The benefits to the client are:

- enhanced risk management
- enhanced financial management
- enhanced programme management; and
- enhanced quality management.

9.7 Project management

Chartered quantity surveyors are increasingly acting as project managers; in some cases the same firm of chartered quantity surveyors may also provide quantity surveying services for a single project.

Typically, project managers will be appointed at the beginning of a project and will assist the client in developing the project brief and then selecting, appointing and coordinating the project team. The project manager will usually represent the client throughout the full development process; managing the inputs from the client, consultants, contractors and other stakeholders.

The activities they are most commonly involved with project management typically include:

- identifying and developing the client brief
- leading and managing project teams
- identifying and managing project risks
- establishing communication and management protocols
- managing the feasibility and strategy stages
- establishing the project budget and project programme
- coordinating legal and other regulatory consents
- advising the selection/appointment of the project team
- managing the integration and flow of design information
- managing the preparation of design and construction programmes/schedules and critical path method networks
- advising on alternative procurement strategies
- conducting tender evaluation and contractor selection
- establishing time, cost, quality and function control benchmarks
- controlling, monitoring and reporting on project progress; and
- administering consultancy and construction contracts.

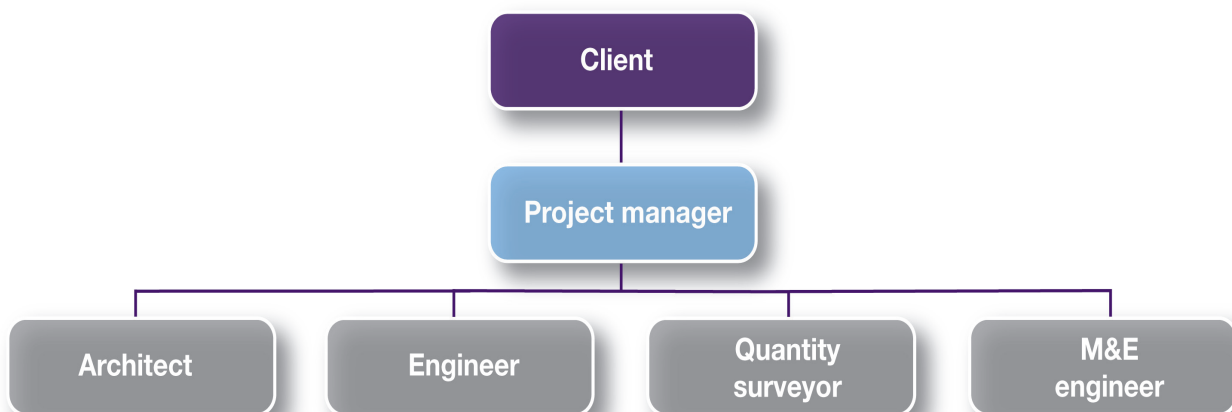


Figure 2: The role of the project manager (reflects communication structure as opposed to contractual arrangements)

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When a project manager is appointed, it is their responsibility to manage and coordinate the other consultants working on a project on behalf of the client, see Figure 2. It is the responsibility of the project manager to deliver the project in accordance with the client's requirements. The appointment of a project manager is most suited to clients who have little knowledge of the construction process and want a single point of contact such as overseas clients, or clients not wishing to have a hands-on role.

With the potential for the involvement of many consultants and/or constructors in a project, and the range of contracts associated with their employment, all but the most experienced client

may need advice. It is recommended that the advice offered be informed and unbiased and based upon a logical analysis of the needs of the client, the type and character of the project and the range of appropriate strategies available

9.8 The CDM co-ordinator

This role requires technical knowledge of many aspects of the industry, an understanding of design and construction processes and the ability to communicate effectively. The CDM regulations are primarily concerned with health and safety on the construction site. Table 3 outlines the key aspects of the CDM co-ordinator's role.

Table 3: Key aspects of the CDM co-ordinator's role

Advice and assistance	Providing proactive advice and practical help to the client in response to client and project demands.
Advising on competence of client appointments, when necessary	Providing specific advice, systems or support to the client on how to comply with Regulation 4 and Appendix 4 of the ACoP relating to health and safety resources and competence.
Co-ordination and co-operation	Ensuring that suitable arrangements are made and implemented for the co-ordination of health and safety measures during planning and preparation for the construction phase. This process involves an active contribution.
Management arrangements	Supporting the client in identifying and ensuring suitable arrangements for the project; how they will be delivered by the team to achieve project safety and other related client-project benefits and how they will be reviewed and maintained throughout the life of the project. Some clients have arrangements in place already, which may require less advice and assistance from the CDM co-ordinator.
Information management	Developing a strategy with the team for maintaining the flow of relevant health and safety-related information throughout the lifetime of the project to make sure that what is needed reaches the right people at the right times. This includes information required by designers, pre-construction information whenever it is required, and information for the health and safety file.
Design risk management	Promoting the suitability and compatibility of designs and actively seeking the co-operation of designers at all project phases when dealing with the risk consequences of construction and workplace design decisions.
The start of the construction phase when required	Providing support for the client and advising on the suitability of the principal contractor's construction phase plan. The client will be entitled to rely on the CDM co-ordinator's advice at this transitional phase, as it is a focus of the main objectives of planning and preparation for the project's safety.
Construction liaison and involvement	Encouraging and developing links between permanent and temporary works designers and actively liaising with principal contractors to ensure safe design.

Source: Health and Safety Executive (HSE)

9.9 Other roles

Other roles for chartered quantity surveyors include:

- acting as an arbitrator/adjudicator/mediator in dispute resolution and
- giving advice on capital allowances and taxation.

10 Appointment

Basic chartered quantity surveying services are set out in the RICS Standard Form of Consultant's Appointment for Quantity Surveyors. Services are separated into core services for a variety of contracts and supplementary services. RICS Consultancy Forms are written in plain English in a clear, concise and unambiguous style. They embrace the principles of modern consulting methods and include a full and short form of appointment, with co-ordinated scopes of services for:

- project management
- quantity surveyors
- project monitors
- CDM co-ordinators; and
- employer's agents.

In addition there is the facility to identify the chartered quantity surveyor as lead consultant on the Appendix to the RICS Standard Form of Appointment.

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