

Overview

This unit is concerned with designers working with contractors and consultants and securing contracts with clients to carry out the design for construction and installation work. The words “estimate”, “bid” and “tender” are all used in the industry, and are taken here to be synonymous.

It is about scrutinising the tender enquiries received, and deciding whether or not to bid. (The following elements cover what to do if you are going to bid.) You must be able to “get to the bottom” of an enquiry quickly, and you must have a good knowledge of your organisation's capabilities, its business plan, workload and the state of the market.

It is about deciding how the job will be done. You must be able to get all the information that you need, decide the best way of working, produce a method statement, and agree this with the project team. It is about deciding how much the work will cost. You must be able to turn your method statement into a working programme, decide what resources you need, calculate the costs, and discuss them with the project team.

It is about turning your cost estimate into a final bid which will be competitive in the marketplace. You must be able to assess the risks and opportunities that the work presents, and assemble the bid to give you the best chance of success. This will include ways of making your bid more attractive than those of your competitors.

**Performance
criteria**

You must be able to:

Review enquiry documentation

- P1 confirm and summarise the **enquiry** requirements for design services
- P2 investigate the **enquiry documents** within budgets and **enquiry** time limits
- P3 identify any **points of concern** in the **enquiry documents** and seek clarification and resolution
- P4 evaluate the **enquiry documents** against **agreed organisational criteria** and assess and confirm whether the organisation should decide to proceed
- P5 keep information about **enquiries** in confidence and only pass it on to people who have the authority to receive it

Evaluate and select work methods

You must be able to:

- P6 assess the available **project information** and summarise it to enable decisions on **production, installation and work methods** to be made
- P7 obtain more information from **relevant sources** in cases where the available **project information** is insufficient
- P8 identify **work methods** which will make the best use of resources and which meet project, statutory and contractual requirements
- P9 evaluate the **methods** against **production and installation factors** and select the one which best meets the **design parameters**
- P10 recommend the selected method to decision makers and encourage them to adopt it
- P11 prepare an outline method statement which is accurate, clear, concise and acceptable to all the people involved

Estimate the resource requirements and costs within a tender

You must be able to:

- P12 develop a proposed plan of work and draft programme which meet the tender **project requirements** and **phasing**
- P13 assess the available **project information** and summarise it to enable decisions on **project requirements** to be made
- P14 obtain more information from **relevant sources** in cases where the available **project information** is insufficient
- P15 **estimate** what **resources** will be needed, their sources, availability and costs
- P16 modify the costs to take into account any **external factors** which may affect the cost projections
- P17 produce the overall **estimate** of costs and checking that it is complete, accurate and in a form which is suitable for a judgement to be made
- P18 explain and clarify the calculations to support the projected costs
- P19 recommend payment schedules which will meet proposed **resource** usage

**Performance
criteria**

You must be able to:

Finalise and submit a tender offer

- P20 identify and evaluate, the **risks and opportunities** involved in a successful tender offer
- P21 identify and specify **alternatives and qualifications** to the original tender requirements which may improve the organisations ability to carry out the work
- P22 apply a profit margin and payment schedule which meets the objectives and strategy of the organisation
- P23 adjust the tender offer to take account of market conditions
- P24 check that the tender offer is complete and accurate and conforms to house style, and make any necessary modifications
- P25 present and support the tender offer in a manner which maximises its acceptability
- P26 collate, arrange and submit tender offer information in accordance with tender instructions together with any identified **alternatives and qualifications**
- P27 collect together all the tender offer information, record it, store it securely and only pass it on to people who have the authority to receive it recommend the selected **method** to decision makers and encourage them to adopt it

Knowledge and understanding

You need to know and understand:

Review tender enquiry documentation

- K1 how to confirm and summarise the **enquiry** requirements for design services (application)
- K2 how and why to investigate the **enquiry documents** within budgets and **enquiry** time limits (analysis)
- K3 what to identify as any **points of concern** in the **enquiry documents** (understanding)
- K4 how and why to seek clarification and resolution (synthesis)
- K5 how and why to evaluate the **enquiry documents** against **agreed organisational criteria** (evaluation)
- K6 how and why to assess whether the organisation should decide to proceed (analysis)
- K7 how to confirm whether the organisation should decide to proceed (application)
- K8 how to keep information about **enquiries** in confidence and only pass it on to people who have the authority to receive it (application)

Evaluate and select work methods

You need to know and understand:

- K9 how and why to assess the available **project information** on **production, installation and work methods** (analysis)
- K10 how to summarise the **project information** to enable decisions on **production, installation and work methods** to be made (application)
- K11 how to obtain more information from **relevant sources** in cases where the available **project information** is insufficient (application)
- K12 what to identify as **work methods** which will make the best use of resources and which meet project, statutory and contractual requirements (understanding)
- K13 how and why to evaluate the **methods** against **production and installation factors** and select the one which best meets the **design parameters** (evaluation)
- K14 how and why to recommend the selected **method** to decision makers and encourage them to adopt it (synthesis)
- K15 how to prepare an outline method statement which is accurate, clear, concise and acceptable to all the people involved (application)

Estimate the resource requirements and costs within a tender

You need to know and understand:

- K16 how and why to develop a proposed plan of work and draft programme which meet the tender **project requirements** and **phasing** (synthesis)
- K17 how and why to assess the available **project information** and summarise it to enable decisions on **project requirements** to be made (analysis)

Knowledge and understanding

- K18 how to summarise the available **project information** to enable decisions on **project requirements** to be made (application)
- K19 how to obtain more information from **relevant sources** in cases where the available **project information** is insufficient (application)
- K20 how and why to **estimate** what **resources** will be needed, their sources, availability and costs (analysis)
- K21 how to modify the costs to take into account any **external factors** which may affect the cost projections (application)
- K22 how to produce the overall **estimate** of costs and check that it is complete, accurate and in a form which is suitable for a judgement to be made (application)
- K23 how to explain and clarify the calculations to support the projected costs (application)
- K24 how and why to recommend payment schedules which will meet proposed **resource** usage (synthesis)

Finalise and submit a tender offer

You need to know and understand:

- K25 what to identify as the **risks and opportunities** involved in a successful tender offer (understanding)
- K26 how and why to evaluate, the **risks and opportunities** involved in a successful tender offer (evaluation)
- K27 what to identify as **alternatives and qualifications** to the original tender requirements which may improve the organisations ability to carry out the work (understanding)
- K28 how and why to specify **alternatives and qualifications** to the original tender requirements which may improve the organisations ability to carry out the work (evaluation)
- K29 how to apply a profit margin and payment schedule which meets the objectives and strategy of the organisation (application)
- K30 how to adjust the tender offer to take account of market conditions (application)
- K31 how to check that the tender offer is complete and accurate and conforms to house style, and make any necessary modifications (application)
- K32 how to present and support the tender offer in a manner which maximises its acceptability (application)
- K33 how to collate, arrange and submit tender offer information in accordance with tender instructions together with any identified **alternatives and qualifications** (application)
- K34 how to collect together all the tender offer information, record it, store it securely and only pass it on to people who have the authority to receive it (application)

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Prepare and submit tenders in built environment
design management



**Knowledge and
understanding**

K35 how and why to recommend the selected **method** to decision makers and encourage them to adopt it (synthesis)

Scope/range

Review tender enquiry documentation

- 1 Enquiry
 - 1.1 pre-qualification
 - 1.2 invitation to tender
- 2 Enquiry documents
 - 2.1 pre-qualification questionnaire
 - 2.2 invitation to tender
 - 2.3 form of tender
 - 2.4 returns procedure
 - 2.5 availability of staff are they in the right place
 - 2.6 cost of tendering
 - 2.7 evaluation criteria
 - 2.8 surveys
 - 2.9 specifications
 - 2.10 drawings
 - 2.11 schedules
 - 2.12 electronic models, graphical and non-graphical electronic data files
 - 2.13 bills of quantities
 - 2.14 health and safety plans
 - 2.15 scope of services
 - 2.16 terms and conditions
 - 2.17 schedule of rates
- 3 Points of concern:
 - 3.1 incomplete enquiry information
 - 3.2 inconsistent with the policy of the organisation
 - 3.3 discrepancies within enquiry information
 - 3.4 unclear enquiry information
 - 3.5 tender procedure requirements
 - 3.6 quantitative requirements
 - 3.7 qualitative requirements
 - 3.8 contractual requirements
- 4 Agreed organisational criteria:
 - 4.1 financial

Scope/range

- 4.2 availability of staff
- 4.3 cost of tendering
- 4.4 viability of tendering information
- 4.5 current workload
- 4.6 type of work
- 4.7 competence of people
- 4.8 timescale
- 4.9 social policies
- 4.10 environmental impact
- 4.11 location
- 4.12 potential completion
- 4.13 resources
- 4.14 risk
- 4.15 contractual
- 4.16 legal
- 4.17 inter-disciplinary working
- 4.18 information management

Evaluate and select work methods

- 5 Project information:
 - 5.1 contractual obligations and scope and scale of works
 - 5.2 specifications
 - 5.3 drawings
 - 5.4 schedules
 - 5.5 electronic models, graphic and non-graphic electronic data files
 - 5.6 bills of quantities
 - 5.7 health and safety plans
- 6 Production, installation and work methods:
 - 6.1 sequencing and integration of work operations
 - 6.2 construction and installation techniques
 - 6.3 prefabrication and standardisation
 - 6.4 working conditions (health, safety and welfare)
 - 6.5 new materials and technologies

Scope/range

- 7 Relevant sources:
 - 7.1 project team and supply chain
 - 7.2 regulatory authorities
 - 7.3 technical/trade literature
 - 7.4 standard lists and procedures
 - 7.5 investigative research
- 8 Production and installation factors:
 - 8.1 construction requirements and compatibility with site constraints
 - 8.2 adaptation of existing structural elements
 - 8.3 practicality, buildability and disassembly
 - 8.4 standardisation and component co-ordination
 - 8.5 production and installation processes, scheduling, lead-in times, construction programming/sequencing and quality control
 - 8.6 expertise including experienced crafts people
 - 8.7 fit and tolerances
 - 8.8 production resources availability and performance (plant/equipment/people/skills)
 - 8.9 materials, components and systems availability and capability
 - 8.10 strategies to address interface issues on and off-site
 - 8.11 access/transportation/traffic management
 - 8.12 health and safety
 - 8.13 system commissioning
 - 8.14 operation and maintenance information
- 9 Design parameters:
 - 9.1 client, user and community requirements, expectations, options and preferences
 - 9.2 project type/purpose/use
 - 9.3 site, location and surrounding environment
 - 9.4 geology (seismology, ground movements and soil type)
 - 9.5 transport and infrastructure
 - 9.6 planning, urban & social integration
 - 9.7 design form (architectural, structural, civil, services)
 - 9.8 design quality (character/scale/aesthetics)

Scope/range

- 9.9 function/spatial planning (occupancy/room information/access and egress incl. DDA, security)
- 9.10 programme budget
- 9.11 cost (including whole life)
- 9.12 development timetable
- 9.13 risk assessment and mitigation
- 9.14 cost planning (including life cycle cost) and value management
- 9.15 procurement
- 9.16 in-use performance
- 9.17 environmental quality and sustainability
- 9.18 environmental assessment/certification schemes
- 9.19 protection of archaeological, architectural, cultural and historically valuable resources (significance/status)
- 9.20 statutory, regulatory and legal constraints
- 9.21 standards and codes of practice
- 9.22 health and safety
- 9.23 form, function, materials, components and systems
- 9.24 loose fit design - for flexibility/adaptability/deconstruction/disassembly
- 9.25 buildability
- 9.26 operation and maintenance

Estimate the resource requirements and costs within a tender

- 10 Project requirements:
 - 10.1 construction
 - 10.2 installation and maintenance work
 - 10.3 supply of goods and materials
 - 10.4 consultancy services
 - 10.5 invitation to tender
 - 10.6 form of tender
 - 10.7 technology required
 - 10.8 procedures for submitting tenders
- 11 Consultancy services:
 - 11.1 invitation to tender
 - 11.2 form of tender

Scope/range

- 11.3 technology required
- 11.4 procedures for submitting tenders
- 12 Phasing:
 - 12.1 planning
 - 12.2 design
 - 12.3 procurement
 - 12.4 construction
- 13 Estimate:
 - 13.1 cost based on a quotation
 - 13.2 unit cost built up from basic data
 - 13.3 internal and historical cost data
 - 13.4 published cost data
- 14 Resources - type:
 - 14.1 people (in-house, external)
 - 14.2 materials
 - 14.3 finance
 - 14.4 time
 - 14.5 information management
- 15 External factors:
 - 15.1 variations over time
 - 15.2 location
 - 15.3 statutory and contractual requirements
 - 15.4 special working conditions and methods
 - 15.5 resourcing conditions
 - 15.6 competition
 - 15.7 inter-disciplinary working

Finalise and submit a tender offer

- 16 Risks and opportunities:
 - 16.1 environmental
 - 16.2 financial and market
 - 16.3 political
 - 16.4 technical

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Scope/range

- 16.5 health and safety
- 16.6 reputation
- 16.7 competence of people
- 17 Alternatives and qualifications:
 - 17.1 specifications and materials
 - 17.2 methods of construction
 - 17.3 services
 - 17.4 time-scales
 - 17.5 supply options
 - 17.6 price offer options
 - 17.7 inter-disciplinary working
 - 17.8 information management

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