Estimating and Tenders

The Purposes of Estimates

• viability

• financing

• budgets

• design alternatives

• tender estimates


Accuracy of tenders

- Order of magnitude  +/-  30%
- Preliminary           +/-  20%
- Definitive            +/-  10%
- Detailed              +/-  5%

Sydney Opera House
USUAL METHODS

Order of magnitude

Use unit rates ($/m^2)

Preliminary

gross quantities - (m^3 concrete, tonnes reinforcement, m^3 excavation etc )

Definitive

Unit rates for components prior to completion

Detailed Estimates

Working drawings plus specifications

Unit rate: item by item

Resource Costs: labour materials, equipment
Cost Components

Direct and Indirect costs

Direct Costs

direct labour

equipment

job materials (temp)

permanent materials

subcontracts
Indirect costs

supervision

administration

clean up

set up

etc

Total Costs = Direct Costs + Indirect Costs

provisional items

provisional sums

prime cost items
Estimation Process

- estimate program
- project study
- material - sub-contract costs
- construction method
- labour/ plant costs
- direct costs
- indirect costs
- report
Subcontractor quotations
• Materials, timing

Materials: quantities

wastage damage theft

Construction Method
• study contract drawings

• study specification etc

• site inspection

• consider alternatives
Site inspection

- Services
- ground condition
- access
- security
- disposal
- demolition
Estimating Direct Costs

- Method statement
- labour and plant costs
- crews, materials etc
Indirect Costs
- Site management, supervision
- plant
- transport
- scaffolding
- accommodation
- temporary works, services

Computers
databases
Estimating Errors

- dimensional errors
- transposed figures, decimal points
- copying
- time estimates
- wage rates - on costs etc
- waste
- unstable material prices
- transport rates
- weather, strikes, etc
- plant charges
- omission of items, overheads
- incorrect units of measurement