Quantity Surveying

Definition.

- Quantity surveying is a term used in the construction industry to define the process of taking measurements of civil works, preparing specifications, and estimating the cost of works

Tasks in QS

- Taking measurements of civil works
  - Taking-off measurements
  - Preparing the BOQ
- Preliminary cost estimation
- Price schedules
- Tender preparation and evaluation
- Value work executed for payment

Tasks in QS (contd.)

- Preparing final account of completion of works
- As built measurements
- Property valuation

- Cost advice to client , procurement and contractual methods, Project management

Measurements of civil works

- Set out rules for the measurements and description of building work

- The standard book, which is used here, is standard technical specification & method of measurement for construction of buildings by BaTCoDA, March 1991

BATCODA Technical specifications and method of measurements

1. General Requirements
2. Excavation and Earthwork
3. Concrete work
4. Masonry work
5. Water and Damp proofing
6. Roofs and wall cladding
7. Carpentry and Joinery
8. Hardware (Ironmongery)
9. Structural Steelwork
10. Metal work
11. Plaster and pointing
12. Painting
13. Glazing
14. Sanitary installations
15. Electrical installations
16. External works and services

Preparation of the BOQ

- Taking off
- Squaring
- Abstracting
- Writing the final bill

Specifications and BOQ worksheet

ITEM	***DESCRIPTION***	***UNIT***	***QTY***	***U.PRICE***	***TOTAL P.***

SUMMARY

A. SUB STRUCTURE

1	Excavation and Earth Works……	Birr	-
2	Stone Masonry Works ……	Birr	-
3	Concrete Works…… ….	Birr	-

Total A ……. Birr -

B. SUPER STRUCTURE

1	Concrete work……	Birr	-
2	Block Works ……	Birr	-
3	Roofing…… ……	Birr	-
4	Carpentry and joinery……	Birr	-
5	Metal Works ……	Birr	-
6	Plastering and Other Floor, Wall and Ceiling Finishing …….	Birr	-
7	Painting …… …….	Birr	-
8	Electrical Installation…… ……	Birr	-
	Sanitary Installation……		-
		Birr	

Taking off

- This is the process of preparing / defining a detailed list of all labor and materials necessary for the work and entering the items on properly dimensioned paper – the takeoff sheet.

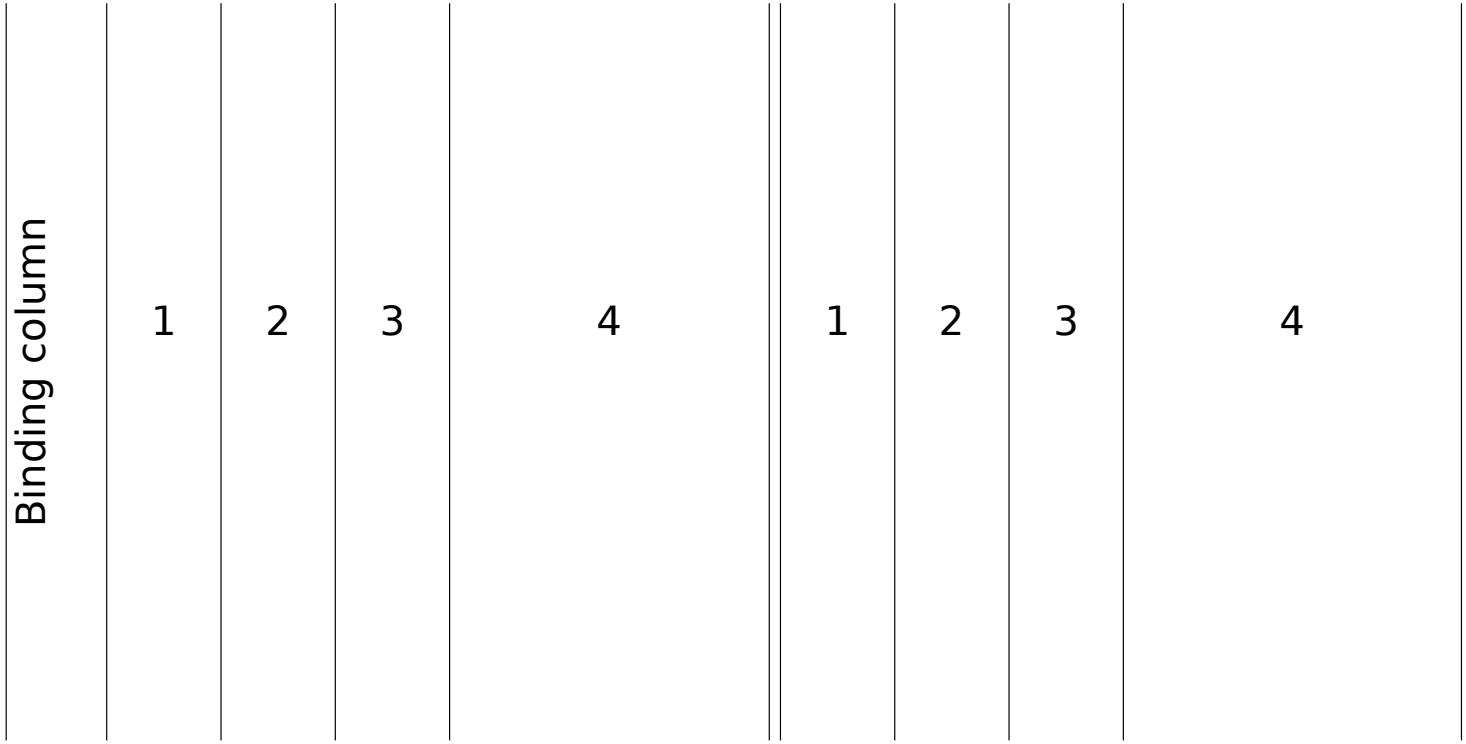
- Except the qty. of re-bar which will be taken off on bar schedules

Bending/Bar schedule

Project:			Bending schedule to :														
Location	Mark	shape	Diameter	Length(m)	No				∑ L for each diameter								
Total																	
	W/m																

Location	Ref	Shape	Dia	Length	No of Bars		Dia 6	Dia 8	Dia 10	Dia 12	Dia 14	Dia 16	Dia 20	Dia 24	Remarks
CF3			16	8.60	1 x 2 x 19	326.80						326.80			
			16	3.65	1 x 2 x 46	335.80						335.80			
			14	8.60	1 x 2 x 17	292.40					292.40				
CF1			16	6.15	1 x 3 x 13	239.85						239.85			
			16	6.15	1 x 3 x 13	239.85						239.85			
			14	2.65	1 x 3 x 34	270.30									
			14	2.65	1 x 3 x 34	270.30									
F3			14	2.75	2 x 5 x 13	357.50					357.50				
						m									
						Kg/m	0.222	0.395	0.617	0.888	1.208	1.578	2.468	3.551	
						Kg									

Take-off sheet



Take off sheet (contd.)

1. Timesing column
2. Dimension column
    - Length
    - Width
    - Height (thickness)
3. Squaring column
4. Description Column

Take off sheet (contd.)

- Forms of dimensions
  - Cubic measurements
  - Square measurements
  - Linear measurements
  - Numbers or enumerated items
  - Item

Take off sheet (contd.)

- ‘Timesing’
  - Several similar items having the same dimensions
- Dotting on
  - When repeated dimensions can not be multiplied but added
- Waste calculations
  - On right hand side of the description column
- Nullifying
  - Alterations in dimension
- Bracketing
  - When two or more measurements are related to one description