

QUANTITY SURVEYING (QUANTITY TAKE OFF)

Quantity surveying is the detailed compilation of the quantity of each elementary work item that is called for in the project.

Uses of quantity surveying

- Cost estimation of items and work.
- Provide data during planning and scheduling regarding;
 - Times required in the field for work accomplishment.
 - Crew sizes.
 - Equipment needs and methods of construction.
 - Purchasing information.
- In monitoring and estimating the progress of the work in the project.
- Calculating required cash flow.
- **Basis of determining payments to the contractor in unit price contracts.**

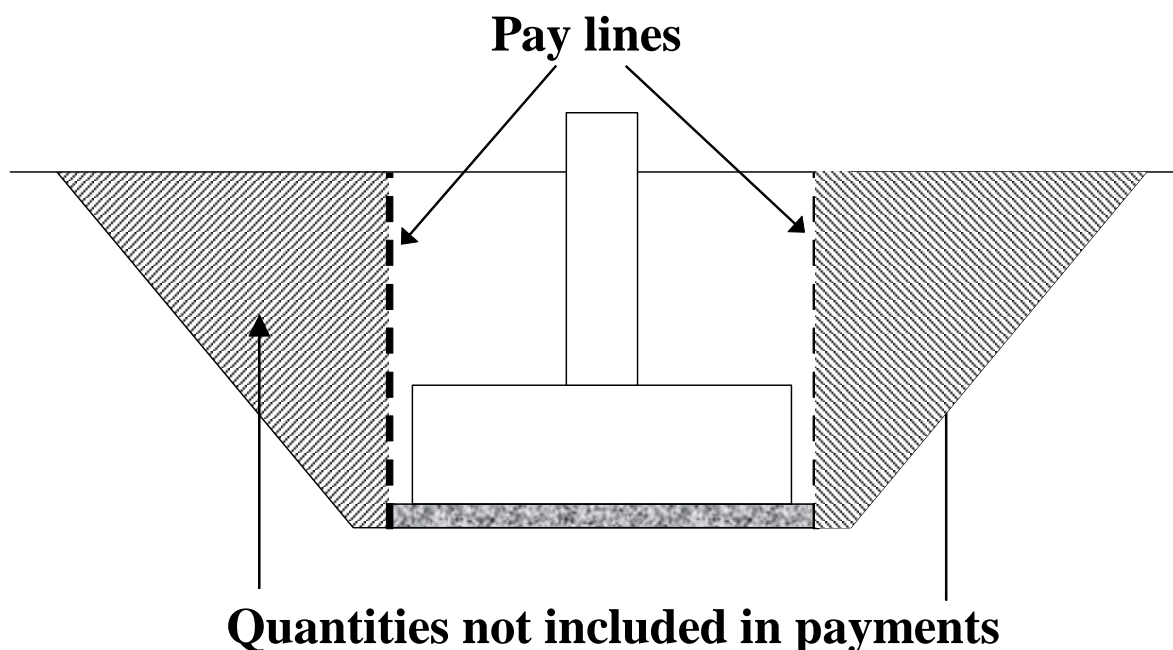
Different types of quantity surveying

Quantity surveys conducted by the owner or representative

Quantity surveys conducted by the owners or their representatives who will be supervising the project or are doing the design like architect, engineer (consultant), or project managers. These quantity surveyings are usually less detailed and are conducted within pay lines, i.e. the quantities that will be used for payments.

Quantity surveys conducted by the contractor

Quantity surveys conducted by the contractor are usually more detailed and estimate the actual quantities that will be constructed, including quantities that is needed in the construction but will not be included in the payment, like extra width in excavation to facilitate construction and slopes in loose soils are not included in the pay line (see figure).



Quantity surveying units

The units used in quantity surveying will depend on the type of work being surveyed

- Length "m" (Pipe lines, electrical wiring, etc.)
- Area "m²" (Plastering, painting, masonry 1/2 brick width, concrete floors < 20 cm, ceramic tiling, flooring, etc.)
- Volume "m³" (excavation, backfill, plain and reinforced concrete, masonry brick width and more, concrete floors ≥ 20 cm, etc.)
- Weight "ton/kg" (structural steel, reinforcing steel, decorative steel work, etc.)
- Each or by number (accessories, doors, windows, electrical outlets, toilets, basins, etc.)
- Lump sum (removal of old buildings, bill boards, etc.)

Rules of quantity surveying

- 1- Determine the purpose of the quantity surveying (Pricing, payment, progress, etc.)
- 2- Read specifications and determine the method and rules of pricing in case of payment, and determine the allowances, grades, etc. in the case of pricing.
- 3- Determine units used.
- 4- Always use dimensions given in drawings, calculate missing dimensions, never measure from the drawings.
- 5- Mark quantities once added to the survey to avoid repetition or omission.
- 6- Use common sense and visualization.

Quantity surveying sheets

All quantity surveying must be conducted using quantity surveying sheets (shown below) or books to facilitate revision, by the quantity surveyor or others.

Item no	Description	Unit	No	Dimensions			Addition	Deduction	Partial	Total
				length	width	height				