

Chain Surveying

In this method, the whole of the work is done with the tape. No angle measuring instrument is used and the direction of the lines is fixed entirely by linear measurement. The survey is accomplished by dividing the field into triangles and obtaining sufficient measurements of the sides required for plotting and for calculation of areas.

Conditions of selected survey station:

- 1) Must be visible, and minimum.
- 2) Survey line must be as few and can be plotted.
- 3) The frame work must have one or two base line.
- 4) The main lines should form well conditioned triangles.
- 5) All the line should not pass through obstacles.
- 6) Locating ground features by offsets. **An offset:** is the lateral distance of an object or ground feature measured from a survey line.
- 7) A chain survey may be done in the following steps:
 - a. reconnaissance:
 - Fixed best positions of survey lines and survey stations.
 - Prepare a reference sketch.
 - The direction of the meridian indicate by a needle at the top of a map (north direction)
 - Check the indivisibility of stations
 - b. Marking and fixing survey stations: marking the station by wooden pages nails in road.
 - c. Figure (a) shows a closed chain traverse. At A the directions AB and AD are fixed by internal measurements Aa_1 and Ad_1 .

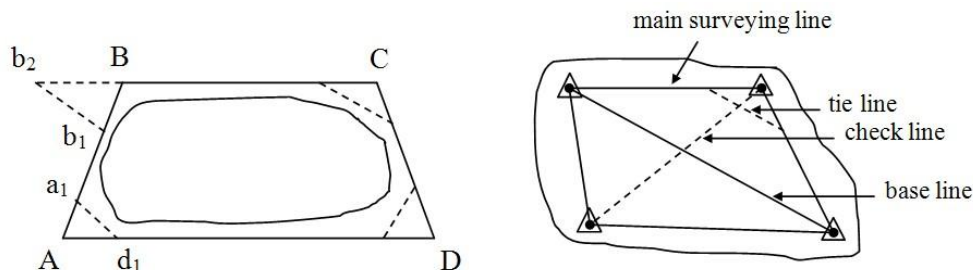
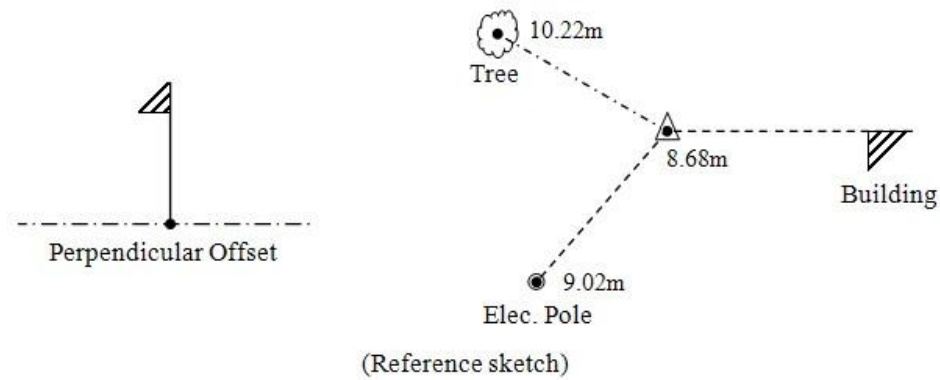


Figure (a)

- d. Running survey lines: chaining may be started from the base line,

e. To locate the details, offsets should be taken; the building is located by tape measurement only by perpendicular offset from the traverse line to the foot of a perpendicular offset through the point as indicated by figure below.



Advantage, survey is covering small areas, but disadvantages, the surveying with the tape alone is too slow to use to any great extent.