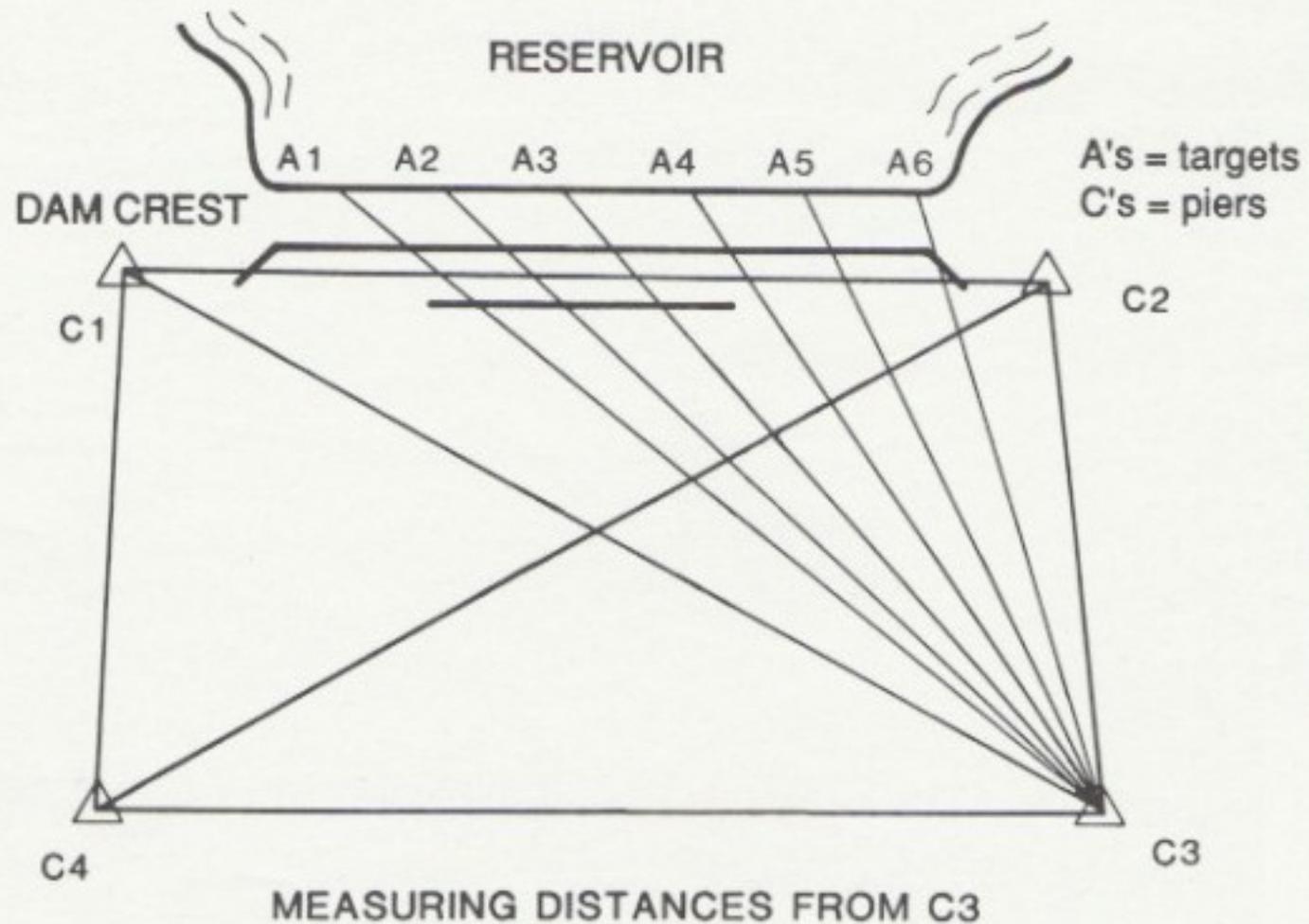


## Typical Trilateration Network



Typical Structural Measurement Points



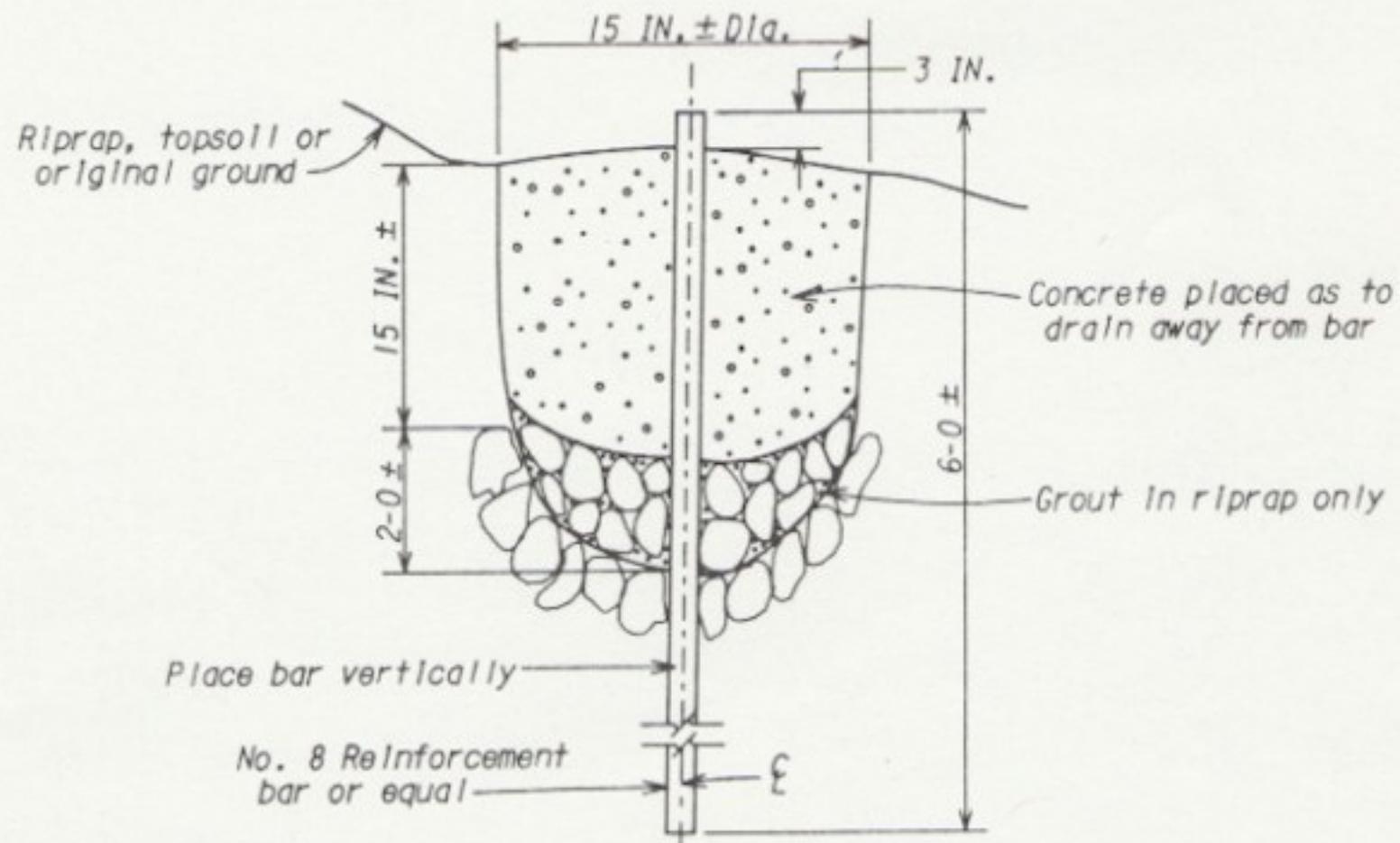
## TRIANGULATION

The triangulation system measures angles rather than distance. Each of the angles in a network is measured, and the angle measurements are then used to compute distances. Changes in these distances indicate movements of the structure. Figure IV-41 depicts a typical triangulation network.

Triangulation equipment includes:

- Stationary instrument piers and plates
- Movable and fixed targets
- Measurement points
- Precise surveying equipment

Triangulation measurements are useful when it is not practical to measure distances directly. This system permits the positioning of reference monuments far enough away from the area being monitored that they will be unaffected by any general movement of the area.



a. Embankment Measurement Point