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Suitability and stability of
Foundation sites and
abutments :-

① spread footing foundation

Foundations constructed by increasing the area at the base of the structure by means of offset are called spread footing foundation.

Suitability

① wall footing :-

This is the cheapest type of spread footing foundation and is largely used for walls of ordinary buildings.

② masonry pillar footing :-

Isolated footings are used to support the individual pillar and columns constructed in brick or stone masonry.

③ concrete column footing :- These are either stepped type, slab type or slope type

having projections in the concrete. To support heavy load reinforcement is also provided at the base.

② Grillage foundation :

The foundation which consists of one or two tiers of wooden or rolled steel section with space filled up with concrete is known as Grillage foundation.

This type of construction avoids deep excavation and provides the necessary area at the base of the structure to reduce the intensity with in the safe bearing capacity of the soil.

Suitability :

Steel grillage foundations are useful for structure like columns, pier subjected to heavy concentrated loads and hence are employed for foundations of the buildings such as theaters, factories, town halls etc.

Timber grillage foundation are usually provided for timber column subjected to heavy concentrated loads.

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This type can also be safely used for light buildings where soil is soft and is permanently water-logged.

(3) Raft Foundation :-

This type of foundation is useful for public buildings, office buildings, school buildings, residential quarters etc.

When the ground conditions are very poor and bearing power of the soil is so low that individual spread footing can not be provided.

(4) Inverted Arch Foundation :-

This type of foundation is not commonly used for buildings but it is quite suitable for other structures like bridges, reservoir tanks, support for drainage lines etc.

Suitability of sites

The suitability of the location of each site put forward was evaluated. This was measured by taking into consideration two key factors firstly identifying any location based development constraints and secondly determining accessibility levels.

Location based development constraints including the following -

- i) Unsuitable land parcels
- ii) Sites of special interest
- iii) Land within air port public safety zone.
- iv) National trust land
- v) Ribbon development

In determining accessibility, the following factors were taken into consideration -

- i) Distance from built up area.
- ii) " Bus routes
- iii) " shops
- iv) " Non-fee paying schools

Abutments

Abutments refer to the sub structure at the end of a bridge span where on the bridge's ~~support~~ super structure rests. Single span bridges have abutments at each end which provide vertical and lateral ~~support~~ for the bridge ~~super structure resp~~ support.

- * An abutment transfer loads from a super structure to its foundation elements.
- * To resist or transfer self weight lateral loads and wind loads.
- * To support one end of an approach slab.