

## 4.5 SHORING AND UNDERPINNING

### 4.5.1 SHORING

The arrangement employed to prevent a damaged structure, due to either foundation settlement or other reasons from collapse, is called shoring. It is also used for providing temporary support to a structure which is being remodeled.

**The shores are of types:**

**Racking Shores:** In this type, notches are cut in the walls of the building and inclined posts are property, while demolishing the building, are called horizontal or flying shores.

**Horizontal of Flying Shores:** The shores, which are employed to support the walls of adjoining property while demolishing the building are called horizontal or flying shores.

**Vertical Dead Shores:** The vertical shores used to support walls temporally are called vertical or Dead shores.

### 4.5.2 UNDERPINNING

The operation of providing new permanent foundation is known as underpinning. The underpinning may be done by the following methods.

#### **Pit Underpinning**

In this method, a pit is dug to expose the foundation to be remodeled & the old foundation is either removed completely or strengthened suitably.

#### **Pier Underpinning**

In this method of underpinning, piers under foundations of structures are installed, filled with concrete and wedged up to transfer the load to a new pier.

This method is most suitable in dry ground. In pier underpinning, proper care must be taken to prevent loss of ground installing the sheeting, otherwise the building structure may sink. The least size of the underpinning pits to provide working place, for workers is 1m x 1.3m. The pits are sunk to a stratum strong enough.

In this method piles are jacked into the ground with care for underpinning building, where underlying ground has water bearing strata.