

Quality Directions:

1. **Third Party evaluation-** State Project Office took decisions for third party evaluation and quality assurance of all civil works under SSA. MOU is signed with CBRI Roorkee with following major points.
 - Advice for good quality of construction system with earthquake resistance design.
 - Non destructive test at site.
 - Sample collection & material testing of bricks, sand, cement, steel, concrete cube and cement mortar.
 - Report after each visit with suggestions for quality assurance.
 - 4 visits of site e.g. at plinth level, casting of beam & slab and at completion level.
 - Workshop/training programme for sharing experiences and necessary guidance about construction to VEC members, BRC, deputy BEO, BEO and DPOs.

After frequently visiting most of the allocated sites the CBRI Roorkee made certain observations and put forth a few major suggestions to be incorporated while constructing civil work. The following suggestions are as such:

1. Proper cover as per code to the reinforcement of columns/beams/Lintel/Slab should be provided.
2. Course of bricks should not be placed between lintel band and door frame/opening.
3. Stirrups/shear hooks should be bent at 135° inside. It is an essential provision for safety against earthquakes.
4. Proper slope should be given at the time of finishing of roof with proper drainage system.
5. First class brick having class designation 75 are to be used in all masonry work.
6. The thickness of joint mortar should be 10 mm. maximum for attaining higher strength in masonry.
7. Plinth protection (apron) should be provided all around the building as per specification.
8. A slip joint between the roof slab and masonry wall using mastik compound should be provided and a 10 mm groove in the wall plaster below the roof slab should also be provided.
9. Drip/String course should also be provided for all the projections. This reduces the entry of rain water on the walls and into the building.
10. Column should be cast with proper alignment as load carrying capacity of column reduces significantly due to eccentricity.
11. Vertical/inclined hair cracks on walls should be treated by using chicken wire mesh nailed in the wall and finished with rich cement sand mortar properly.