

Helicon Ltd

Plot # 127, Dhaka EPZ (Old Area), Ganakbari, Savar, Dhaka, Bangladesh.

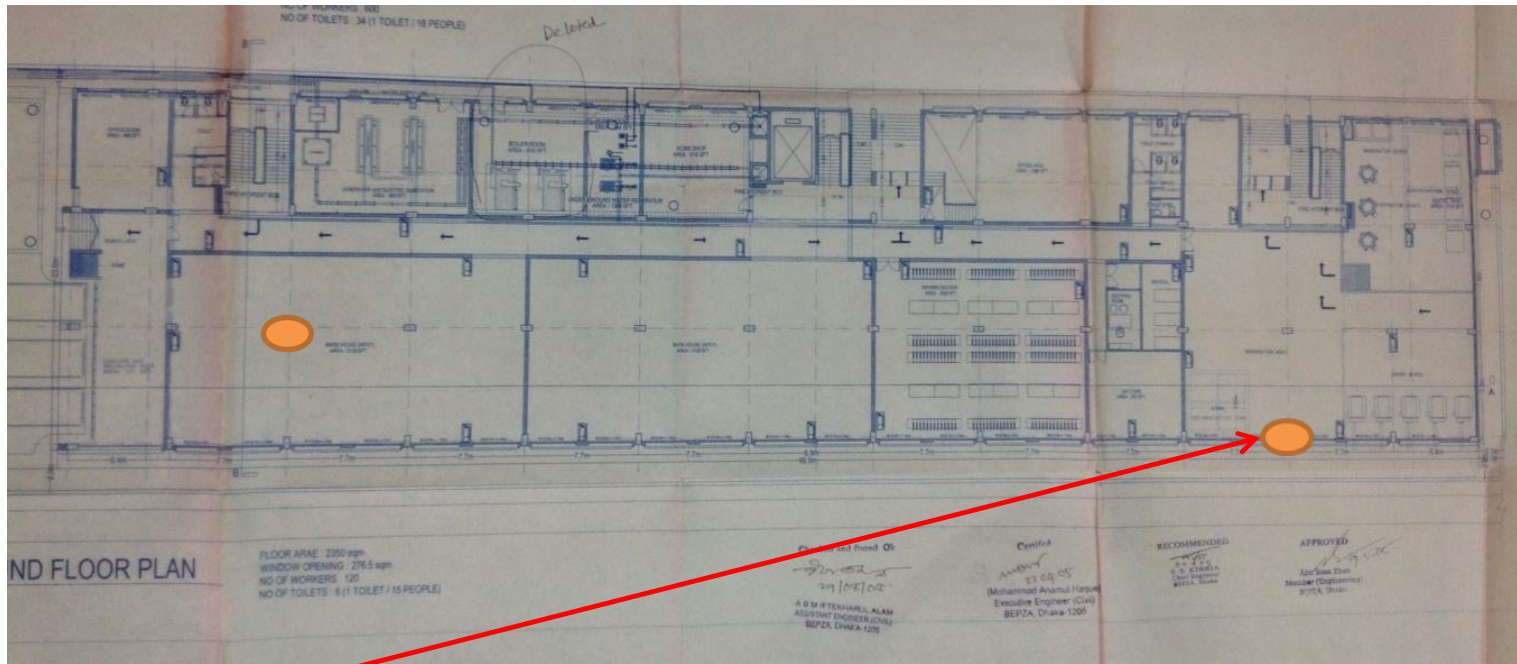
23.948442,90.271743

11th May 2014



Observations

Column Stresses



Column Stress:

Cursory calculations indicate that columns may be stressed to high levels when the additional permitted 3 storeys are constructed. Columns highlighted were tested and stone aggregate confirmed. Reinforcement was investigated using a ferros scanner.

Cracking in non structural masonry walls.



Cracking in masonry at West end of building

Cracking in masonry walls at West end of building.

Significant cracking was noted in masonry walls along Grid 1 and 3 between Grids A and B at Level 2.

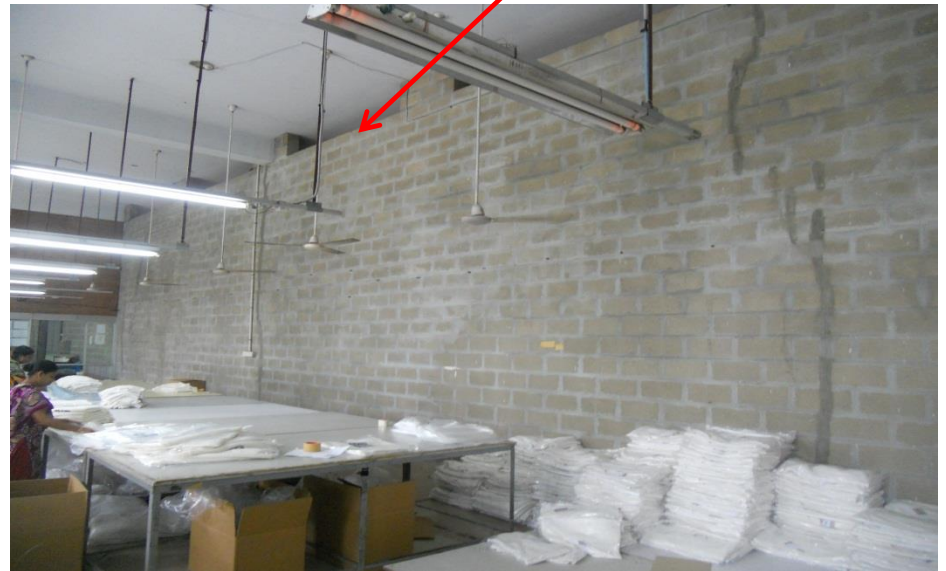
Cracking may have been caused by thermal movement in the structure or by foundation settlement.



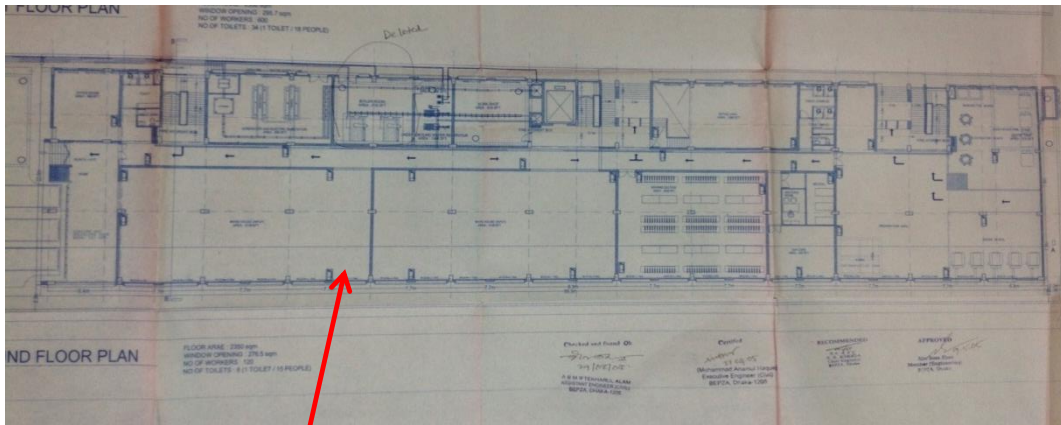
Cracking in internal masonry walls at Ground Floor Level.

Double height masonry walls have numerous full height cracks.
No movement or expansion joints were noted.
Top of wall is largely unrestrained.

Ground level to first floor masonry wall



Cracking in Ground Floor Slab



Cracks visible in exposed concrete areas (where no finishes exist)



Crack over ground tie beams

Ground Floor Cracking:

Cracks along lines of ground beams may be the result of settlement of the filling under the floor slab.

Cracking is visible in areas without floor finishes.

Cracking in beams



Hairline crack in beam



Cracking along edge beams

Hairline cracks were found in many beams throughout the building.

Priority Actions

Problems Observed

ITEM 1: Column stresses (if the building is extended to 6 storeys).

ITEM 2: Cracking in non structural masonry walls.

ITEM 3: Cracking in Ground Floor Slab.

ITEM 4: Cracking in beams.

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Column stresses (if building is extended to 6 storeys)	If factory is to be extended to 6 storeys Factory Engineer to review columns stresses in all columns using a model based design check to loading set out in BNBC-2006. Factory Engineer to verify insitu concrete strength by taking 100mm diameter cores from 4 columns .	6-months
2	Cracking in non structural masonry walls.	Factory Engineer to monitor cracking in masonry walls over an extended period (min 12 months) and advise on any remedial structural work required.	6-months
3	Cracking in Ground Floor Slab.	Factory Engineer to monitor settlement of the ground floor slab and note if any settlement occurs in foundations to the main structural elements.	6-months
4	Cracking in beams	Factory Engineer to investigate if the cracking is structural or exists only in the render.	6-months