



COTTON CLOTHING LTD-

NEW Extension unit

Plot No. 27 (p) & 28 (p). Sataish Road, Gazipura, Tongi, Gazipur 1712.
(23.919936, 90.388819)
13th January, 2019





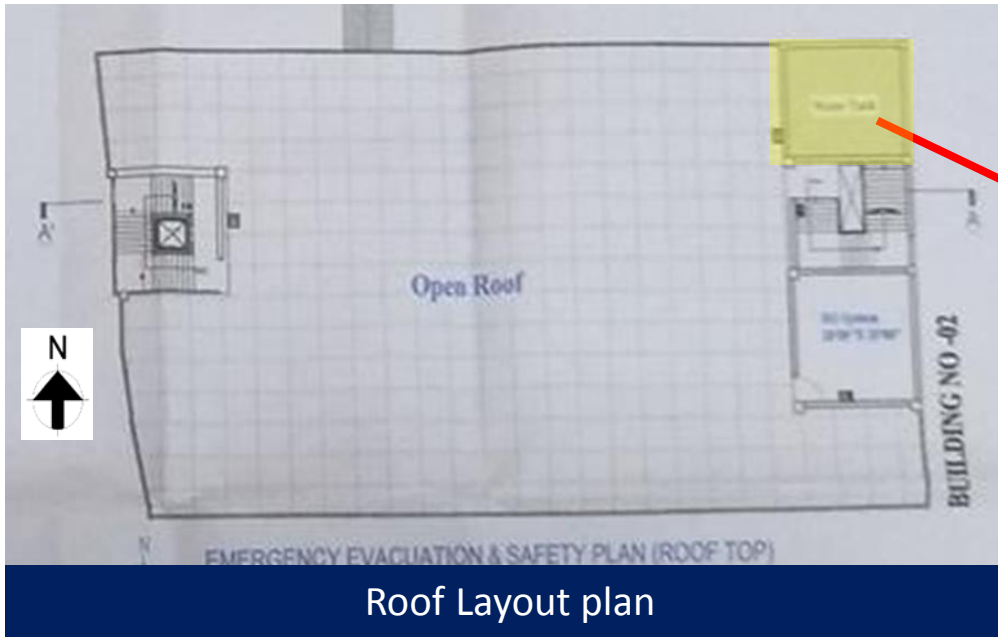
Observations



**Column to be stressed above normal
design limits**



Cursory calculations indicate that columns under water tank would appear to be stressed in excess of normal design limits, assuming minimum concrete strength (stone chips aggregate). Building Engineer to review design, loads and columns stresses.



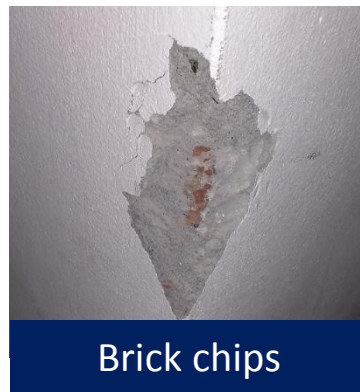
Roof Layout plan



Water tank



Stone chips



Brick chips

Two types of aggregate (Brick and stone chips) had been used in column construction. Most of the test report was available for brick chips concrete. Building engineering is required to confirm the aggregate type and concrete strength of ground floor columns.



Discrepancies between provided drawing and on site condition



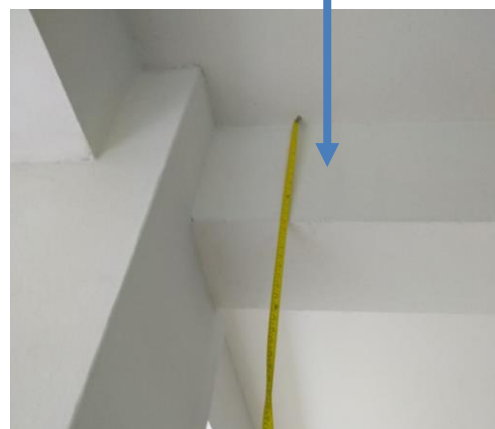
Periphery beam at west stair was missing but which is shown in beam layout. Also depth of longitudinal beams were found 500 mm instead of 450 mm.



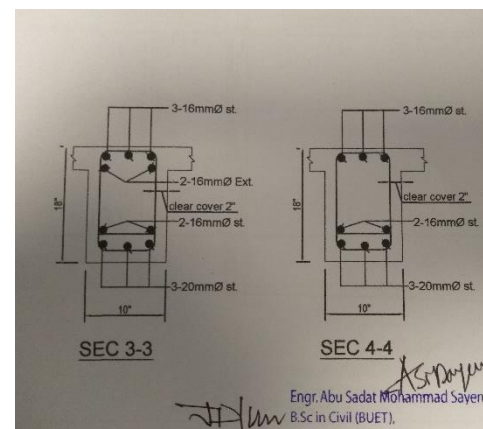
Missing beam



Beam Layout



15 inch d/s measured



Beam size



Rebar dia. of few columns were measured 16 mm at roof level whereas column schedule shows 20 mm at all level.



Rebar Diameter

COLUMN SCHEDULES:

COLUMN TYPE	Below Ground Level (3" clear cover)	Ground to 1st Floor (1.5" clear cover)	2nd to 3rd Floor (1.5" clear cover)	4th top Floor (1.5" clear cover)
C1(15"x15")	12-Ø20mm 18" x 18"	12-Ø20mm 15" x 15"	12-Ø20mm 15" x 15"	12-Ø20mm 15" x 15"
C2(18"x18")	12-Ø20mm 21" x 21"	12-Ø20mm 18" x 18"	12-Ø20mm 18" x 18"	12-Ø20mm 18" x 18"
C2A(18"x18")	10-Ø20mm 21" x 21"	10-Ø20mm 18" x 18"	10-Ø20mm 18" x 18"	10-Ø20mm 18" x 18"
C3(20"x20")	16-Ø20mm 23" x 23"	16-Ø20mm 20" x 20"	16-Ø20mm 20" x 20"	16-Ø20mm 20" x 20"
C4(22"x22")	16-Ø20mm 25" x 25"	16-Ø20mm 22" x 22"	16-Ø20mm 22" x 22"	16-Ø20mm 22" x 22"
C5(15"x15")	8-Ø20mm 18" x 18"	8-Ø20mm 15" x 15"	8-Ø20mm 15" x 15"	8-Ø20mm 15" x 15"

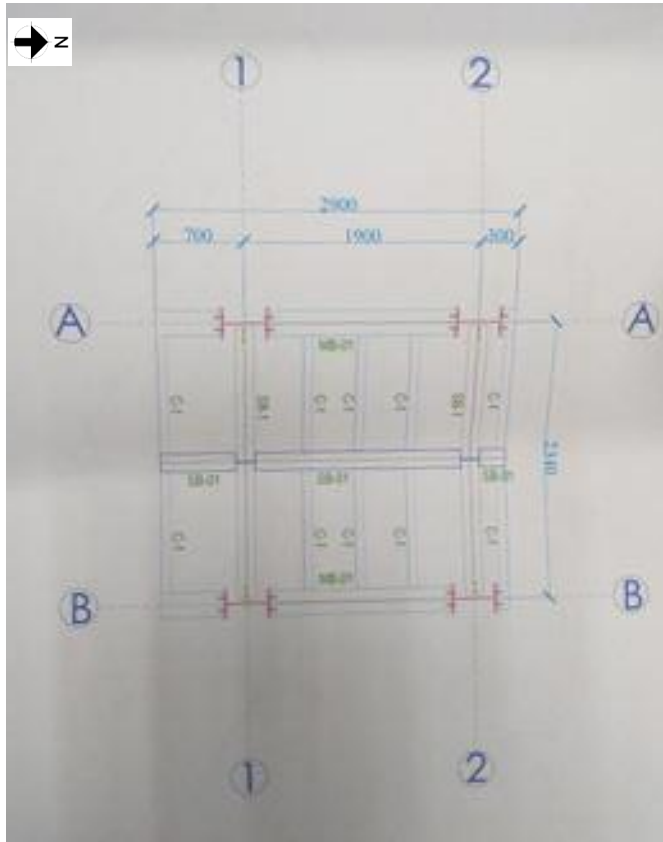
Column Schedule



Mismatch in provided drawing



Column & beam layout were not match with existing condition. Orientation of column and location of MB-01 are found different. Flange thickness of MB-1 was found 8 mm instead of 12 mm.



Column & Beam Layout



Existing Beam-Column

MAIN & SUB BEAM SCHEDULE STEEL GRADE = 50KSI (YIELD)	
ID	SIZE
MB-01	F(250x12) W(372x6)
SB-01	F(150x8) W(366x5)



Thickness of flange



Existence of significant gaps at steel connection



Significant Gaps



Significant Gaps

Significant gaps were observed in column rafter joint at several location. Building engineer is required to carry out suitable remedial works.



Problems Observed

Building-2:

- 1: Column to be stressed above normal design limits.
- 2: Discrepancies between provided drawing and on site condition.

Connecting Bridge:

- 3: Mismatch in provided drawing.
- 4: Existence of significant gaps at steel connection.



Priority Actions



Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Column to be stressed above normal design limits (Building-2)	Factory Engineer to review design, loads, columns stresses.	6-weeks
2	Column to be stressed above normal design limits (Building-2)	Verify in-situ concrete strength and aggregate type by taken min. 4 nos. 100mm dia. core samples from ground floor columns.	6-weeks
3	Column to be stressed above normal design limits (Building-2)	Produce and actively manage a loading plan for all floor plates within the factory, giving consideration to floor, column and foundation capacity.	6-weeks
4	Column to be stressed above normal design limits (Building-2)	Continue to implement loading plan.	6-months



Item No.	Observation	Recommended Action Plan	Recommended Timeline
5	Discrepancies between provided drawing and on site condition. (Building-2)	Building engineer to verify the strength and diameter of column reinforcement.	6-weeks
6	Discrepancies between provided drawing and on site condition. (Building-2)	Building engineer to survey the building and produce as-built documentation reflecting the as constructed condition.	6-weeks
7	Lack of Information in Provided Drawing. (Connecting Bridge)	Factory engineer to survey the building and produce as-built documentation reflecting the as constructed condition.	6-weeks
8	Lack of Information in Provided Drawing. (Connecting Bridge)	Make any structural alteration as advised by Engineer.	6-months
9	Existence of significant gaps at steel connection. (Connecting Bridge)	Identify all the locations and carryout suitable repair works where necessary .	6-weeks