

Far East Knitting & Dyeing Industries Ltd. (Building-3 & 4)

Chandona, Thana-Kaliakoir, Gazipur
(24.042354N, 90.263318E)

17th September 2017





Observations



Discrepancies between drawings and on site condition



COLUMN DETAILS ZONE -A

SCHEDULE OF COLUMN(G.F)

NAME	D (mm)	TW (mm)	BF (mm)	TF (mm)
AC-1	395	8	330	14
AC-2	394	8	350	14
AC-3	345	8	250	10
AC-4	300	8	200	10
AC-3.1	330	8	200	12

SCHEDULE OF COLUMN(1st.F)

NAME	D (mm)	TW (mm)	BF (mm)	TF (mm)
AC-1	394	8	300	12
AC-2	390	8	300	12
AC-3	345	8	225	10
AC-4	300	8	200	8
AC-3.1	330	8	200	12

SCHEDULE OF COLUMN(2nd.F)

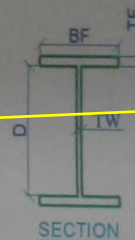
NAME	D (mm)	TW (mm)	BF (mm)	TF (mm)
AC-1	390	8	250	12
AC-2	390	8	300	12
AC-3	340	5	200	8
AC-4	300	8	200	8
AC-3.1	330	5	200	8

SCHEDULE OF COLUMN(3rd.F)

NAME	D (mm)	TW (mm)	BF (mm)	TF (mm)
AC-1	390	8	250	10
AC-2	390	6	255	10
AC-3	340	5	200	8
AC-4	300	5	150	8
AC-3.1	390	5	225	10

SCHEDULE OF COLUMN(4th.F)

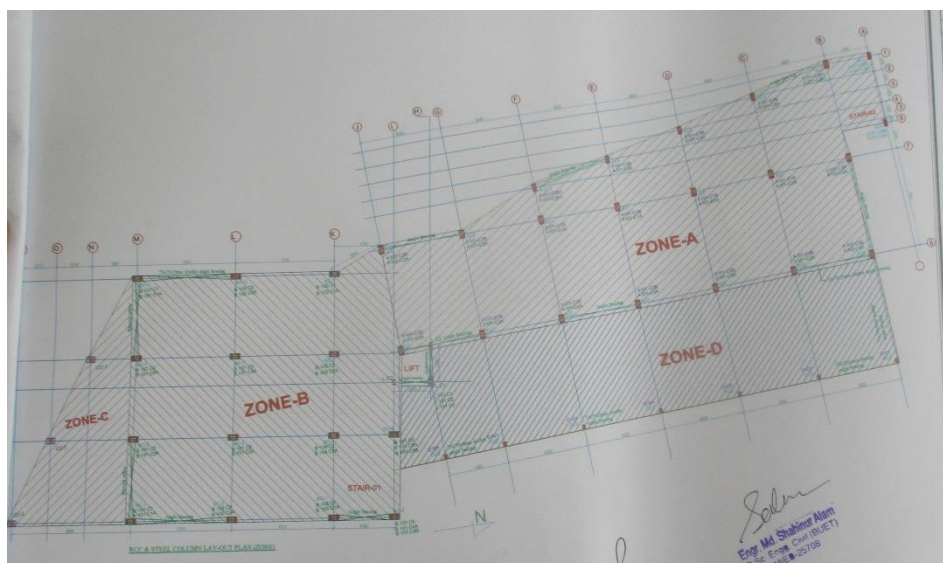
NAME	D (mm)	TW (mm)	BF (mm)	TF (mm)
AC-1	390	5	225	8
AC-2	380	5	200	8
AC-3	380	5	150	8
AC-4	300	5	150	8
AC-3.1	380	5	200	8



Measured 10 mm thickness of flange instead of 12 mm



Measured 230 mm width of flange instead of 255 mm



Steel Column Layout

Column sizes and thickness not match with provided drawings at zone A for column AC2 & AC3. Building engineer is required to produce an “as constructed” drawings to reflect the actual site dimensions with complete structural information.



Lack of Bracings details

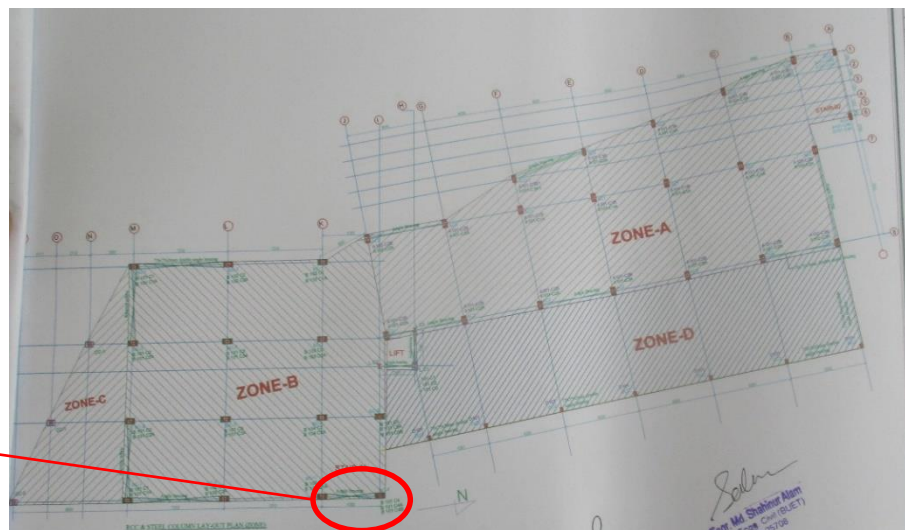
Observation : Building 3 (Printing Building)



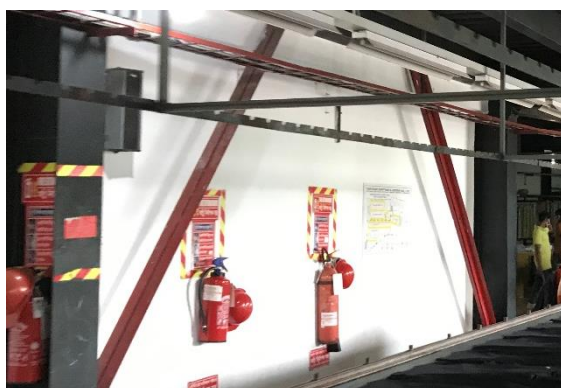
Sectional detail of bracing not found in provided drawings. Bracing is missing at south stair on ground floor.



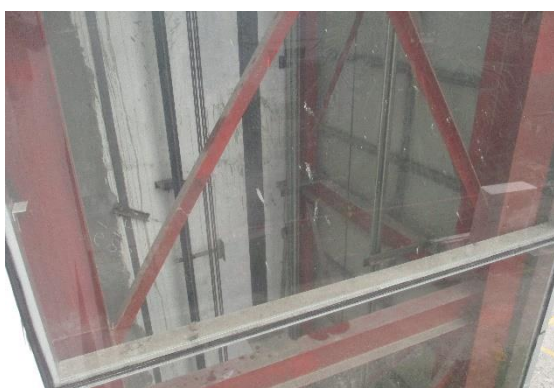
Bracing missing at stair -1



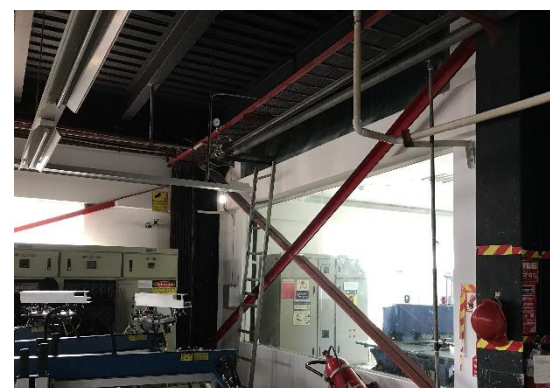
Bracing layout plan



Double angle eccentric bracing



Single angle eccentric bracing



Double angle cross bracing

Observation : Building 3 (Printing Building)



Corrosion in Steel member

Observation : Building 3 (Printing Building)



Corrosion found in 1st floor beam column connection at east. Corrosion also found in sub-beam at stair core (Stair-1).



Corrosion at beam-column joint



Corrosion at beam-column joint

Observation : Building 3 (Printing Building)



Cracks on south façade wall

Observation : Building 3 (Printing Building)



Diagonal cracks found on brick wall at south façade. Factory engineer is required to find the cause of cracking and suggest proper remediation procedure.



Stiffener missing at Steel Beam (Building 3 & 4)



Almost 8.2 m long steel beam in building-3 and 9.1 m long steel beam at building-4. There is no stiffener on main and sub beam in some floors which may causes local buckling of the structural members. Factory engineer to check the requirement of the stiffener and install it where required.



Building -3



Building -4

Observation : Building 3 & 4



Bracing were not properly installed at GF

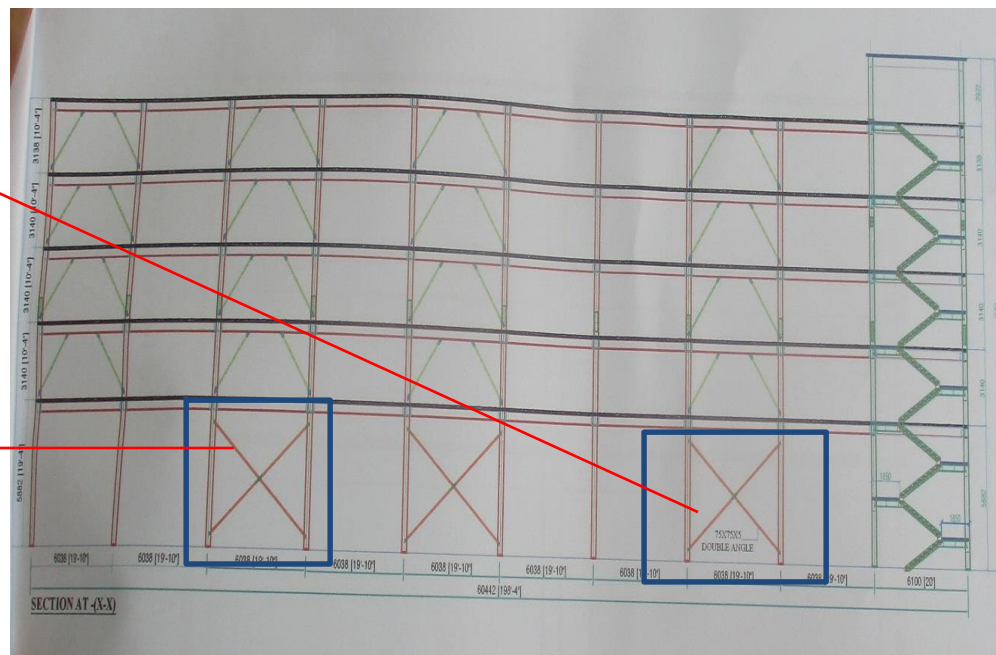


Bracing missing at one direction

Bracings were not installed properly. Bracing was missing at one direction and a bracing was not continued to the column at GF.



Bracing not continued to the column



Sectional bracing details



Lack of waterproofing system on roof



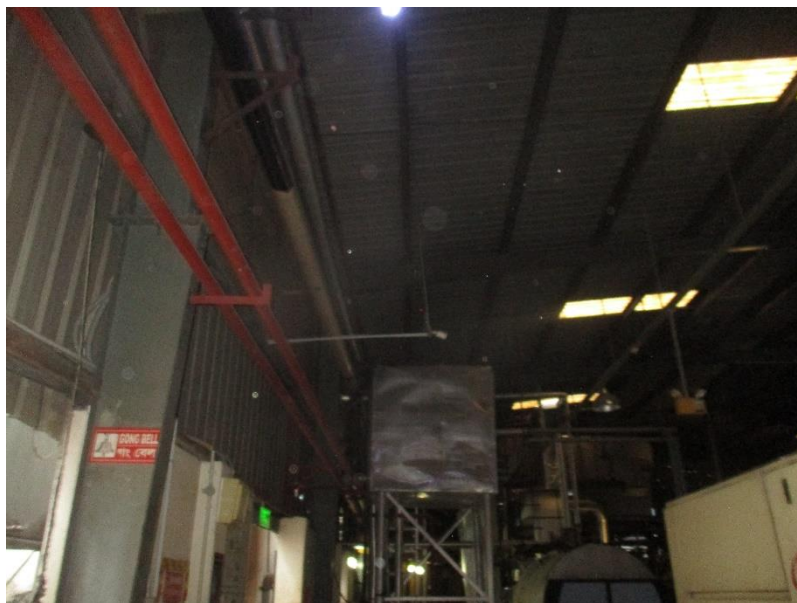
No waterproofing membrane was visible on these roofs. Proper drainage system and water proofing membrane need to apply on roof to resist water ingress into the slab.



As-built documentation for Generator shed



As-built drawings were not available for Generator shed. Factory engineer to update the as-built drawings to the as-built condition.



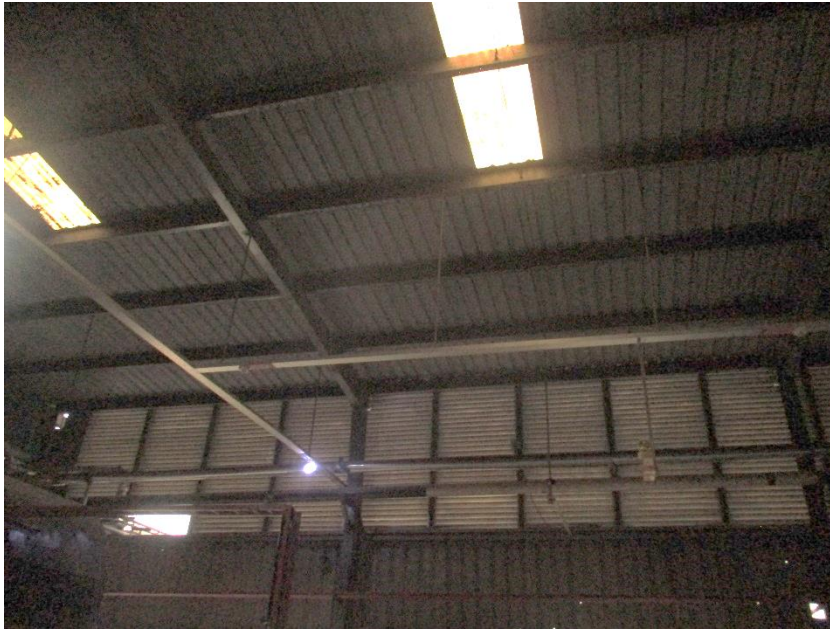
Generator Shed



Lack of stability system (Generator Shed)



Lateral load transferring media/compression strut was not available in this structure. Also there is no proper bracing system in column and roof. Building engineer to check the stability of the structure under lateral and vertical loading.



No bracing and compression strut was observed.



Problems Observed

Building 3:

- 01: Discrepancies between drawings and on site condition
- 02: Lack of Bracings details
- 03: Corrosion in Steel member
- 04: Cracks on south façade wall
- 05: Stiffener missing at Steel Beam. (Building 3 & 4)

Building 4:

- 06: Bracing were not properly installed at GF
- 07: Lack of waterproofing system on roof

Building 5:

- 08: As-built documentation for Generator shed
- 09: Lack of stability system (Generator Shed)



Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Discrepancies between drawings and on site condition	Engage an Engineer to produce an “as constructed” drawings which reflect the actual site dimensions with complete structural information.	6-weeks
2	Lack of Bracings details	Building Engineer to review design and stability system of the structure for lateral loading.	6-weeks
3	Lack of Bracings details	Carryout any remedial works arise from Engineering Assessment.	6-months
4	Corrosion in Steel member	Apply suitable method to protect the steel members from corrosion.	6-weeks
5	Cracks on south façade wall	Have a qualified structural engineer provide further analysis of the identified cracks to determine the appropriate course of corrective actions.	6-weeks
6	Stiffener missing at Steel Beam. (Building 3 & 4)	Factory engineer to check the requirement of the stiffener and install it where required.	6-weeks
7	Bracing were not properly installed at GF	Install missing bracing at mentioned location.	6-weeks
8	Lack of waterproofing system on roof	Waterproofing on the roof slab is to be applied. Moreover the roof slab drainage system should be investigated and improved.	6-months



Item No.	Observation	Recommended Action Plan	Recommended Timeline
9	As-built documentation for Generator shed	Prepare update as-built documentation for all utility buildings.	6-weeks
10	Lack of stability system (Generator Shed)	Building engineer to check the capacity of the structure under lateral and vertical loading.	6-weeks
11	Lack of stability system (Generator Shed)	Carry out remedial works resulting from engineering assessment of building.	6-months