



Torque Fashions Limited sheds 7, 9 & 13

Paragram, Ashulia, Ashulia Bazar, Dhaka, Bangladesh
(23.877551, 90.332523)

1st & 17th September 2019





Observations



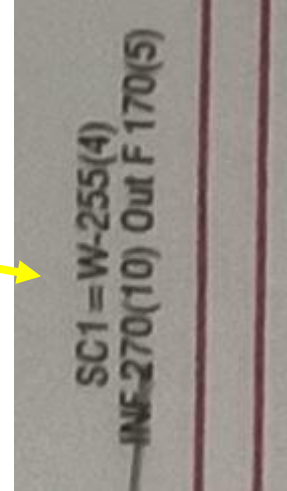
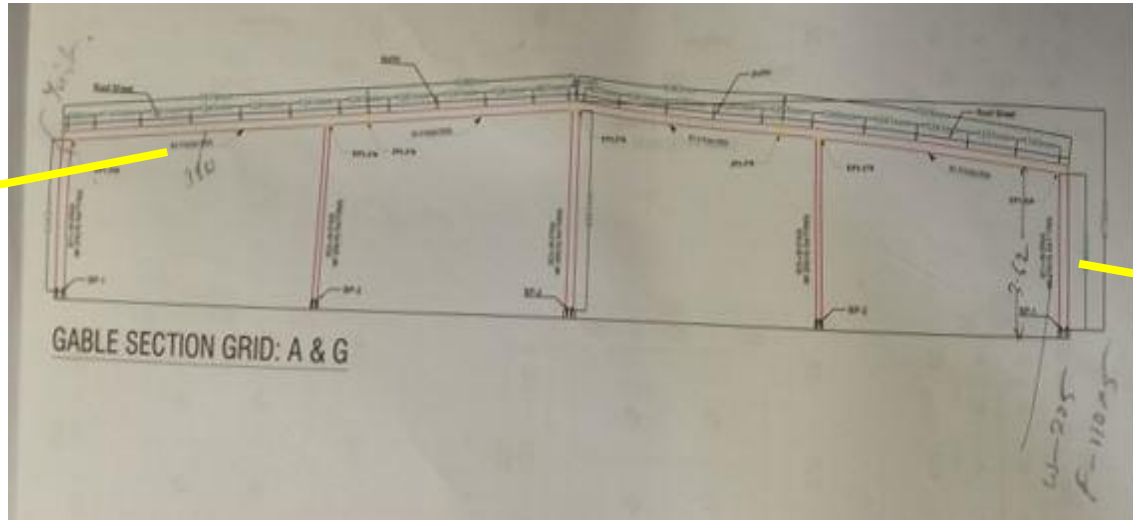
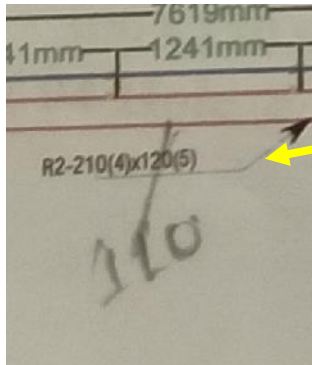
Shed-7, 10, 11 & 12



Mismatch in as-built drawings

Observations:

Column (SC-1) and rafter (R1) size of grid A & G were found different from provided drawing.
Also, connection details were not provided in structural drawing



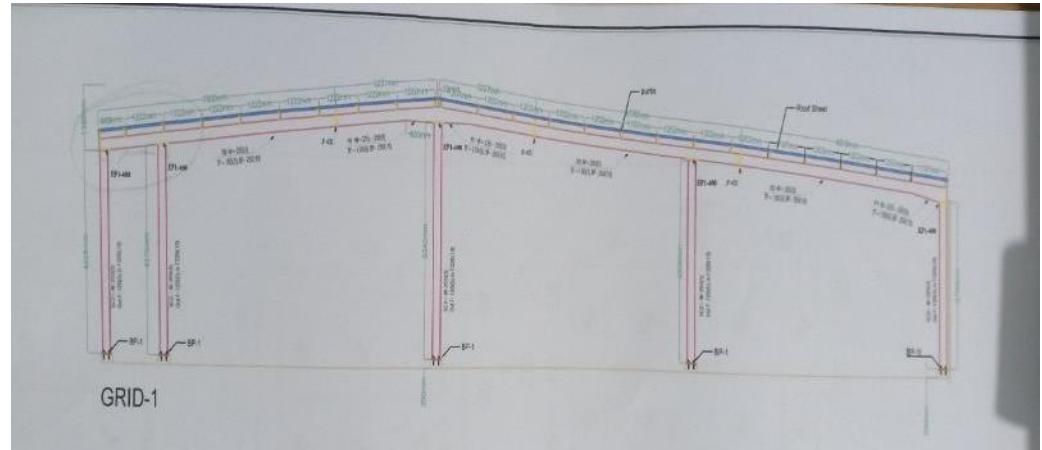
Web length of SC-1 column was measured 225 mm instead of 255mm and length of flange was measured 110 instead of 170 mm.

Observations: Shed-7

Size of column base plate and section of grid-1 didn't match with as-built drawings. Also connection details are not shown in provided drawings.



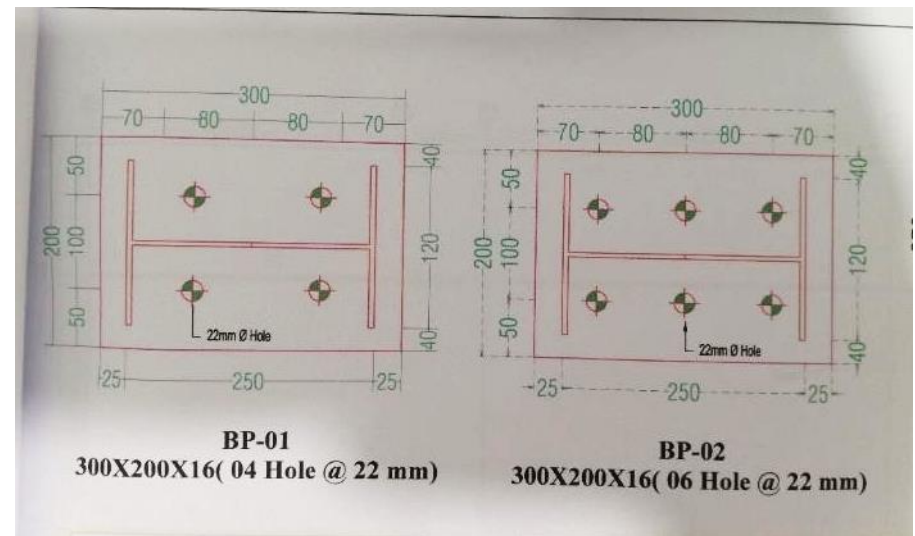
No rafter in marked location



Sectional details of grid-1



Width of base was measured 150mm instead of 200 mm



Observations: Shed-10



Water tank above toilet block

At grid -14 base plate connection, 4 nos of bolts were found. But in the provided drawings 6 nos bolts are shown.

10 mm roof cable bracings were found where the drawings indicate 14 mm bracings. Also connection details were not provided in structural drawing. Moreover 2x1000 ltrs water tanks were found above the toilet block slab.



4 nos of bolts were found instead of 6 nos



10 mm roof cable bracing

Observations: Shed-12



Incomplete retrofitting works

Observations: Shed-7, 10, 11 & 12



Factory has carried out a Detailed Engineering Assessment for Shed-7,10, 11 & 12. As per recommendation of the DEA, retrofitting is required for those sheds. During inspection, retrofitting work was found ongoing in all sheds. Factory is required to revise the DEA as per revised as-built drawings and submit to ACCORD for further review. Factory is required to carry out the remedial works as per accepted DEA.



Incomplete retrofitting of short column & base pale, Shed-7



Incomplete retrofitting of short column, base pale, column & rafter, Shed-10



Incomplete separation work of part A & B, Shed-12



Lateral stability system

Observations: Shed-7, 9, 10, 11, 12 & 13



Vertical bracings were designed as stability system against lateral loading. But no compression strut member was observed in long direction. Also, vertical bracings were found missing and existing bracings were loose at several locations. The building engineer is required to check the lateral stability system of the structure against the lateral loads.



Shed-7



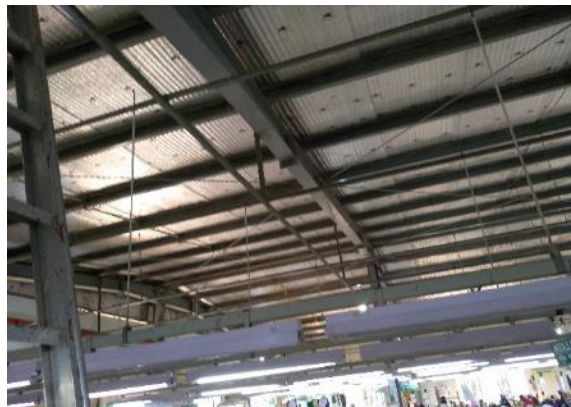
Shed-9



Shed-10



Shed-11



Shed-12



Shed-13

Observations: Shed-7, 9, 10, 11, 12 & 13



Corrosion in steel member

Observation : Shed-7, 10, 11 & 12



Shed-7

Corrosion found in column base plate & column-rafter joint in almost all sheds of the factory. The factory engineer is required to investigate the reason and extent of corrosion and take proper remedial actions after.



Shed-12



Shed-12



Significant gap and bolt missing in the beam-column joint

Observation : Shed-7, 10, 11 & 12



Bolt missing and significant gap found in the beam-column joint in almost all sheds of the factory. The factory Engineer is required to investigate the connections and take necessary remedial measures where required.



Gap in between beam-column joint

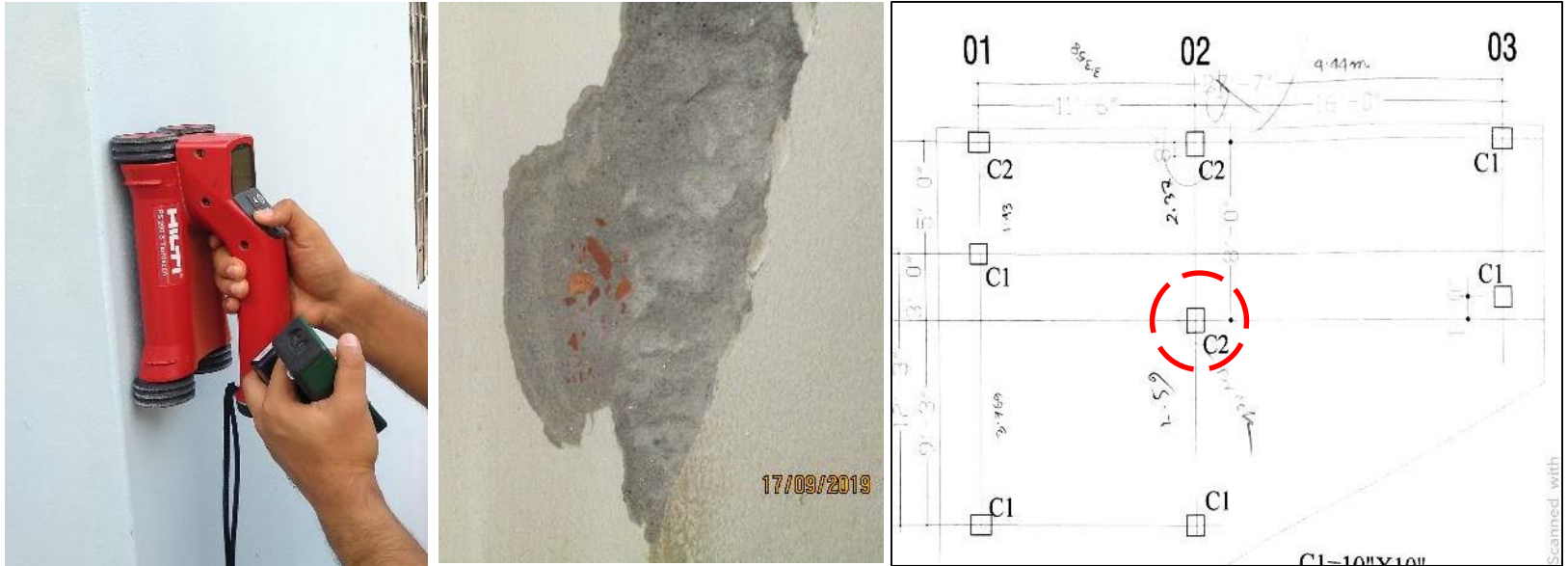


Bolt missing in connection

Observation : Shed-7, 10, 11 & 12



Tests Carried Out



Tests Carried Out : Office Building



Problems Observed

Shed-7, 10, 11, 12:

1. Mismatch in as-built drawings.
2. Incomplete retrofitting works.

Shed-7, 9, 10, 11, 12 & 13:

3. Lack of lateral stability.
4. Corrosion in steel member.
5. Significant gap and bolt missing in the beam-column joint.



Priority Actions



Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Mismatch in as-built drawing (Shed-7, 10, 11, 12)	The building engineer to check the structure, collect information and produce accurate and complete as-built architectural and structural documentations.	6-weeks
2	Incomplete retrofitting works	Revise the DEA report and complete the review with ACCORD.	6-weeks
3	Incomplete retrofitting works	Complete remedial works arising from DEA report after being reviewed by ACCORD.	6-months
4	Lack of lateral Stability. (Shed-7, 9, 10, 11, 12 & 13)	Factory engineer is required to check stability system against lateral loading.	6-weeks
5	Lack of lateral Stability. (Shed-7, 9, 10, 11, 12 & 13)	Carry out remedial works as per recommendation of engineering assessment report.	6-months
6	Corrosion in steel member. (Shed-7, 9, 10, 11, 12 & 13)	The building engineer to investigate the reason & extent of corrosion and suggest proper remedial measure accordingly.	6-weeks
7	Corrosion in steel member. (Shed-7, 9, 10, 11, 12 & 13)	Take necessary measures to prevent further corrosion and repair the corroded steel members as per engineer's suggestion.	6-months
8	Significant gap in the beam-column joint. (Shed-7, 9, 10, 11, 12 & 13)	Factory Engineer is required to investigate the connections and take necessary remedial measures where required	6-weeks