BD Knit Design Ltd(New)

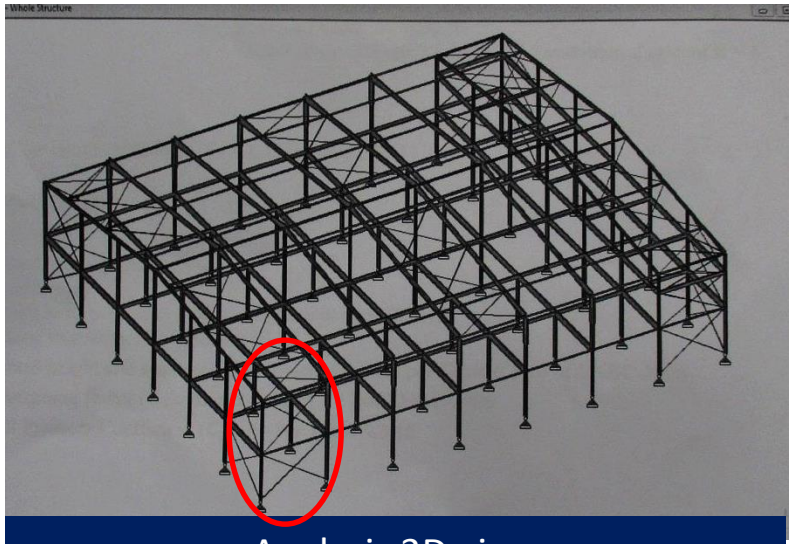
Sharitpur, National University, Gazipur
(23.965860N, 90.368274E)
4th September, 2016

ACCORD
on Fire and Building Safety in Bangladesh

Observations

Overall Stability of the structure

Observations



Analysis 3D view

Missing compression strut at end bays

Analysis 3D view image which was found in a document review does not match with on site condition.

Bracing substantially away from supports. End part of the bracing connected to mid height of the column.

Observations

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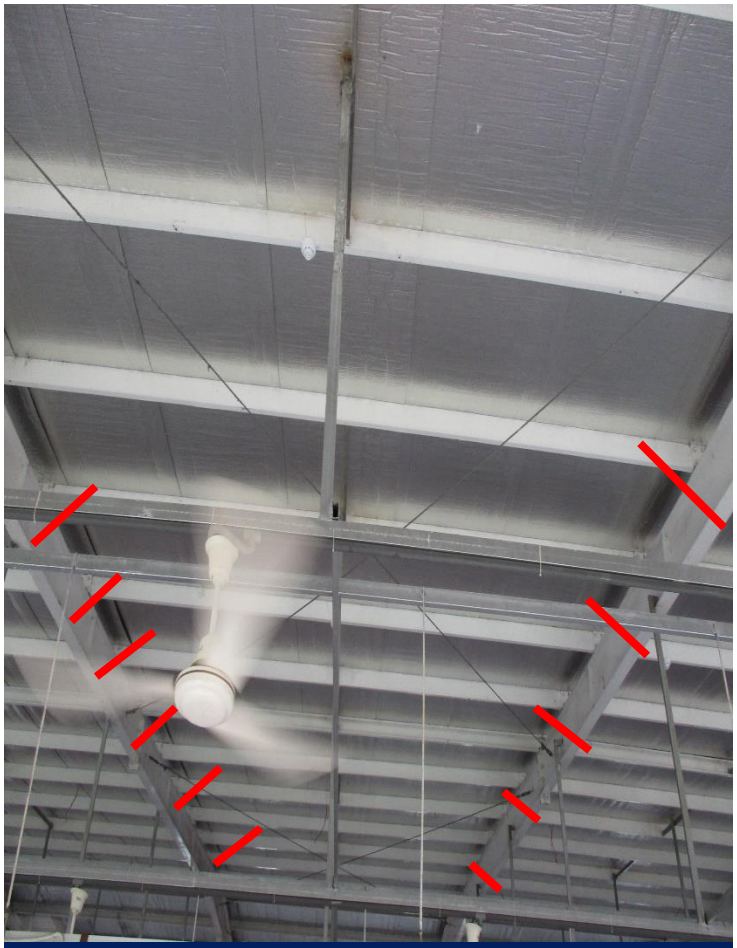
There are significant eccentricities of bracing connections may causing minor axis bending to portal frame members. Compression flange braces required for rafters at braced bays also not provided.



Missing compression flange braces

Plan bracing substantially away from vertical supports

Significant eccentricity to plan bracings

Observations

Loose cable bracing

Observations

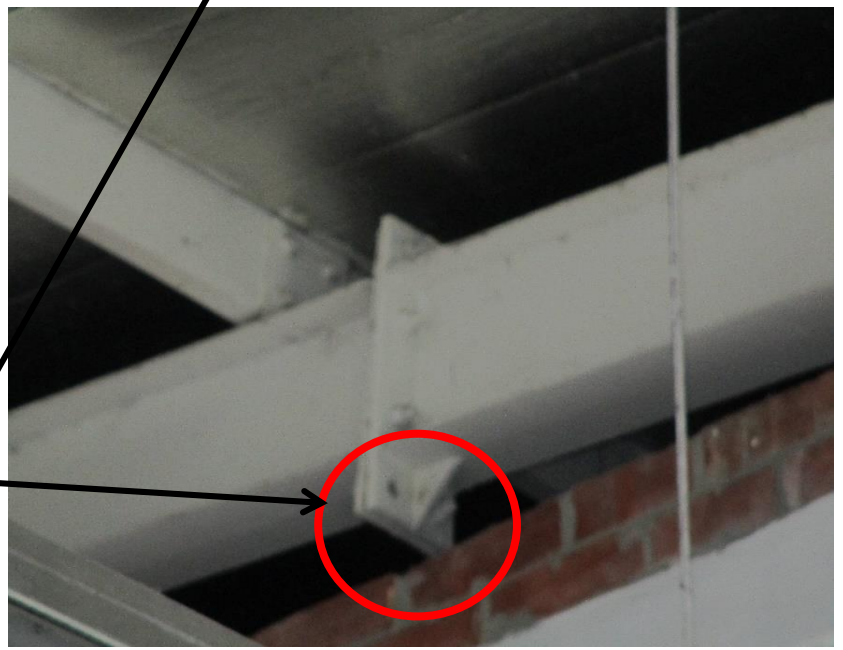
Lose cable bracing was observed on site.

Observations

Missing bolts and defected shear clip connection observed.

Observations

Defected shear clip in critical shear path at bolted connection was observed.



Bolt missing was observed in connection of rafter to rafter and beam to beam connection.

Observations

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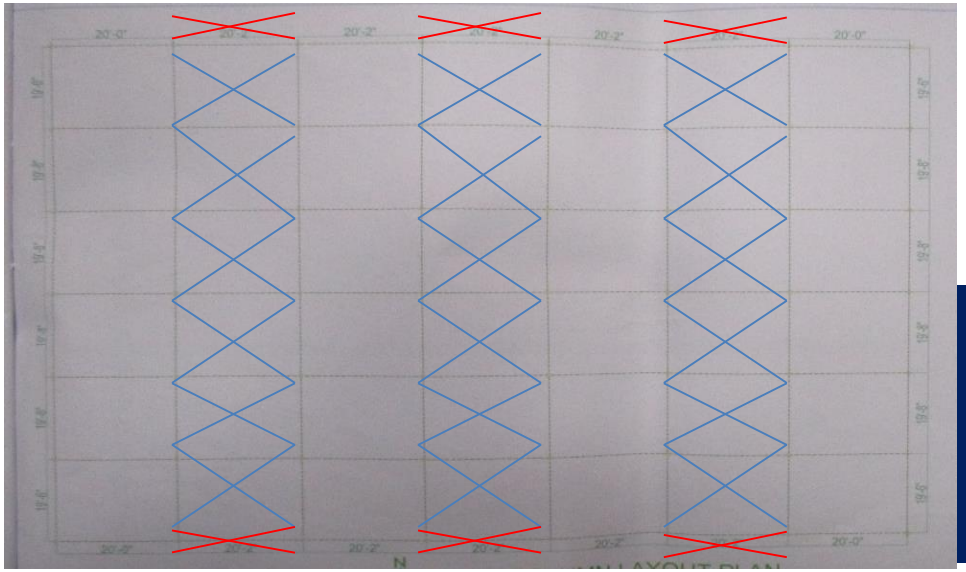
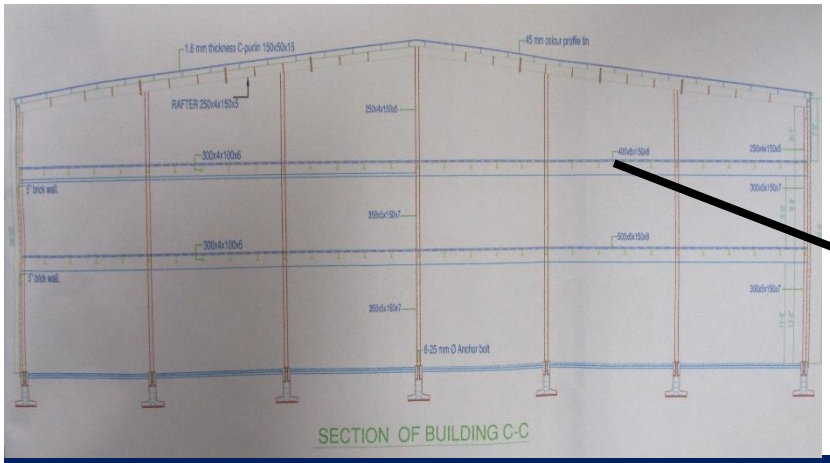
Discrepancies between drawings & on-site observations.

Observations



Both horizontal & vertical bracings at 2nd, 4th and 6th bay not shown in drawing.



On site secondary beam depth on mezzanine floor found 250mm, however drawing shows 300 mm.

Observations

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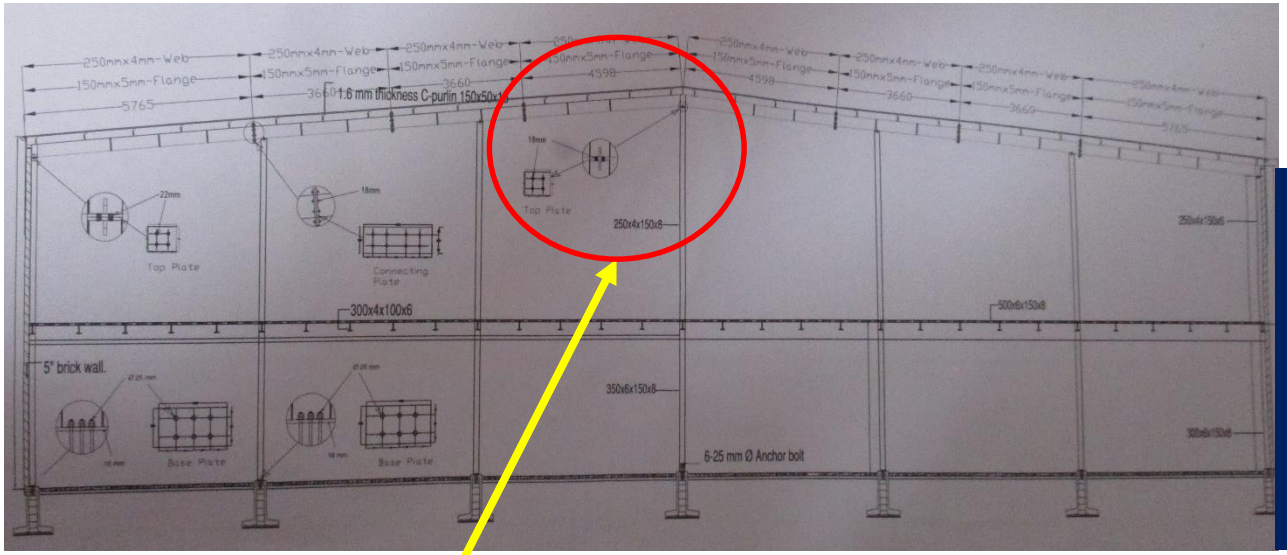
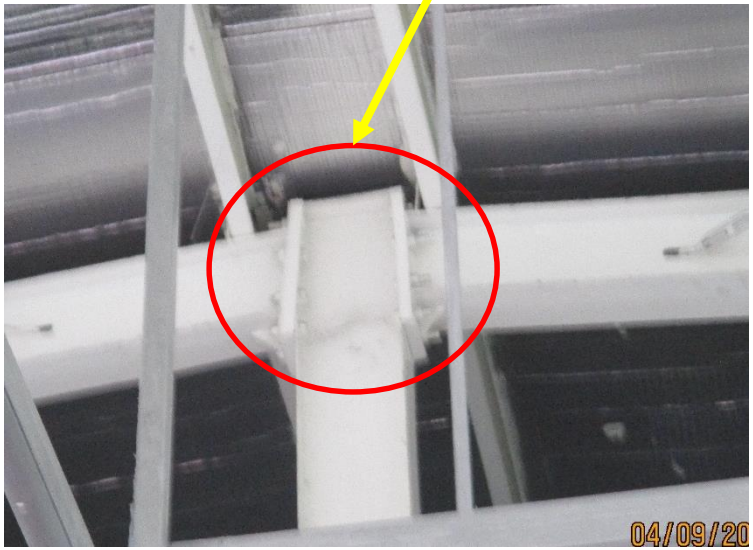


On drawing shows rafter-column joints at ridge are bottom connection, however several side connection have observed on site.



Undocumented water tanks above masonry toilet block.

Observations

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Adequacy required to be check for the extra Steel column and connection of Stair

Observations

The load path and connection of the stair is unclear. Factory engineer requires to be checked the adequacy of stair.

Stair case

Extra steel column support steel stair

Observations

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Non-engineered steel roof at utility shed and fire scape steel stair

Observations

Poor connection between brick wall and steel roof.

Connection

Non engineered steel roof of utility shed required to be checked against wind load.

The steel stair supported on 50mm X 50mm angle with poor connection. The steel connection and structural member required to be checked against vertical and lateral load.

Observations

Priority Actions

Problems Observed

1: Overall stability of the structure.
2: Loose cable bracing.
3: Missing bolts and defected shear clip connection observed.
4: Discrepancies between drawings & on-site observations.
5: Adequacy required to be check for the extra Steel column and connection of Stair.
6: Non-engineered steel roof at utility shed and fire scape steel stair.

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Overall stability of the structure	Building Engineer to review bracing system for lateral wind loading as per BNBC with consideration for minor axis bending of rafters due to eccentricity of members at node points. Review design of rafter considering compression flange restraint	**6-weeks**
2	Overall stability of the structure	Building Engineer to design and detail structural upgrading work where necessary to ensure adequate stiffness of bracing system.	**6-weeks**
3	Overall stability of the structure	Where required, remedial measures to steelwork to be carried out.	**6-months**
4	Loose cable bracing	Existing cables in braced bays to be tightened	**6-weeks**
5	Missing bolts and defected shear clip connection observed	Building Engineer to identify all the omissions and supervise remedial works to the missing bolts in the connections and defective shear clip	**6-weeks**
6	Discrepancies between drawings & on-site observations	Engage a Building Engineer to survey the structure and prepare a full set of “as-constructed” drawings	**6-weeks**

Item No.	Observation	Recommended Action Plan	Recommended Timeline
7	Adequacy required to be check for the extra Steel column and connection of Stair	Factory engineer to review design, loads, columns stresses and check the steel connections adequacy.	**6-weeks**
8	Adequacy required to be check for the extra Steel column and connection of Stair	Carry out remedial works where required.	**6-months**
9	Non-engineered steel roof at utility shed and fire scape steel stair	Engage a Building Engineer to check the capacity of the lightweight steel roof structure/connection details and wall/connection details for both utility shed and fire scape steel stair.	**6-weeks**
10	Non-engineered steel roof at utility shed and fire scape steel stair	Make any necessary alterations as required.	**6-months**