



Emon Fashion Ltd.

42, Mariali, Joydebpur, Gazipur-1700, Bangladesh
(24.0096N, 90.4019E)

7th June 2018

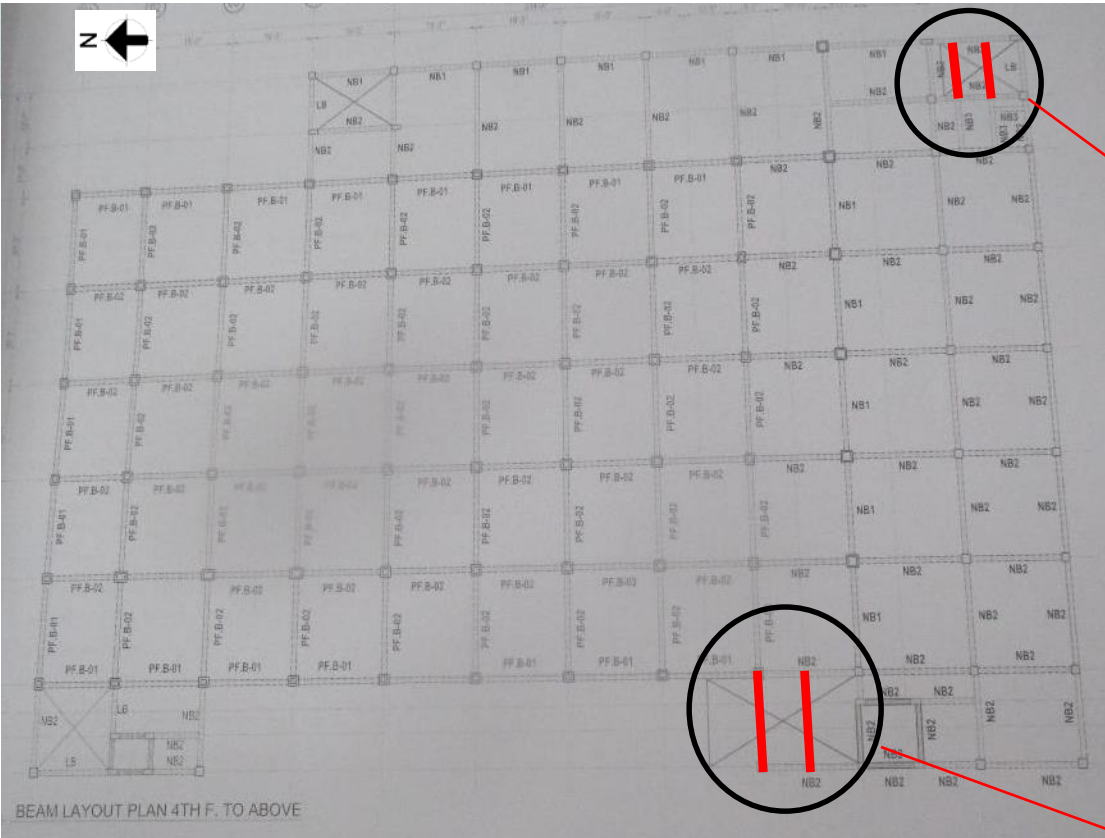




Observations



Discrepancies between provided drawing and on-site condition



Provided beam Layout for above roof level

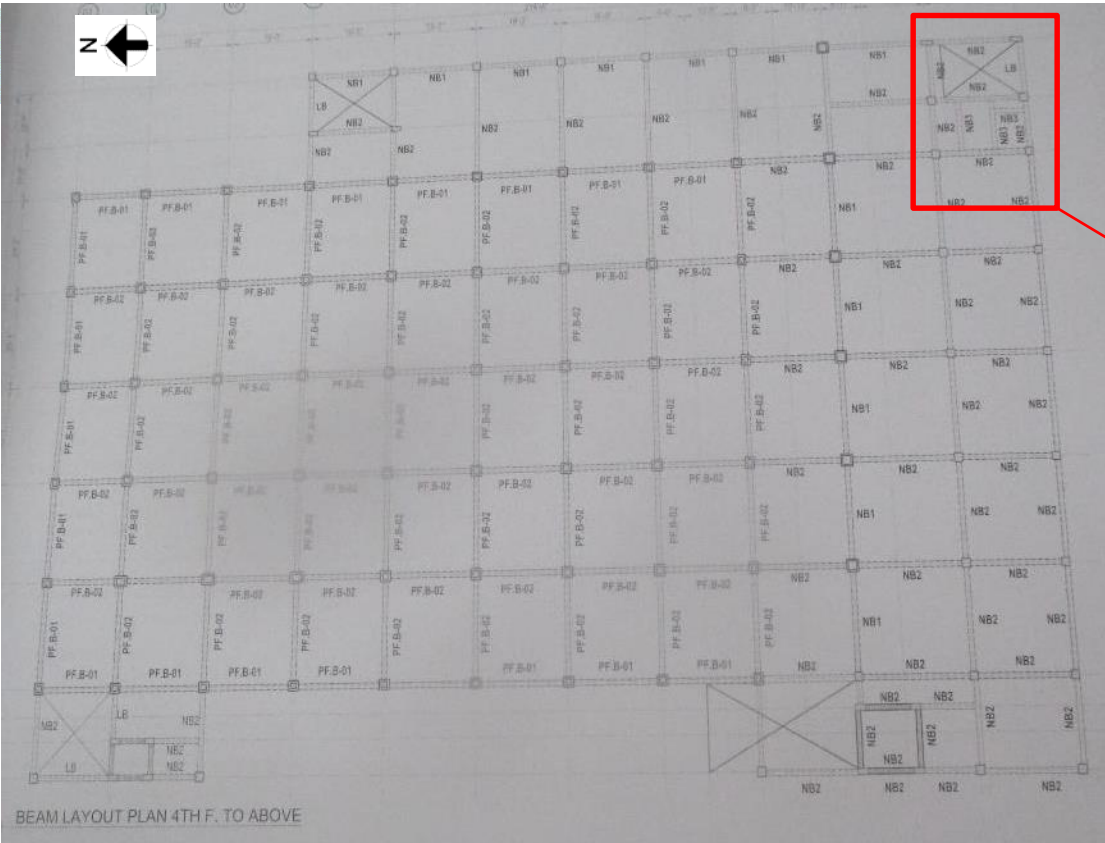
Red marked beams (350mm d/sX300mmW) were not shown in provided beam layout for above roof level. Factory engineer is required to update the beam layout



Undocumented beam

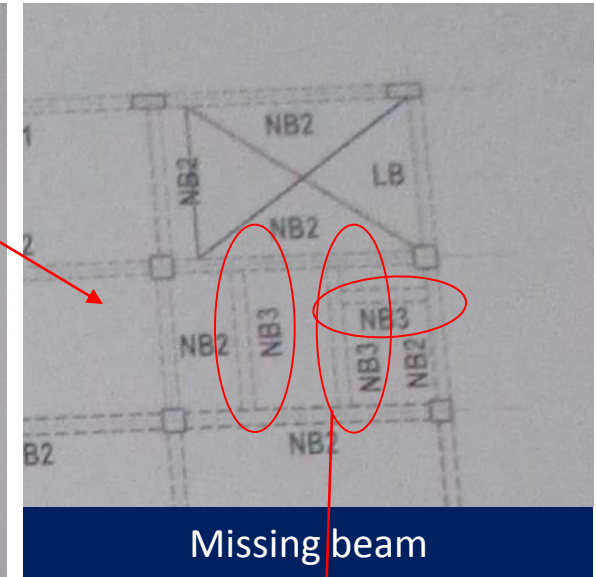


Undocumented beam



Provided beam Layout for 4th to above roof level

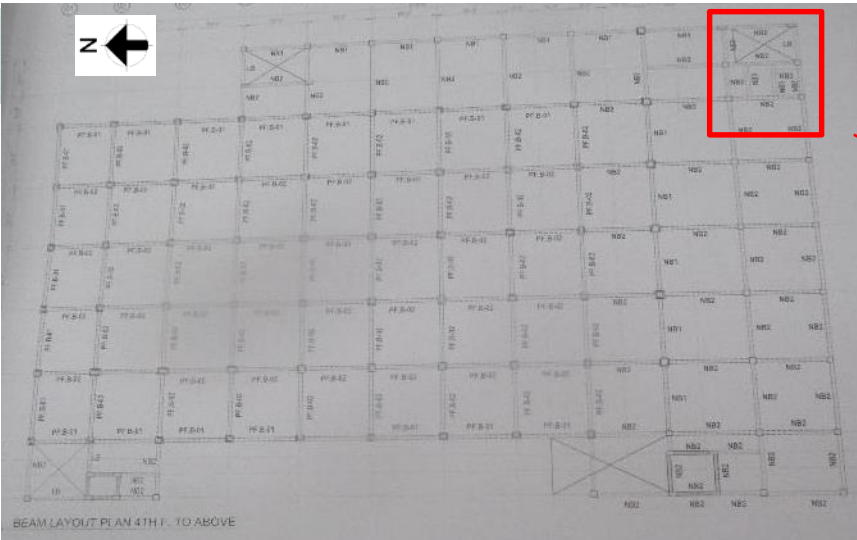
Marked beams were shown in beam layout for 1st, 2nd, 4th, 5th floor and top slab but those beam were observed only at 2nd and 3rd floor. Factory engineer is required to update the beam layout.



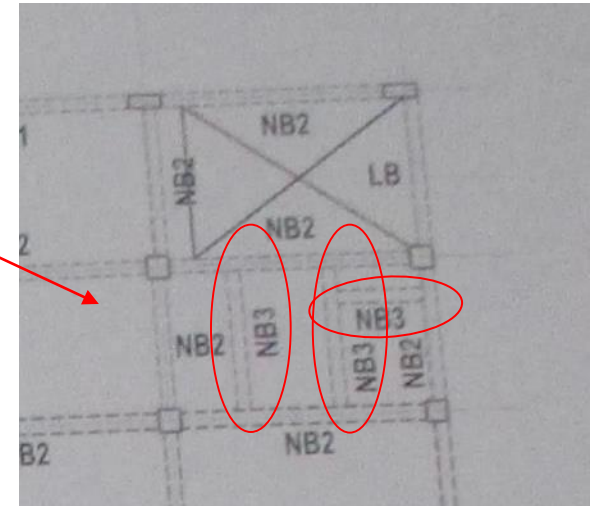
Missing beam



Missing beam



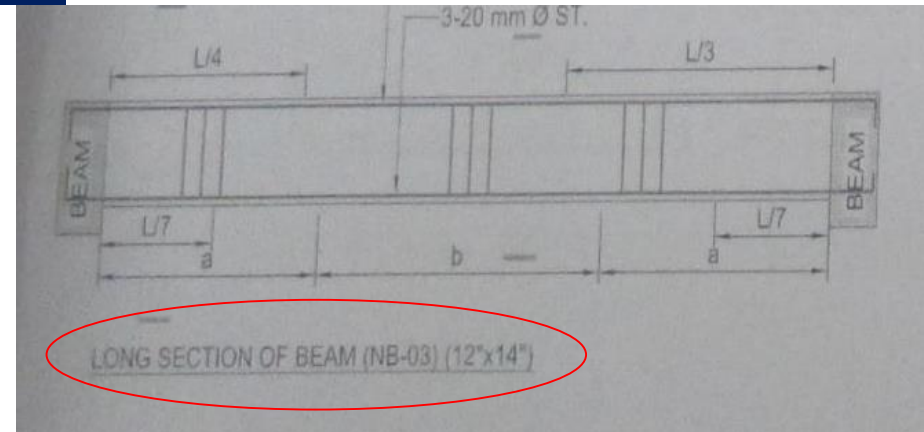
Provided beam Layout for 3rd floor



Missing beam



Width of NB was measured as 250 mm



Width of NB-3 was shown as 300 mm in provided drawing but in as-built condition width was observed as 250 mm. Factory engineer is required to update the beam layout.



Water ponding/clogging on roof slab



Water ponding on roof slab.

Water ponding was observed on roof slab. Factory is required to provide proper drainage system and water proofing on roof slab.



Lack of documentation and lateral stability for Office building



Office building was approved for 3 storied



Office building was found as 4 storied



Flat Plate

Office building was approved for 3 storied but in actual site condition, this building was found as 4 storied. Also, no as-built drawing was available for the building. There is no proper stability system in the building. Factory engineer is required to produce accurate as-built drawing and carry out Detailed Engineering Assessment (DEA) for the building.



Non engineer shed to be replaced (Utility-1, Shed-1)



Steel shed appeared to be non-engineered

Connection between steel members and brick walls were appeared to be inadequate . Factory is required to replace the shed.



Steel shed appeared to be non-engineered

Load path along the lateral direction is not apparent. Factory engineer is required to replace the shed.



Problems Observed:

RMG Building

- Item 1: Discrepancies between provided drawing and on site condition.
- Item 2: Water ponding/clogging on roof slab.

Office Building

- Item 3: Lack of documentation and lateral stability for Office building.

Utility-1 & Shed-1

- Item 4: Non engineer shed to be replaced (Utility-1, Shed-1).



Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	(RMG Building) Discrepancies between provided drawing and on site condition	Factory Engineer is required to prepare As –Built drawings reflecting the actual condition.	6-weeks
2	(RMG Building) Water ponding/clogging on roof slab	Factory is required to provide proper drainage system and water proofing on roof slab.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
3	(Office Building) Lack of documentation and lateral stability for Office building	Factory Engineer to review design, loads, columns and footings stresses.	6-weeks
4	(Office Building) Lack of documentation and lateral stability for Office building	Verify in-situ concrete strength and aggregate type by taken min. 4 nos. 100mm dia. core samples from ground floor columns.	6-weeks
5	(Office Building) Lack of documentation and lateral stability for Office building	The Detailed Engineering Assessment to be completed.	6-weeks
6	(Office Building) Lack of documentation and lateral stability for Office building	Produce and actively manage a loading plan for all floor plates within the factory, giving consideration to floor, column and foundation capacity.	6-weeks
7	(Office Building) Lack of documentation and lateral stability for Office building	Complete implementation of any remedial works deemed necessary by the DEA.	6-months
8	(Office Building) Lack of documentation and lateral stability for Office building	Continue to implement loading plan.	6-months



Detail Engineering Assessment

This Schedule develops a minimum level of information, Analysis and testing expected as part of a Detail Engineering Assessment.

The Building(s) have been visually assessed and it is deemed necessary that a detailed engineering assessment be carried out by a competent Engineering Team employed by the factory Owner.

This Request should be read in conjunction with the ACCORD DEA guideline , ACCORD standard for Assessment of Structural Integrity of Existing RMG Factory Buildings in Bangladesh (Tripartite Document), the latest version of these document should be referenced. These document also gives guidance on required competency of Engineering Team.

We expect that the following will be carried out:

1. Development of Full Engineering As-Built Drawings showing Structure, loading, elements, dimensions , levels, foundations and framing on Plan, Section and Elevation drawings .
2. The Engineering team are to carry out supporting calculations with a model based design check to assess the safety and serviceability of the building against loading as set out in BNBC-2006, Lower rate provisions can be applied in accordance with the ACCORD DEA guideline , ACCORD standard following international engineering practice, justification for these lower rate provisions must be made.
3. A geotechnical Report describing ground conditions and commenting on foundation systems used/proposed.
4. A report on Engineering tests carried out to justify material strengths and reinforcement content in all key elements studied see ACCORD DEA guideline & ACCORD standard more details.
5. Detailed load plans shall be prepared for each level showing current and potential future loading with all key equipment items shown with associated loads.
6. The Engineering team will prepare an assessment report that covers the following:
 - As-Built drawings including
 - Plans at each level calling up and dimensioning all structural components
 - Cross sectional drawings showing structural beams, slabs, floor to floor heights, roof build-ups and Basic design information of the structure
 - Highlight any variation between As-built compared to the designed structure
 - Results of testing for strength and materials
 - Results of geotechnical assessment and testing/investigation
 - Details of loading, inputs and results of computer modelling
 - Commentary on adequacy/inadequacy of elements of the structure
 - Schedule of any required retrofitting required for safety or performance of Structure

Any proposals for Retrofitting to follow guidance developed in the ACCORD DEA guideline & ACCORD standard (<http://bangladeshaccord.org/factories/resource-centre/>).



Item No.	Observation	Recommended Action Plan	Recommended Timeline
9	(Utility-1, Shed-1) Non engineer shed to be replaced (Utility-1, Shed-1)	Demolish the non engineered shed.	6-weeks
10	(Utility-1, Shed-1) Non engineer shed to be replaced (Utility-1, Shed-1)	Replace the non engineered structure by an engineered structure.	6-months