

JFK Fashion Ltd.

Mowsayed, Uttarkhan, Uttara
(23.898021N, 90.437810E)

13th March 2017





Observations

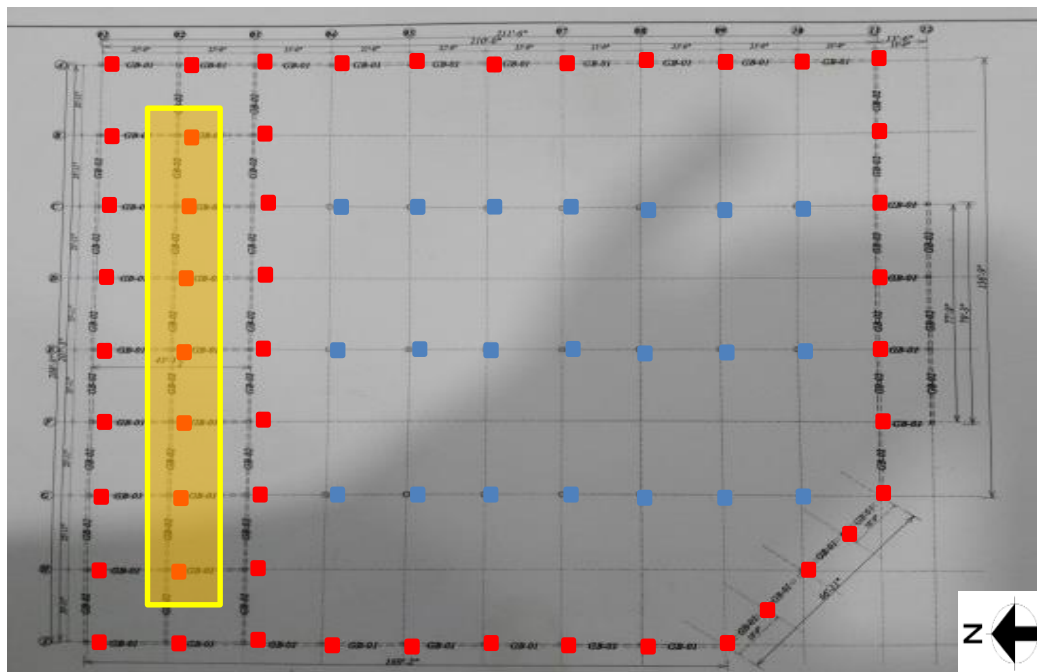


High Stress in Column

Observation : Building-1

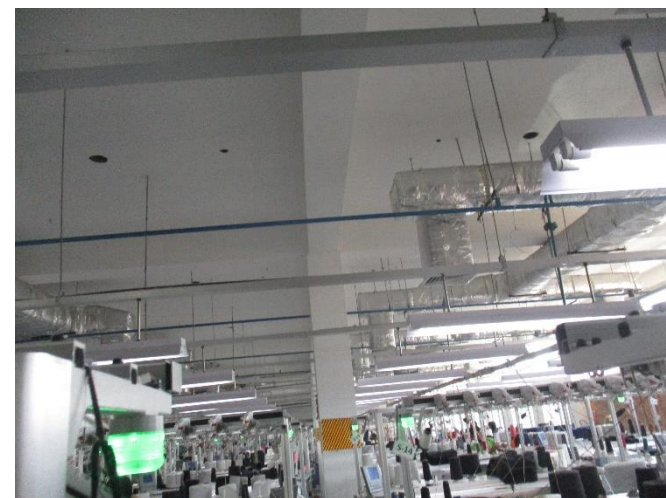


Cursory calculations indicate that all internal columns are highly stressed at ground floor. Building Engineer to review design, loads and columns stresses.



Column Layout

The reinforcement quantities recorded at Ground Floor level using the Ferro scanner coincided with the values provided in the Column Schedule. Brick aggregate was observed on-site. No loading plan was provided for the building.

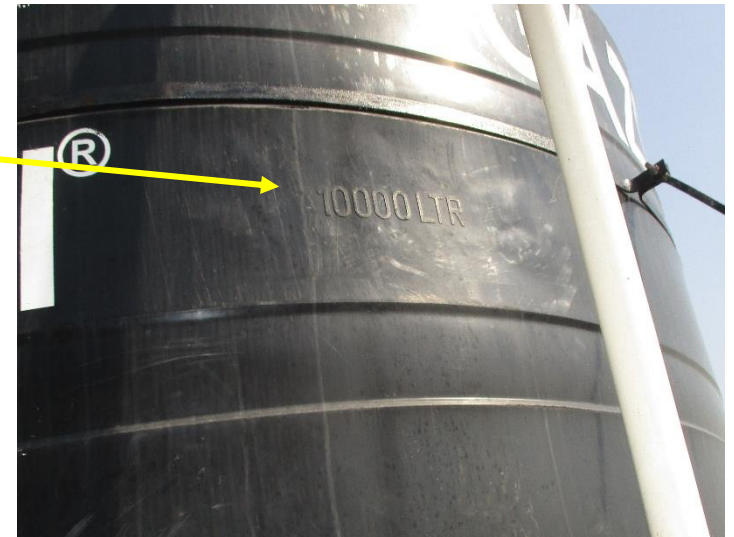
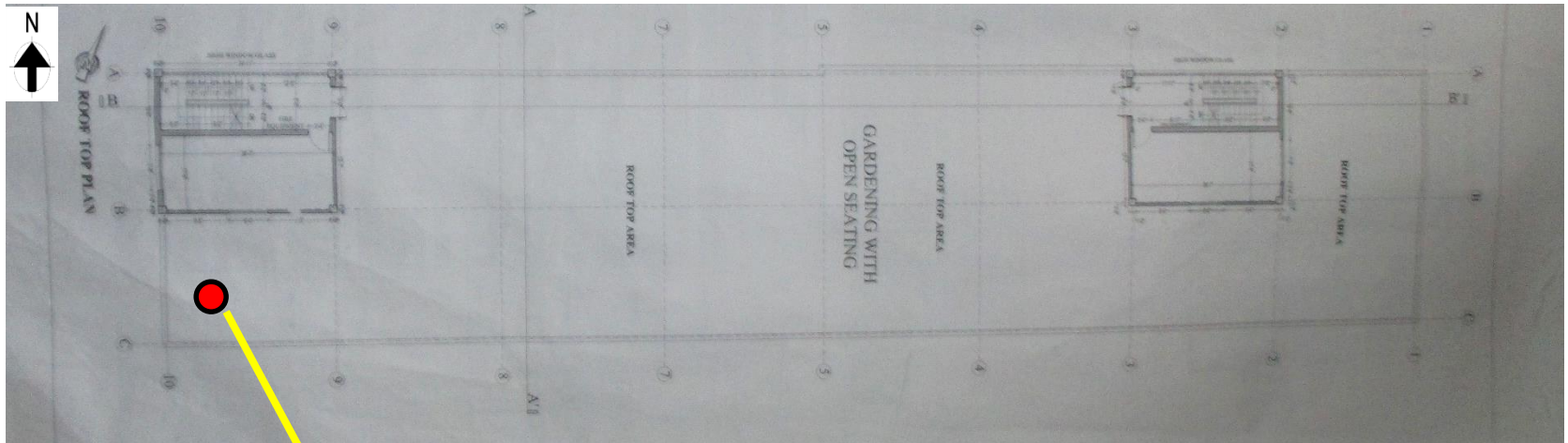


Observation : Building-1



Heavy water tank on roof

Observation : Building-1



A 10000 liters capacity Over head plastic water tank was found at west side of roof. Factory engineer is required to check the adequacy of slab and beam .

Observation : Building-1



Lack of Structural drawing for steel structure

Observation : Building-1



Structural drawings for steel structural of main production building was missing in the time of inspection. Member size, connection details, bracing layout nothing was available.



Beam column connection



Rafter Joint



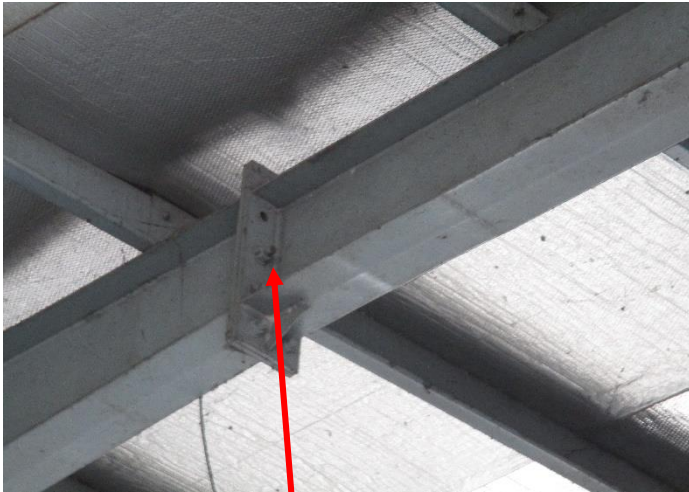
Roof Bracing

Observation : Building-1



Bolt missing at rafter connection & Roof Bracing does not continuous to end

Observation : Building-1



Bolt missing at rafter joint



At south roof bracing does not continuous to end. Bracings are shown yellow in picture.

Observation : Building-1



No water proofing at roof

Observation : Building-1



No water proofing was observed at roof and aggregates were expose to air in some areas.

Observation : Building-1

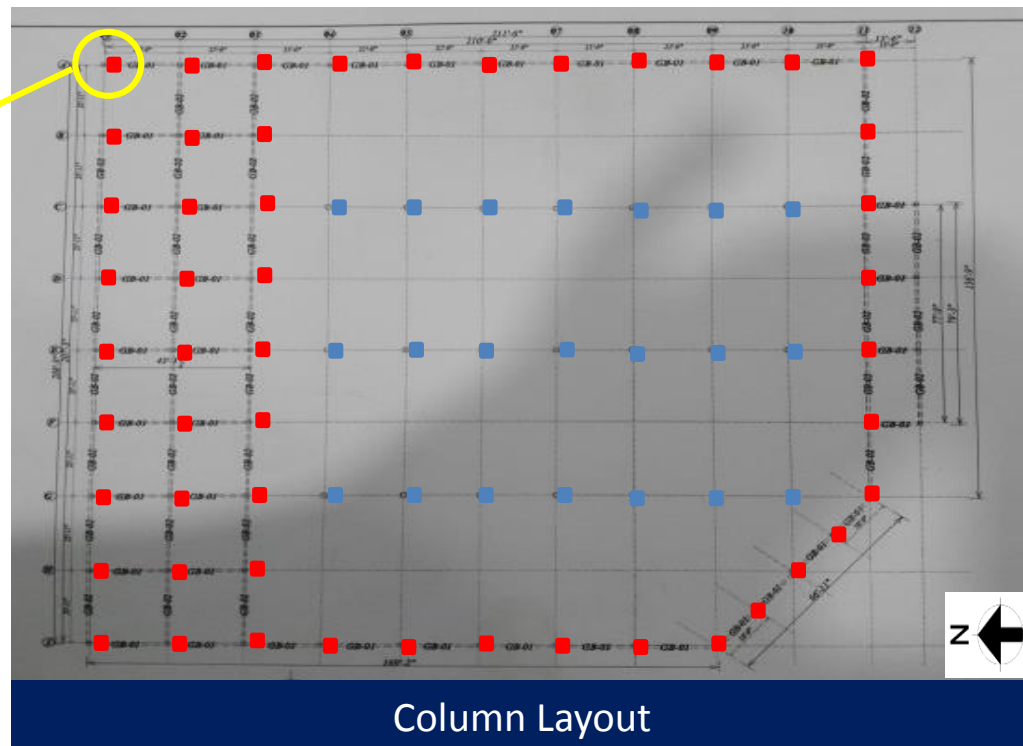


Columns susceptible to vehicle impact

Observation : Building-1



Impact protection not provided to columns at loading –unloading area. Columns are susceptible to impact loading from vehicles.



Observation : Building-1



Non-engineered external steel Stair

Observation : Utility Building



External steel stair between Boiler & Chiller room

The member of stairs and the connection to the building appears to be poor. Building Engineer to carry out a design check on the suitability of the steel exit stair with particular emphasis on member adequacy and connections, and to carry out the necessary remedial works.



External steel stair at Generator & Sub-station

Observation : Utility Building



Problems Observed

Building-1

Item 1: High Stress in Column

Item 2: Heavy water tank on roof

Item 3: Lack of Structural drawing for steel structure.

Item 4: Bolt missing at rafter connection & Roof Bracing dose not continuous to end.

Item 5: No water proofing at roof.

Item 6: Columns susceptible to vehicle impact

Utility Building:

Item 7: Non-engineered external steel Stair



Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	High Stress in Column	Factory Engineer to review design, loads and columns stresses in area identified above.	Immediate - Now
2	High Stress in Column	Verify insitu concrete stresses either by 100mm dia. cores or existing cylinder strength data for [the identified columns] or [100mm dia. cores from 4 columns]	Immediate - Now
3	High Stress in Column	A Detail Engineering Assessment of Factory to be commenced, see attached Scope.	Immediate - Now
4	High Stress in Column	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	6-weeks
5	High Stress in Column	Detail Engineering Assessment to be completed	6-weeks
6	High Stress in Column	Continue to implement load plan	6-months
7	High Stress in Column	Remedial works to be carried out if required.	6-months
8	Heavy water tank on roof	Provide calculations showing the structural adequacy of slab.	6-weeks
9	Heavy water tank on roof	Verify that supporting structures have adequate capacity to support heavy loading such as plastic water tank.	6-weeks
10	Heavy water tank on roof	Remedial works to be carried out if required.	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
11	Lack of Structural drawing for steel structure	Engage an Engineer to produce an “as constructed” drawings which reflect the actual site dimensions with complete structural information's.	6-weeks
12	Bolt missing at rafter connection & Roof Bracing not continuous to end	Install missing bolt and bracing as per bracing layout.	6-weeks
13	No water proofing at roof	Waterproofing on the roof slab is to be applied	6-weeks
14	Columns susceptible to vehicle impact	Install a barrier to prevent vehicle impact in column	6-weeks
15	Non-engineered external steel Stair	Engage Building Engineer to check load bearing capacity of external escape stair and to ensure adequate stability and connections are provided.	6-weeks