KAC Fashion Wear Ltd. (9674)

12/13 Tetui Bari, Sarabo, Gazipur

(+23.976668N, 90.262154E)

09.July.2014

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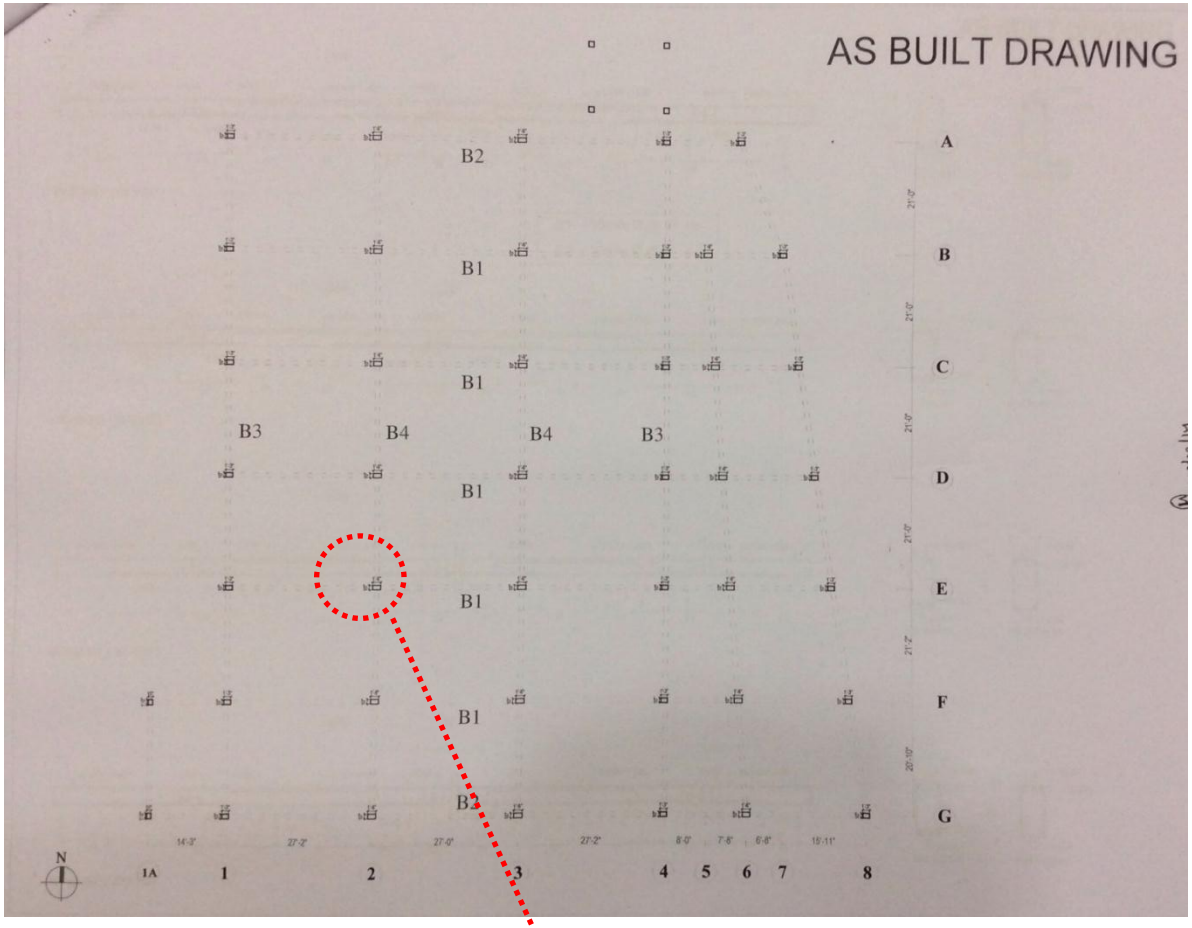
Identified Priority 3 Concerns

1st Priority 3 Concern



Typical column to be checked

Based on the load rundown analysis with the agreed minimum design live load assignment, the typical column which is circled has been found to be possess a low factor of safety with respect to its load carrying capacity. The building was constructed with brick aggregate and high-yield strength re-bar.

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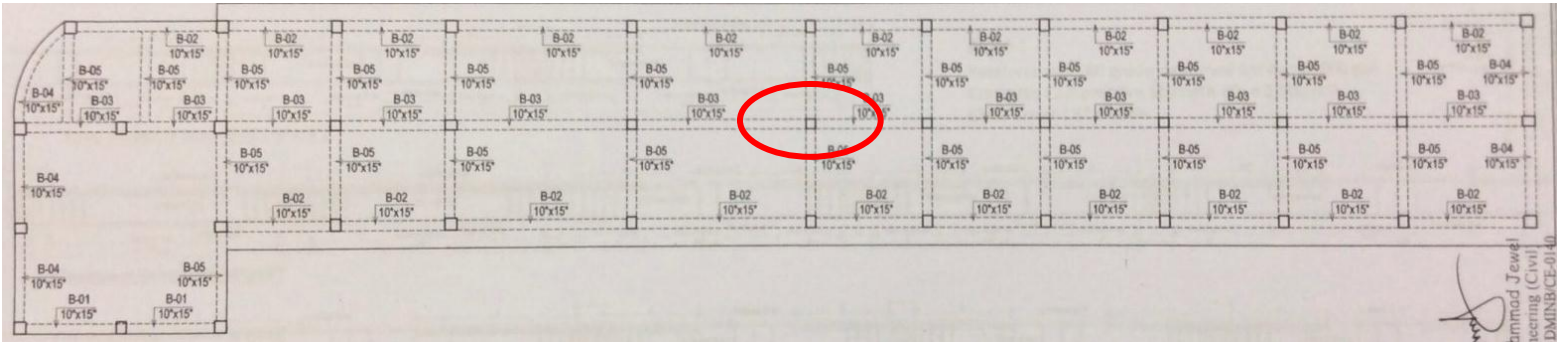
2nd Priority 3 Concern

In building 2 some columns are missing in middle grid. Columns in indicated area are missing for all three storeys.



Inconsistency between drawing and real site condition in building 2

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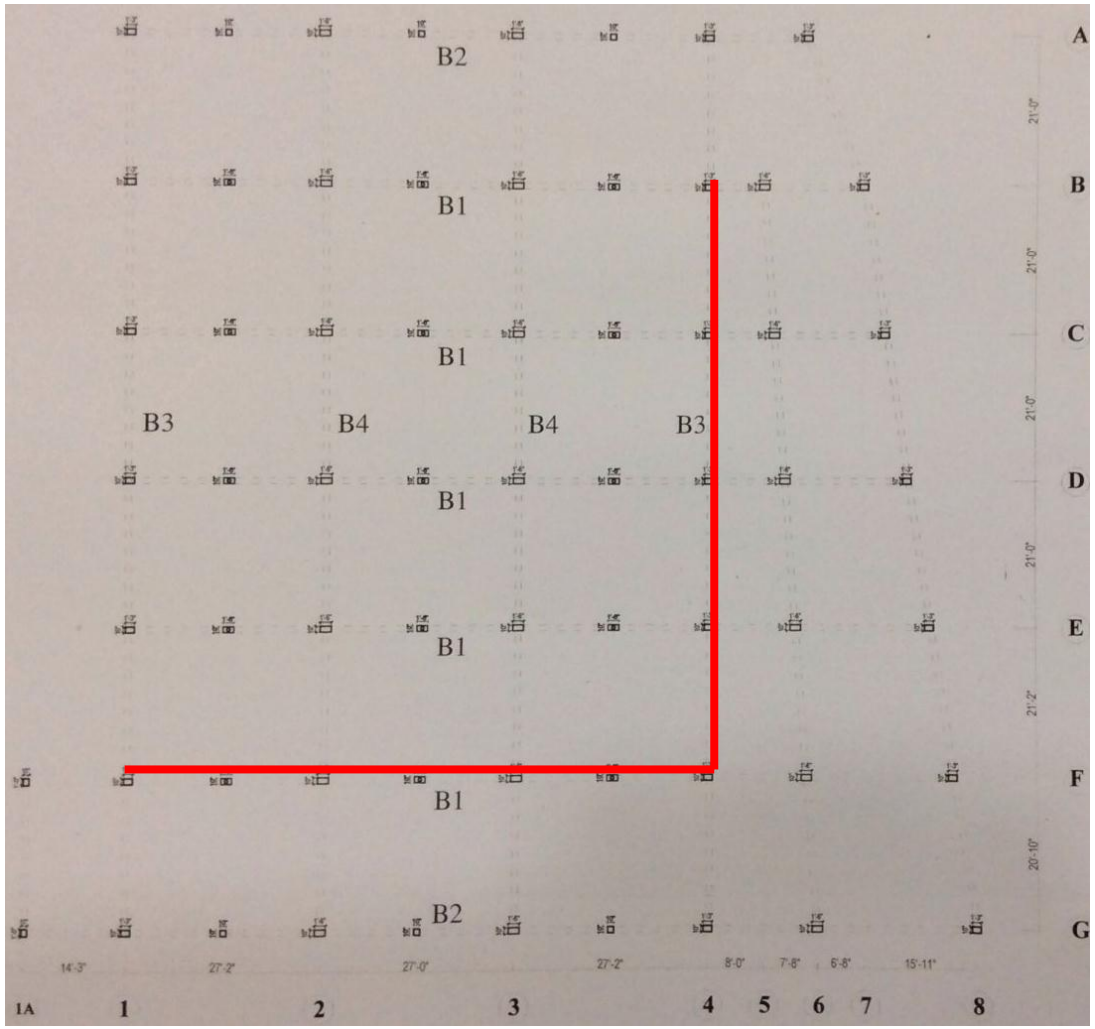
3rd Priority 3 Concern



In building 1 grid spacing is 27’-2” x 21’-2” with slab thickness only 127mm. (Span/Depth ratio = 326/5.5 = 59 > 40). Beam depth is 15 inch (326/15 = 21 > 16). The span-depth ratios are greater than what were required in the building code. For long term deflection, slab thickness and beam depth does not satisfy.

Slab thickness and beam depth does not satisfy for long term deflection in building 1

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4th Priority 3 Concern

In shed 1 & 3 purlin seems very weak. Thickness of purlin used is 75mm which does not satisfy for long term deflection

Purlin depth does not satisfy for long term deflection even for strength

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5th Priority 3 Concern

Rusting was observed on almost every member of the steel truss in shed 2. In shed 2 heavy steam and heat is produced due to operation of washing machineries. No heat proofing membrane or rust proof paint is used on members.

Rusting on steel shed member

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6th Priority 3 Concern

On roof of building 2 no parapet wall and no railing for stair is installed. In case of fire or any other emergency factory owner intended to use this roof for people gathering. For safety of people working in this building parapet wall and stair railing need to be installed.

No parapet wall and stair railing in building 2

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7th Priority 3 Concern

In building 2 columns are directly exposed to the chemical water tank. For chemical mixed water, clear cover of columns should strictly follow the code requirement . It was impossible for us to verify whether clear cover is appropriate or not.

Clear cover of column in chemical water tank in building 2

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Overall Stability System

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The building did not feature any core or shear walls. Stability was achieved through sway action between beams and columns and masonry infill walls.

We require that these items be investigated in a Detail Engineering Assessment

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Water Ingress at Roof Level

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No waterproofing membrane was visible on the roof of building 2 and 3. This means that any cracks in the surface finishes on the roof will allow water to seep into the concrete slab beneath the finishes, and cause corrosion of the reinforcing steel.

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Priority Actions

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Problems Observed Summary

ITEM 1: (1st Priority-3) The typical columns in building 1 have low factor of safety with respect to their load carrying capacity.

ITEM 2: (2nd Priority 3) Inconsistency between drawing and real site condition in building 2

ITEM 3: (3rd Priority 3) Slab thickness and beam depth does not satisfy for long term deflection in building 1

ITEM 4: (4th Priority 3) Purlin depth does not satisfy for long term deflection even for strength

ITEM 5: (5th Priority 3) Rusting on steel shed member

ITEM 6: (6th Priority 3) No parapet wall and stair railing in building 2

ITEM 7: (7th Priority 3) Clear cover of columns in chemical water tank in building 2

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Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	1st Priority-3 - The typical columns in building 1 have low factor of safety with respect to their load carrying capacity.	Carry out a full Detailed Engineering Assessment of the entire building including any intrusive testing required Building Engineer is to fully check the loading capacity of all components to determine whether or not the as-built components are able to sustain the applied loads.	6-weeks
2	1st Priority-3 - The typical columns in building 1 have low factor of safety with respect to their load carrying capacity.	Implement the steps as required from a DEA.	6-months
3	2nd Priority 3 - Inconsistency between drawing and real site condition in building 2	Factory Engineer to check full structural system to verify whether the slabs, columns are able to support the applied loads	6-weeks
4	2nd Priority 3 - Inconsistency between drawing and real site condition in building 2	Factory Engineer to revise the drawing record to reflect the real site condition	6-months
5	3rd Priority 3 - Slab thickness and beam depth does not satisfy for long term deflection in building 1	Commence Detailed Engineering Assessment to verify slab thickness and beam depth is stable for long term deflection	6-weeks
6	3rd Priority 3 - Slab thickness and beam depth does not satisfy for long term deflection in building 1	Make strengthening work for slab or beam as recommended in Detailed Engineering Assessment	6-months
7	4th Priority 3 - Purlin depth does not satisfy for long term deflection even for strength	Replace flimsy existing purlins, or strengthen them to meet BNBC loads.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
8	5th Priority 3 - Rusting on steel shed member	Remove the members which are fully damaged and install new members Clean all steel members and apply rust proofing paint.	6-months
9	6th Priority 3 - No parapet wall and stair railing in building 2	Install parapet wall Install railing for stair case All work must comply to BNBC.	6-months
10	7th Priority 3 - Clear cover of columns in chemical water tank in building 2	Verify whether clear cover of the columns are appropriate	6-weeks
11	7th Priority 3 - Clear cover of columns in chemical water tank in building 2	Apply a protective membrane if clear cover of the columns is found to be insufficient.	6-months