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13.AUGUST.2014

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Identified Priority 3 Concerns

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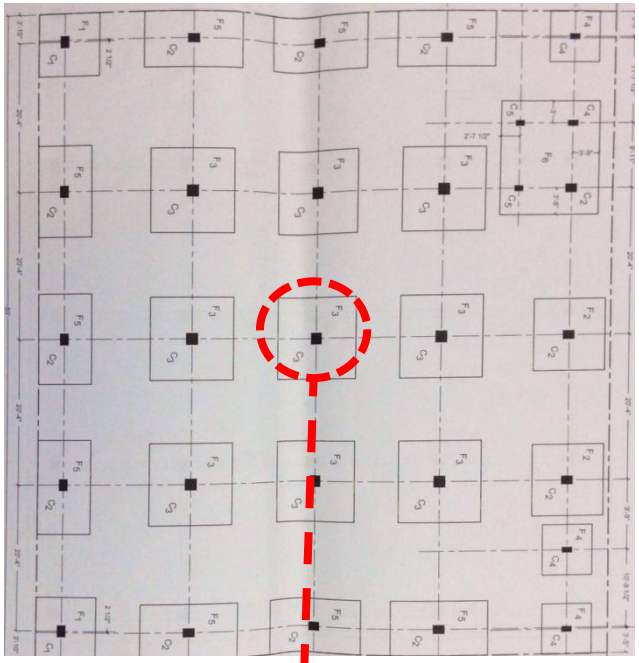
1st Priority 3 Concern



The column to be checked.

The building was constructed in 2007 with brick chip aggregate and high strength steel as informed on the Construction drawings.

Based on the drawings and the Ferro-scan results, the column reinforcement appears to be consistent with the rebar arrangement at the ground level of the structural drawing.

According to the load rundown calculation for the existing 3 storeys and in the future case with 6 storeys, the column has been found to possess enough capacity to be acceptable.

According to the load rundown calculation for 8 storeys as per the secondary Construction drawing, the columns have been found to possesses low factors of safety and have a YELLOW rating. If it is ever intended to construct the addition levels on this building then a full Detailed Engineering Assessment should be carried out first.

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2nd Priority 3 Concern

The current roof level needs to be protected with a water proofing layer if construction is not continued within the next three months.

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3rd Priority 3 Concern

The starter bars of the columns on the 3th floor need to be painted to prevent the corrosion of steel for future use.

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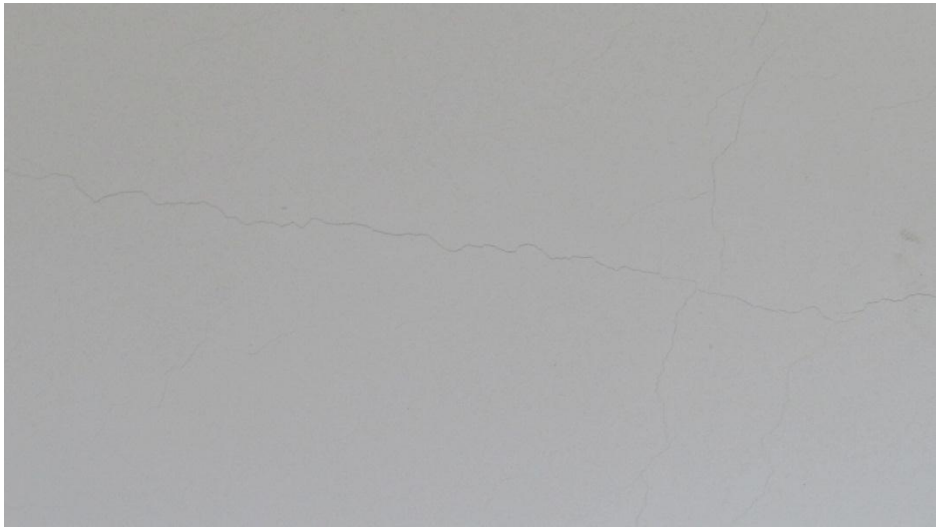
4th Priority 3 Concern



The cracking on the 3rd floor beams and slabs needs to be investigated to determine whether they are plaster cracks or structural cracks.

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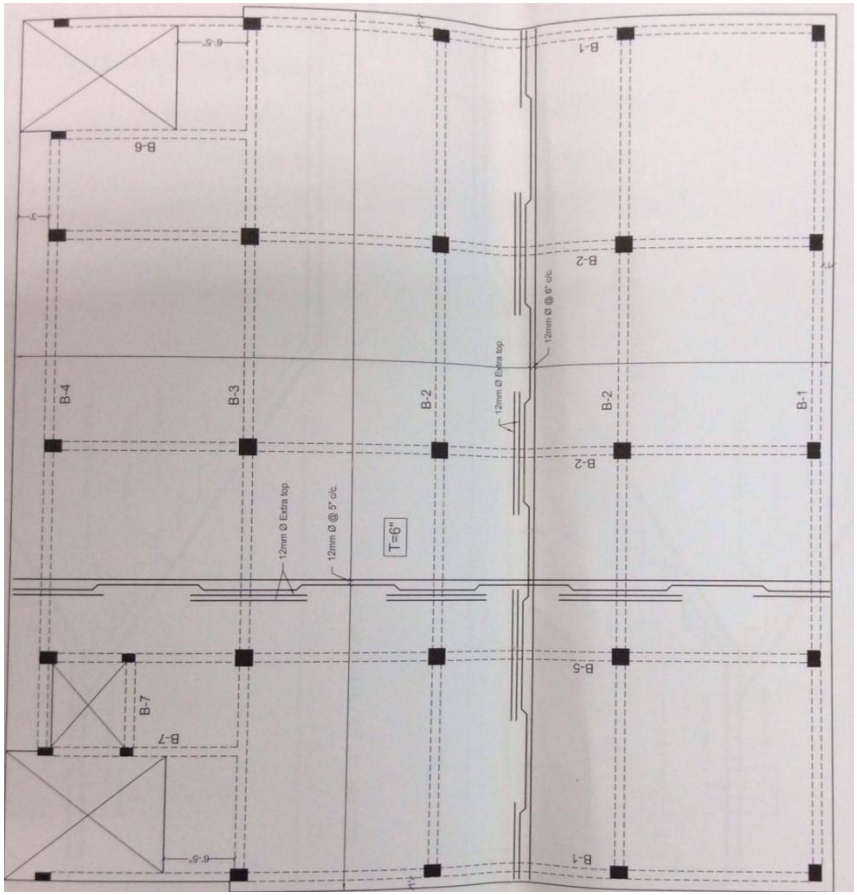
5th Priority 3 Concern



R.C Beam and column frame, with a 2-way solid slab. Stability provided by moment frame system only.

Slab Thickness 152.4mm
Column Size 508x508mm (typ.)
Beam Size 254x508mm(typ.)

Grid 6.2m x 5.56m.

This type of structural framing is appropriate for a building lower than 10 storeys and with the large plan area. However, it is required that the factory's Structural Engineer reviews and checks the overall stability and horizontal deflections under wind and seismic loading.

We require that these items be investigated in an Engineering Assessment.

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6th Priority 3 Concern

Temporary steel sheds for Security and Generator housing are poorly built with simple connections.

The Structure Engineer needs to review the design and detailing with applied wind loads and check the steel structure under uplift wind forces in particular.

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Priority Actions

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Problems Observed Summary

ITEM 1: (1st Priority 3) The building should not be constructed up to 8 storeys high without a full Detailed Engineering Assessment.

ITEM 2: (2nd Priority 3) The roof needs to be protected with a water proofing layer if the construction is not to continue within three months.

ITEM 3: (3rd Priority 3) The starter bars of the columns on the 3rd floor need to be painted to prevent the corrosion for future use.

ITEM 4: (4th Priority 3) The cracks on the 3rd floor beams and slabs need to be investigated to determine if they are plaster cracks or structural cracks.

ITEM 5: (5th Priority 3) The factory's Structure Engineer needs to check the overall lateral stability system under lateral wind and seismic loads as part of an Engineering Assessment.

ITEM 6: (6th Priority 3) The 'temporary' steel sheds for Security and Generator housing need to be checked/reviewed for their structural stability.

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Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	1st Priority 3 - The building should not be constructed up to 8 storeys high without a full Detailed Engineering Assessment.	The building should not be built up to 8 storeys, as is suggested on one set of drawings, without a full Detailed Engineering Assessment.	6-months
2	2nd Priority 3 - The roof needs to be protected with a water proofing layer if the construction is not to continue within three months.	Provide a proper waterproof layer on the roof level if the building construction does not continue within three months.	6-months
3	3rd Priority 3 - The starter bars of the columns on the 3rd floor need to be painted to prevent the corrosion for future use.	Provide a proper paint layer to prevent steel corrosion.	6-months
4	4th Priority 3 - The cracks on the 3rd floor beams and slabs need to be investigated to determine if they are plaster cracks or structural cracks.	The cracking on the 3rd floor needs to be investigated to determine if is plaster cracking or structural cracking. If it is structural cracking, it will be necessary to investigate the reasons for the cracking, remedy them and then suitably repair the damage.	6-months
5	5th Priority 3 - The factory's Structure Engineer needs to check the overall lateral stability system under lateral wind and seismic loads as part of an Engineering Assessment.	The factory's Structural Engineer is to analyse and check the overall structural system under lateral wind and seismic loads to determine the structural safety under these conditions.	6-weeks
6	5th Priority 3 - The factory's Structure Engineer needs to check the overall lateral stability system under lateral wind and seismic loads as part of an Engineering Assessment.	Based on the above analysis results, consider whether strengthening works are needed.	6-months
7	6th Priority 3 - The 'temporary' steel sheds for Security and Generator housing need to be checked/reviewed for their structural stability.	The detailed design and detailing of the shed buildings needs be checked to ensure their safety under wind loads.	6-months