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Identified Priority 1 Concerns

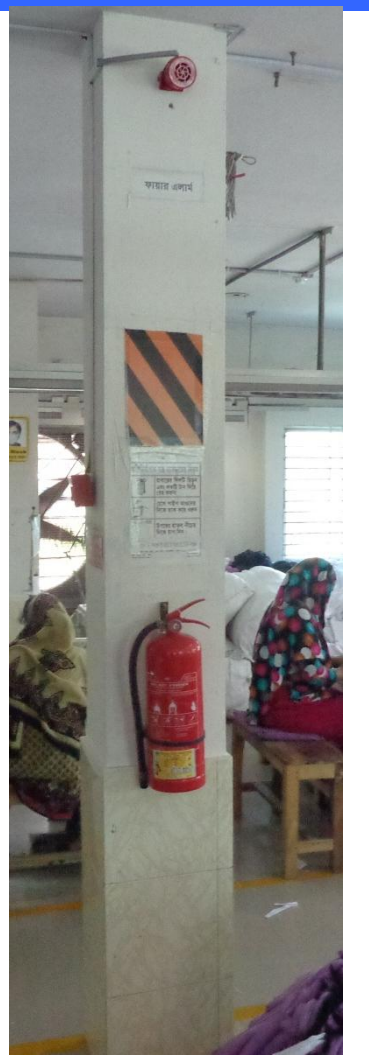
(None)

Identified Priority 2 Concerns

- High Column Stresses.
- Drawing vs. As-Built Construction Discrepancies.
- Poorly Constructed Sheds.
- Poorly Constructed Fire Escape Stair.

Priority 2 Concern

COLUMN INDEX / FLOOR LEVEL	UP TO GRADE BEAM	GRADE BEAM TO 1ST. FLOOR ROOF	1ST. FLOOR ROOF TO 5TH. FLOOR ROOF	STIRUPS
C_1	.42m × .30m 4-20mm + 4-16 mm Ø	.38m × .25m 4-20mm + 4-16 mm Ø	.38m × .25m 4-20mm + 4-16 mm Ø	10mm Ø @ 0.15mC/C
C_2	.42m × .30m 4-20mm + 6-16 mm Ø	.38m × .25m 4-20mm + 6-16 mm Ø	.38m × .25m 4-20mm + 6-16 mm Ø	10mm Ø @ 0.15mC/C



Based upon observed column sizes, reinforcement and slab loadings, column safety factors are lower than desirable in the 6 Storey building and the northern-most of the two 5 Storey Buildings (See column schedule above).

High Column Stresses

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Priority 2 Concern

Structural drawings show beam/slab configurations that differ from those observed in all buildings, column sizes in the 6 Storey building differed from those shown on Structural details. Additionally, where beams were present, the beam sizes differed from the Structural drawings provided.

Drawing vs. Construction Discrepancy

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Priority 2 Concern

The steel sheds covered practically the entirety of the complex not already occupied by the R.C. buildings. Many of the sheds were observed to be very poorly constructed and of questionable structural integrity.

Poorly Constructed Steel Shades

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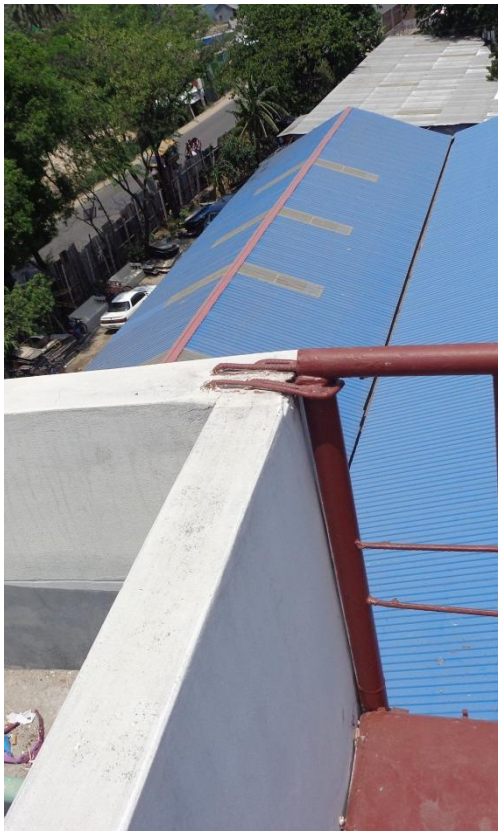
Priority 2 Concern



The steel fire escape stair at the side of the southern-most of the two 5 storey buildings was poorly constructed and it is doubtful that it would support loads imposed by a mass evacuation.

Poorly Constructed Steel Fire Escape Stair

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Identified Priority 3 Concerns

- No Loading Plan.

Priority 3 Concern

Very little storage was observed throughout the R.C. buildings. However, no slab loading plan was available nor were there any signs of ongoing slab load monitoring.

No Loading Plan

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Overall Stability System

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All factory floors other than the 1st floor slab of the 6 Storey building were flat slab configurations. There was no apparent lateral restraint system other than brick infill walls.

We require that these items be investigated as part of a Detailed Engineering Assessment

Lateral Restraint System

Water Ingress at Roof Level

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There was no real waterproofing present at the roof levels. However, no evidence of water infiltration was observed at the underside of the roof slabs.

Roof Waterproofing System

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Priority Actions

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Problems Observed Summary

ITEM 1: (Priority 2) Column load run-downs indicate high column stresses within the 6 Storey building as well as the Northern-most of the two 5 Storey buildings.

ITEM 2: (Priority 2) There are discrepancies between the Structural drawings and the observed as-built construction. Notably, column sizes vary in the 6 Storey Building and the slab systems differ throughout all of the factory buildings.

ITEM 3: (Priority 2) The steel roof sheds covering a large portion of the factory complex grounds are poorly constructed of light steelwork framing.

ITEM 4: (Priority 2) The steel fire escape stair at the Southern-most of the two 5 Storey buildings is poorly constructed and of questionable structural integrity.

ITEM 5: (Priority 3) There was no loading plan in effect, although little storage was observed within the factory buildings.

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Item 1 and actions

High column stresses

Priority 1 (Immediate – Now)	• None
Priority 2 (within 6 weeks)	• Factory Engineer to review design, loads and column stresses in the areas identified above.
Priority 3 (within 6 months)	• Complete implementation of any works deemed necessary by the Engineering review.

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Item 2 and actions

Drawing vs. AS-Built Construction Discrepancies .

Priority 1 (Immediate – Now)	• None
Priority 2 (within 6 weeks)	• Commence a Detailed Engineering Assessment to review the adequacy of as-built construction. Assessment to include formulation of as-built drawings and verification of reinforcing steel. • The DEA is to include lateral stability checks for all factory buildings.
Priority 3 (within 6 months)	• Implement recommendations of the DEA.

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Item 3 and actions

Poorly constructed steel sheds.

Priority 1 (Immediate – Now)	• None
Priority 2 (within 6 weeks)	• Begin a Detailed Engineering Assessment which is to include an evaluation of the steel shed's framing.
Priority 3 (within 6 months)	• Complete implementation of any works deemed necessary by the DEA.

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Item 4 and actions

Poorly constructed steel fire escape stair

Priority 1 (Immediate – Now)	• None
Priority 2 (within 6 weeks)	• Begin a Detailed Engineering Assessment which is to include an evaluation of the steel fire escape stair at the side of the Southern-most of the two 5 Storey buildings.
Priority 3 (within 6 months)	• Complete implementation of any works deemed necessary by the DEA.

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Item 5 and actions

No loading plan in effect

Priority 1 (Immediate – Now)	• None
Priority 2 (within 6 weeks)	• Begin a Detailed Engineering Assessment which shall include the development of a slab loading plan for all floor plates within the factory, taking into consideration slab, beam and column capacities.
Priority 3 (within 6 months)	• Implement and actively monitor the slab loading plan for all floor plates within the factory buildings.

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