Styrax Fashions Ltd. (10244)

Plot # 194 DEPZ (Ext.), Ganakbari, Savar, Dhaka

09.MARCH.2014

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Identified Priority 1 Concerns

High Storage Yields Low Column Safety Factors

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Priority 1 Concern

As determined using the observed steel reinforcement ratio and the strength appropriate for stone aggregate concrete, observed slab loading appears excessive. The resulting low column working stress safety factor warrants consideration.

It should be noted that a removal of excess floor loadings down to the designed level (3kN/m^2) would be sufficient to result in a ‘green’ rating for the column load run-down.

Low column working stress safety factor (result of excessive loading)

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Identified Priority 2 Concerns

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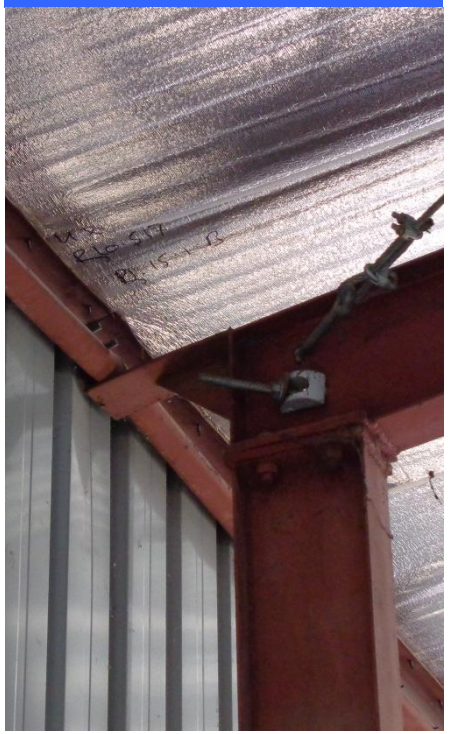
Priority 2 Concern

Lack of vertical bracing

There was present at the roof level a steel framed structure. Connections were observed to be poorly constructed. The structure had no lateral load restraint system.

Poor connection detailing at steel roof structure



Steel Roof Framing Above Roof Slab

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Priority 2 Concern

Nuts left loose on anchor bolts

Poorly detailed steel framing

Steel Roof Framing Above Roof Slab

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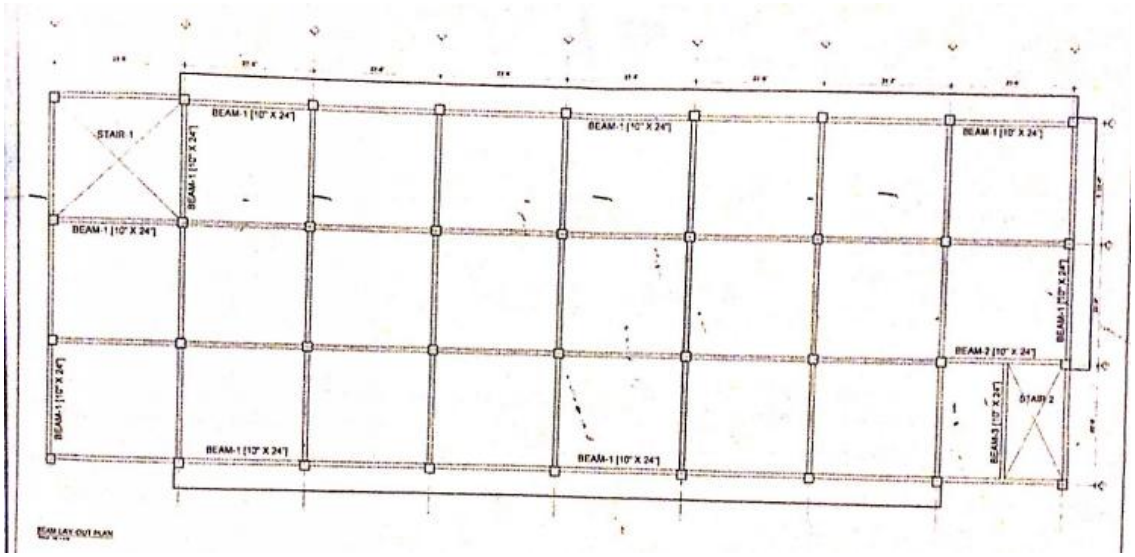
Priority 2 Concern



It was noted that the 1st & 2nd floor slabs were a flat slab arrangement and the 3rd to Roof slabs were a beam/slab arrangement. Structural Drawings show a beam/slab arrangement for typical floors and a flat slab arrangement at the 3rd, 4th & 5th floors.

In addition to this discrepancy, the structural drawings do not show the steel frame upon roof level.

Discrepancies between structural drawings and actual construction

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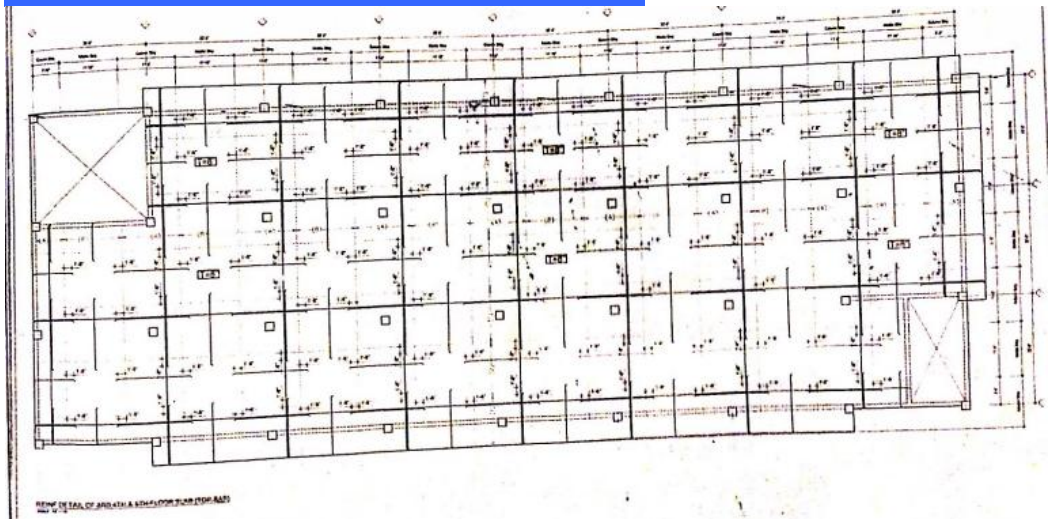
3rd, 4th & 5th Floor plan showing flat slab



Underside of 4th floor showing beam-slab arrangement

Discrepancies between structural drawings and actual construction

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Identified Priority 3 Concerns

None

Priority Actions

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Problems Observed Summary

ITEM 1: (Priority 2) At the steel roof structure connections were inconsistent and suspect in their capacity. Also, untightened anchor bolts were observed.

ITEM 2: (Priority 2) Examination of structural drawings and the provided loading certificate are inconsistent with the actual building construction and column capacities respectively.

ITEM 3: (Priority 1) Column loading/capacity checks yield low safety factors, due to relatively high machine and storage loading at the 1st and 2nd stories.

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Item 1 and Actions

The steel roof structure displays signs of overloading and connections are detailed in a poor fashion.

Priority 1 (Immediate – Now)	• None
Priority 2 (within 6 weeks)	• A detailed engineering assessment is to be performed upon the steel roof structure.
Priority 3 (within 6 months)	• Carry out any remedial measures or alteration works deemed necessary by the aforementioned structural assessment.

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Item 2 and Actions

Drawings are inconsistent with actual construction.

Priority 1 (Immediate – Now)	• None
Priority 2 (within 6 weeks)	• A detailed engineering assessment is to be conducted on the building in order to determine the capacity of the structure in its existing condition.
Priority 3 (within 6 months)	• Update the structural drawings to reflect the as-built conditions, and carry out any remedial measures deemed necessary by the aforementioned engineering assessment.

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Item 3 and Actions

Column safety factors are low under observed loading, as a result of overloading at 1st and 2nd floor levels.

Priority 1 (Immediate – Now)	• Reduce storage and equipment loadings at the 1st and 2nd levels to no more than 3.0kN/m^2
Priority 2 (within 6 weeks)	• Factory engineer to review design loads and column stresses.
Priority 3 (within 6 months)	• Produce and actively manage a loading plan for all floors within the factory giving consideration to slab and column capacity.

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