

Four H Apparels Ltd.

295, Jalalabad, Hathazari Road, Chittagong
(22.405448N, 91.818235E)

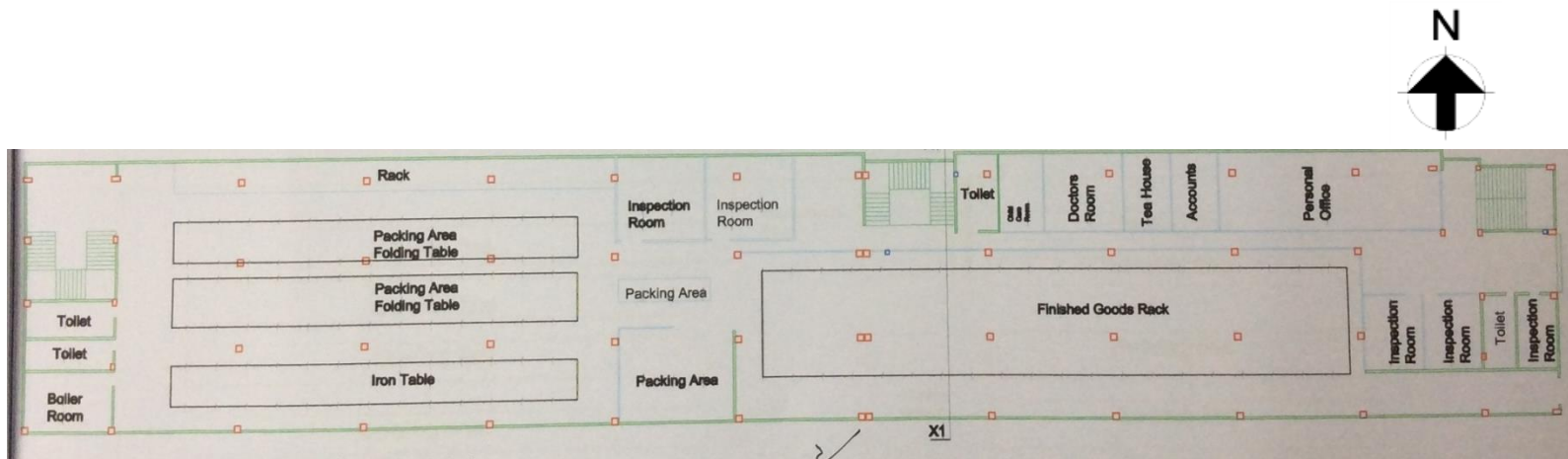
20th May 2014



Observations

High Stress Levels in Columns

Observation



High stress levels in columns
throughout the building

Observation

High Loading in toilet areas and beneath water tank

Observation

Various areas across the building see significantly increased loadings relative to the typical factory-floor loads.

The water tank situated on the roof transfers significant load onto the columns underneath. Columns in this area are smaller than typical columns.



Build-up and top slabs in toilet areas (particularly on Level 1) result in significantly increased loads on columns. Columns in this area are smaller than typical columns.

Slight hairline cracking in beams at Level 1

Observation



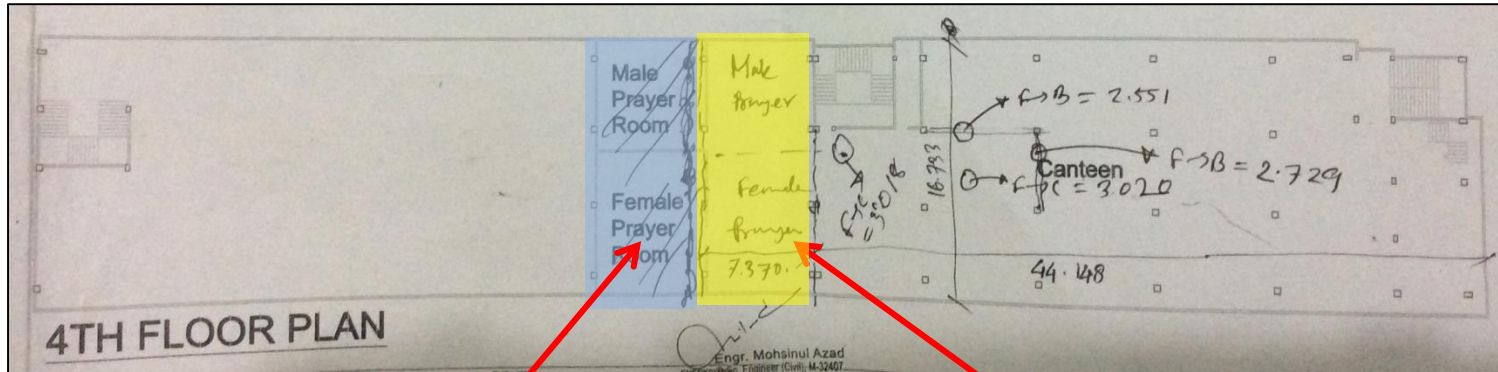
Cracks were visible along one beam on Level 1. These were painted over on one side of the beam, but visible on the opposite side.

Observation

Discrepancies between site observations and information on drawings

Observation

There were several discrepancies between site observations and structural/architectural drawings.



Location on
Architectural
Drawings

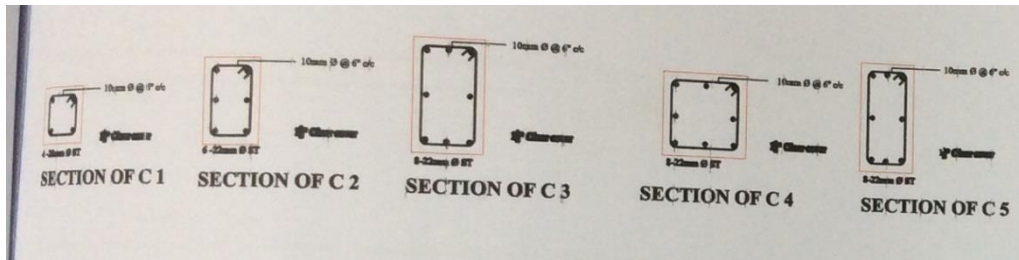
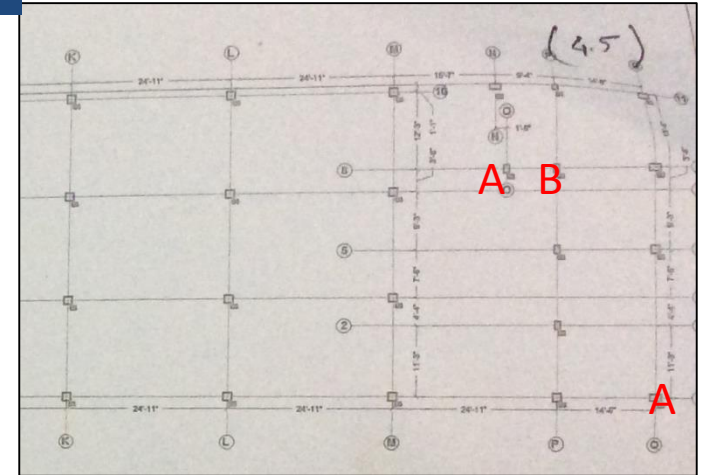
Actual Location

As-built drawings indicate that the prayer rooms on Level 4 are positioned one bay further out onto the level 4 roof area than what was observed.

Observation

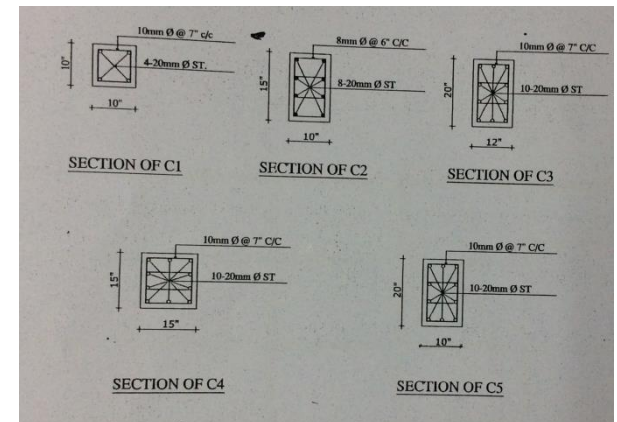
There were several discrepancies between site observations and structural/architectural drawings.

Column layouts did not appear to be entirely accurate – some columns (A) were different size to the drawings, and another (B) was indicated to be orientated in the wrong direction in the drawings.



Original Drawing Column Sizes

Column sizes differed between the two sets of structural drawings provided. Reinforcement scanned on site differed from column details shown on drawings.



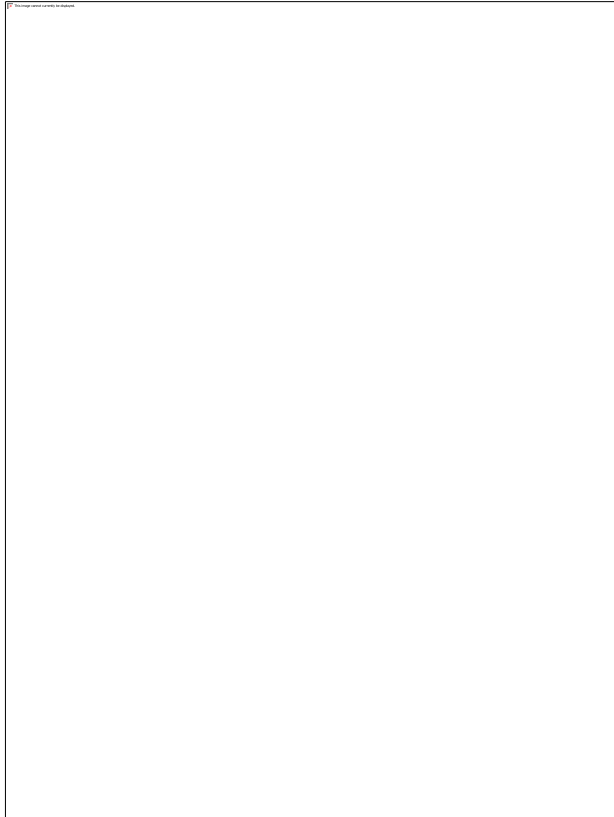
As-built Drawing Column Sizes

Observation

Apparently non engineered roof structures

Observation

Apparently Non-Engineered Structures



Waste Store roof beams show large deflections.



Roof beams to stairs of Main Building show large deflections and poor connection details. It is understood that these are to be replaced with concrete slabs in the short term.

Observation

Priority Actions

Problems Observed

ITEM 1: Stress levels in Columns

ITEM 2: High loading in toilet areas and under water tank.

ITEM 3: Slight hairline cracking in beams at Level 1.

ITEM 4: Discrepancies between site observations and information on drawings.

ITEM 5: Apparently non engineered roof structures.

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Stress levels in Columns	Building Engineer to review design, loads and stresses in columns in the area noted.	6-weeks
2	Stress levels in Columns	Building Engineer to verify insitu concrete strength by taking 100mm diameter cores from 4 columns.	6-weeks
3	Stress levels in Columns	Building Engineer to verify grade of steel reinforcement and no. and diameter of main column bars.	6-weeks
4	Stress levels in Columns	Make structural alterations if required as advised by Engineer.	6-months
5	High loading in toilet areas and under water tank	Engage an Engineer to investigate if the applied loading can be safely carried by the slabs and beams and by the columns.	6-weeks
6	High loading in toilet areas and under water tank	Carry out load reduction and/or any remedial work as directed by the Engineer.	6-months
7	Slight hairline cracking in beams at Level 1	Engage an Engineer to investigate if the cracking is structural or exists only in the render.	6-weeks
8	Slight hairline cracking in beams at Level 1	Carry out any remedial work as directed by the Engineer.	6-months
9	Discrepancies between site observations and information on drawings	Engage an Engineer to update “as built” engineering drawings.	6-weeks
10	Apparently non engineered roof structures	Building engineer to check the capacity of the lightweight roofs and make any necessary alterations.	6-months