

# TM Textiles & Garments Ltd.

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# Observations

**There was no fireproofing of steelwork**

There was no fire protection on steel structures across the entire site .



Typical Roof structure type observed in garment building, knitting building and dyeing building



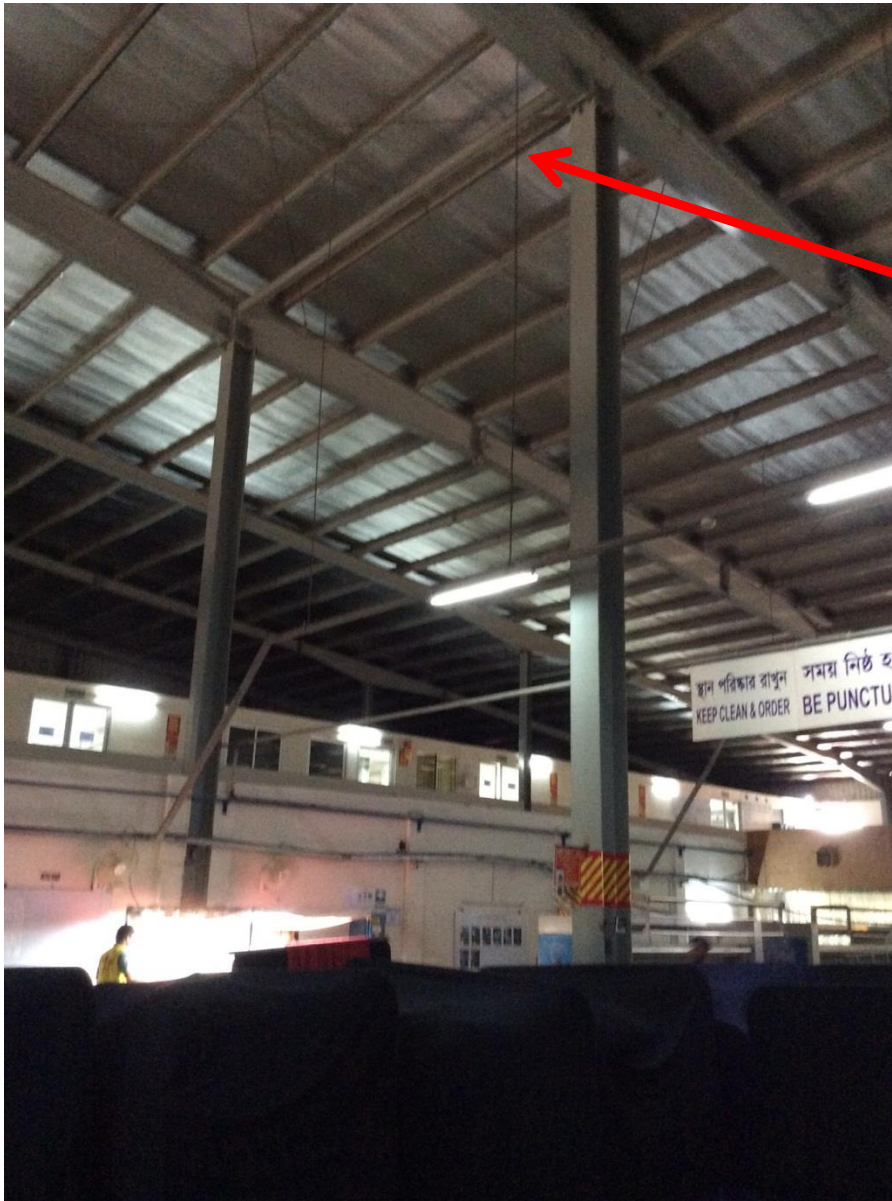
Typical portal frame steel connection



Typical Elevated Floor Structure

No fireproofing to steelwork

# Lateral Stability of the portal frame structures



Relatively small circular hollow section used as a component in the portal frame stability system



Lateral stability of the portal frame structures

# Construction works on-going

Some construction work was on-going, and not shown in building permits



Lift pit in new warehouse building



New lift pit in knitting building



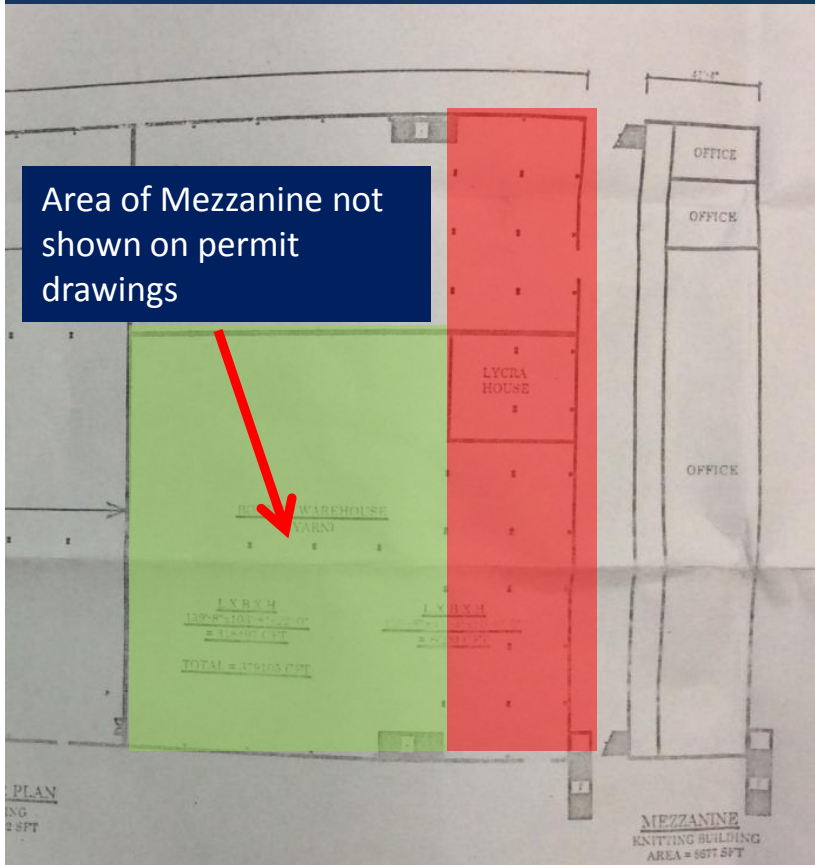
Construction works ongoing



# Storage Loading on the new mezzanine in the Knitting Building

The majority of the mezzanine level in the knitting building was used for storage area, with the remaining area either used as walkways or unused on the day of inspection

Area of mezzanine level in knitting building



Storage in additional mezzanine area (not shown in permit drawings)



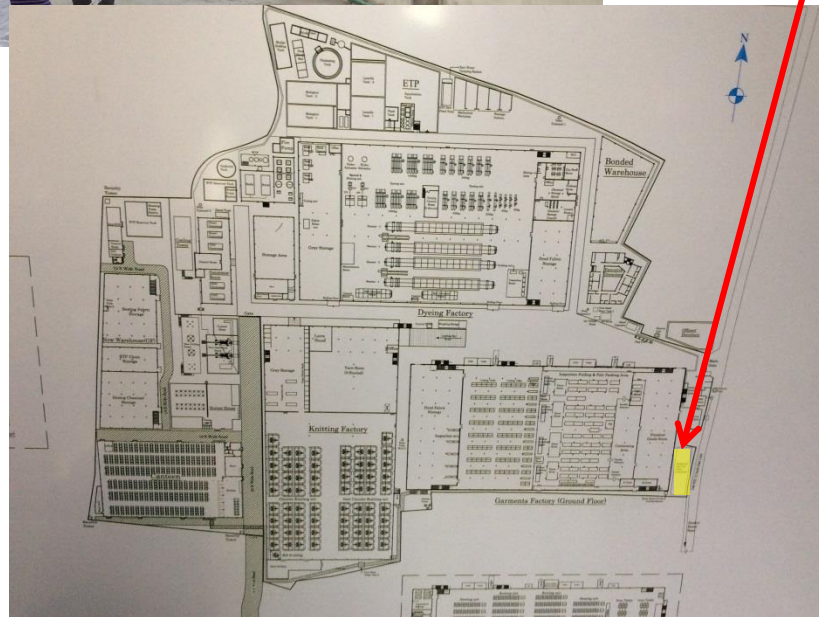
Storage in area specified as office in permit drawings

Storage area on mezzanine

# Water Tank loading on the roof of Medical and Day Care Building



Water tanks positioned above the stair core on Medical Centre Building



Water tank loading on the roof of Medical and Day Care Building

# Change in column section size in the new Warehouse

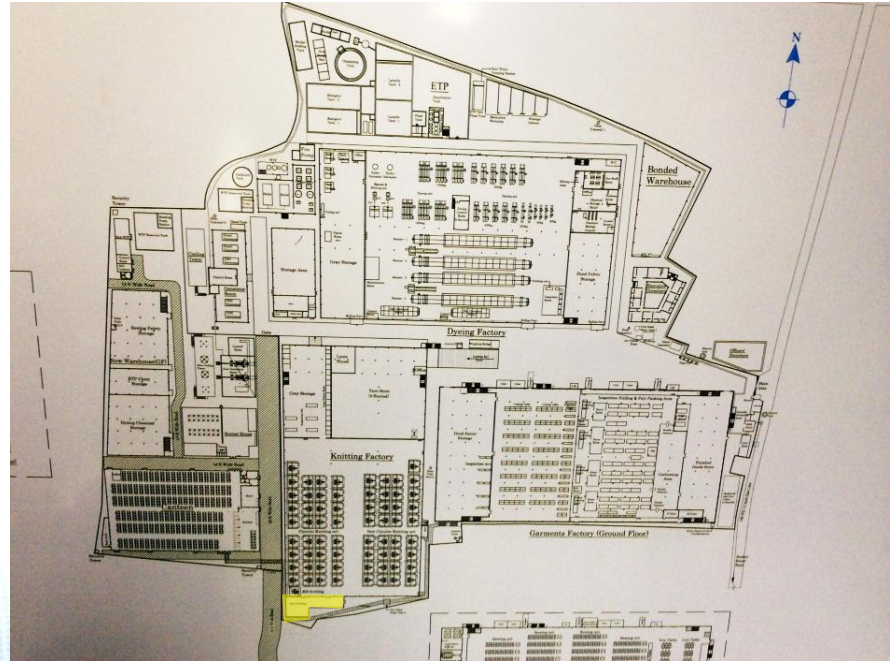


Change in column size was observed towards top of column in the new warehouse building

Change in column section size in the new warehouse

# Possible future extension works noted to Knitting Building

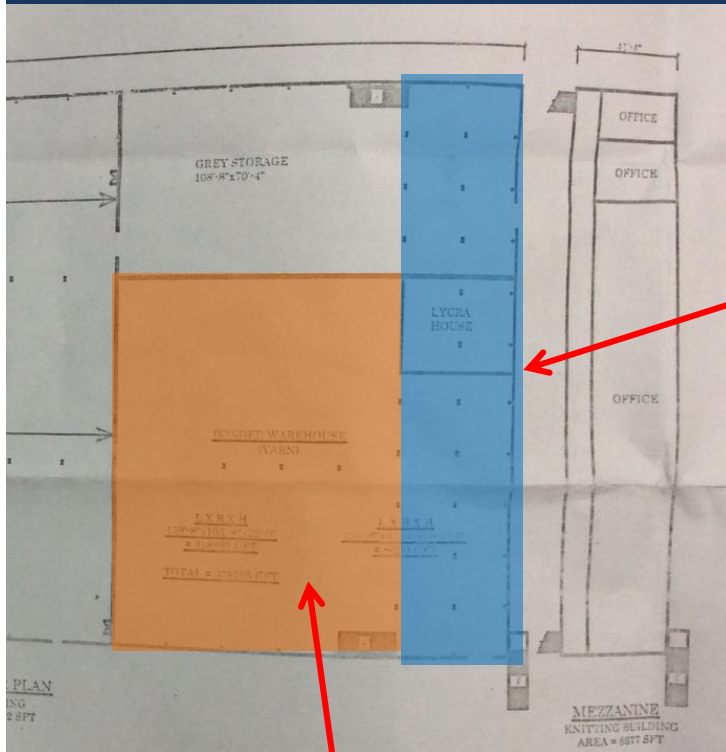
Reinforcement was observed to be extending from the outside walls of the reinforced concrete extension of the knitting building.



Possible future extension works noted

# **Inconsistencies between the permit/ structural drawings and the as-built structures.**

The mezzanine area within the knitting building was significantly larger than the permit drawings suggested. Steelwork had been provided beneath the extension to support this, although this was also excluded from the structural drawings.



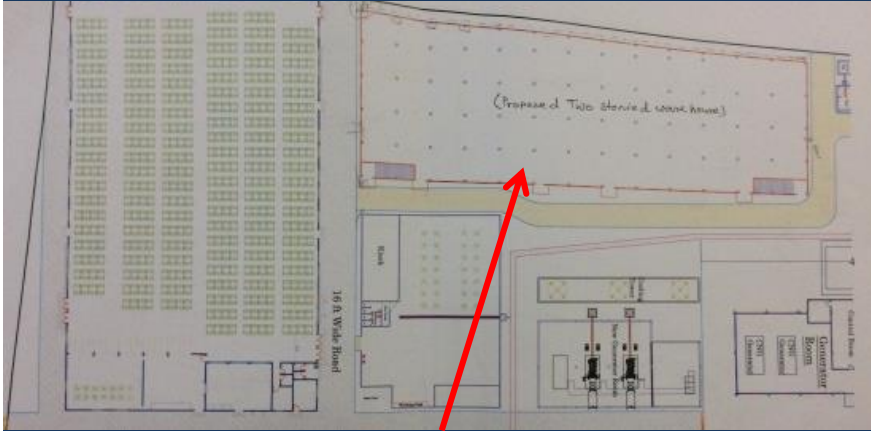
Extent of mezzanine according to building permit

Additional mezzanine area observed

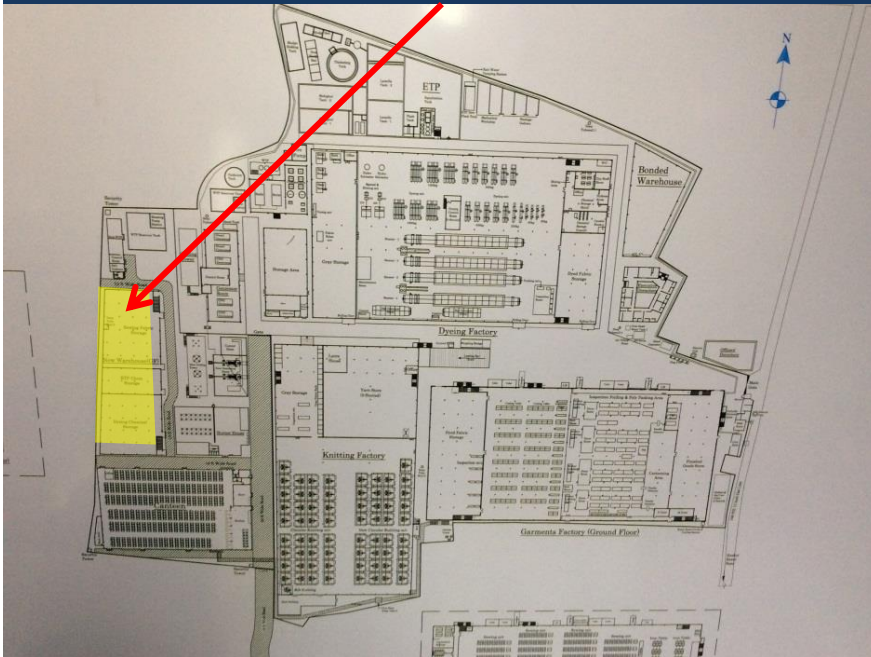


Inconsistencies between permit drawings and as-built structures

No permit had been obtained for the new warehouse building by the day of inspection



New warehouse as proposed in plan



Inconsistencies between permit drawings and as-built structures



Level 01 of New Warehouse Building



Ground Floor of New Warehouse Building

# Priority Actions

# Problems Observed

**ITEM 1:** There was no fireproofing of steelwork

**ITEM 2:** Lateral Stability of the portal frame structures

**ITEM 3:** Construction works on-going

**ITEM 4:** Storage Loading on the new mezzanine in the Knitting Building

**ITEM 5:** Water Tank loading on the roof of Medical and Day Care Building

**ITEM 6:** Change in column section size in the new Warehouse

**ITEM 7:** Possible future extension works noted to Knitting Building

**ITEM 8:** Inconsistencies between the permit/ structural drawings and the as-built structures

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	There was no fireproofing of steelwork	Building Engineer to assess the requirement for providing fire protection to the steelwork particularly in relation to the mezzanine structures and the 2 storey buildings	6-weeks
2	There was no fireproofing of steelwork	Fire protection works to the steelwork as deemed required by the Building Engineer are to be implemented on site. The Building Engineer is to inspect these works during the implementation stage and on completion to confirm that the works comply with the requirements.	6-months
3	Lateral Stability of the portal frame structures	The Building Engineer is to assess the lateral stability of the portal frames in all buildings in the direction perpendicular to the portal frames. This assessment should confirm or otherwise that the steel rope bracing and circular hollow sections provide sufficient resistance to lateral loading in this direction.	6-months
4	Lateral Stability of the portal frame structures	The Building Engineer is to monitor the implementation of any measures deemed necessary on site following the assessment noted above.	6-months
5	Construction works on-going	It was noted on site that construction works are on-going in relation to a new Warehouse, a new scissor lift in the Knitting Building and a new section of mezzanine in the Knitting Building. The Building Engineer is to carry out a structural assessment of these works to confirm their structural adequacy and where relevant to confirm that the existing building has sufficient structural capacity to cater for these changes and additional loading.	6-weeks
6	Construction works on-going	The Building Engineer is to monitor the implementation of any measures deemed necessary on site following the assessment noted above.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
7	Storage Loading on the new mezzanine in the Knitting Building	The capacity of the mezzanine structure is to be assessed by the Building Engineer to confirm that the mezzanine structure is designed to carry the loading from the storage noted.	6-months
8	Storage Loading on the new mezzanine in the Knitting Building	Produce and actively manage a loading plan for all elevated floor plates for all buildings within the factory complex giving consideration to floor capacity and column capacity.	6-months
9	Water Tank loading on the roof of Medical and Day Care Building	The capacity of the roof structure is to be assessed by the Building Engineer to confirm that the roof structure is designed to carry the loading from the water tanks noted.	6-months
10	Water Tank loading on the roof of Medical and Day Care Building	Produce and actively manage a loading plan for all elevated floor plates for all buildings within the factory complex giving consideration to floor capacity and column capacity.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
11	Change in column section size in the new Warehouse	The capacity of the reduced column section is to be assessed by the Building Engineer to confirm that it is structurally adequate.	6-months
12	Change in column section size in the new Warehouse	The Building Engineer is to monitor the implementation of any measures deemed necessary on site following the assessment noted above.	6-months
13	Possible future extension works noted to Knitting Building	If any additions to the building structure are proposed, the Building Engineer shall provide calculations showing the structural adequacy of all columns taking into account any additions to the existing structure, the loading and as built structure, including in-situ concrete strength testing.	6-months
14	Inconsistencies between the permit/ structural drawings and the as-built structures	Building Engineer to check, collect information and produce accurate and fully complete as-built documentation.	6-months