

Aurum Sweater Ltd.

249/1,Teli Para,Gazipur Chowrasta,Gazipur.
(23.996083, 90.382941)

6th July 2017





Observations

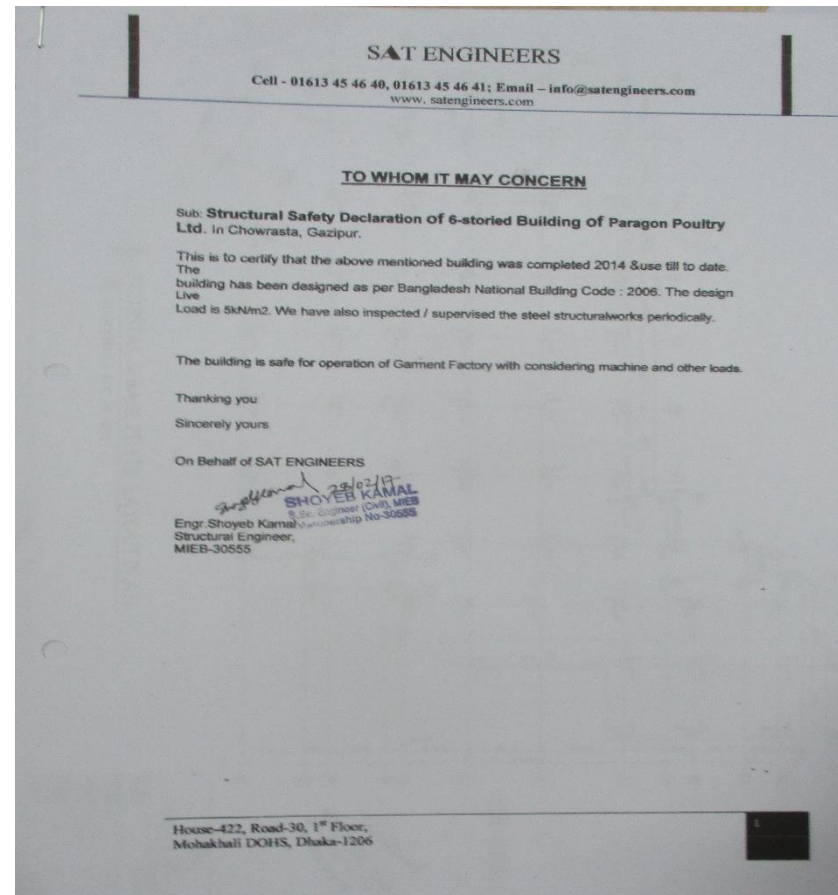


Steel columns to be stressed above normal design limits as per load certificate



Factory has provided a load certificate that the building has been designed as per BNBC 2006 and the design load is 5kpa. Design review is required if the factory management wants to implement the load plan according to BNBC.

Factory is required to maintain the floor live load 3kpa until further verification by design engineer.



During inspection no over loading was observed and FOS calculation for internal column was found satisfactory considering 3kpa allowable floor live loading.

Observation : Main Factory Building



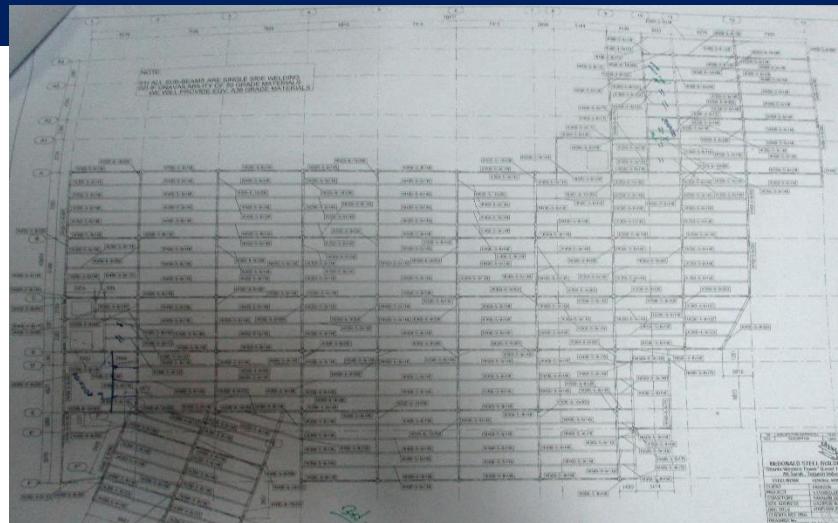
Discrepancies between drawings and on site condition



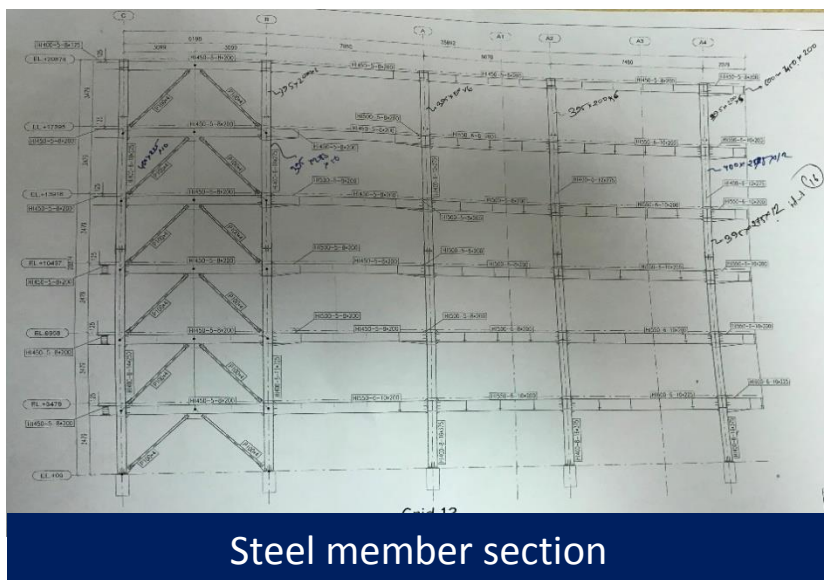
All Column & beam dimensions didn't match with provided drawings. Building engineer is required to produce an "as constructed" drawings which reflect the actual site dimensions with complete structural information.



Column dimension



Beam layout



Steel member section



Beam dimension

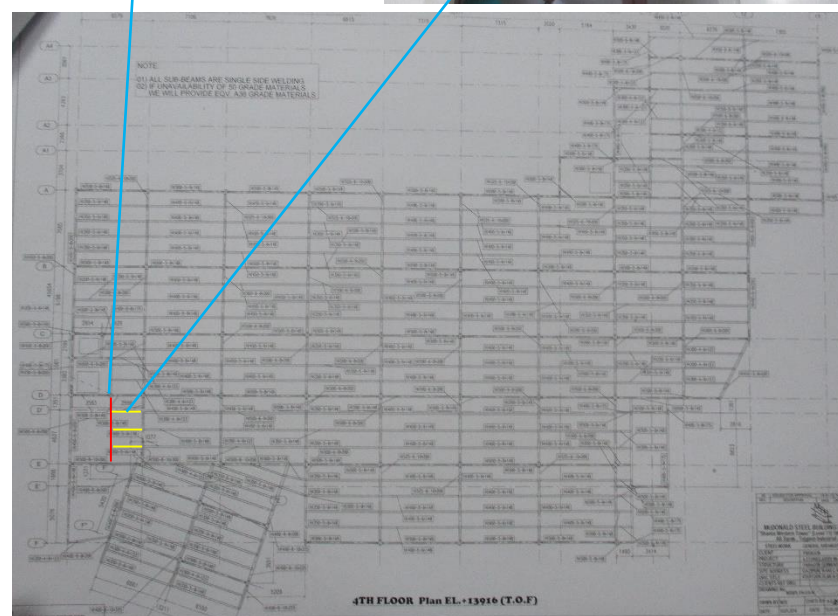




Extra steel column was found which is starting from beam at 2nd floor near front stair. Few beams were not shown in beam-layout which actually exist.



Extra Steel Column



Beam Layout

Observation : Main Factory Building

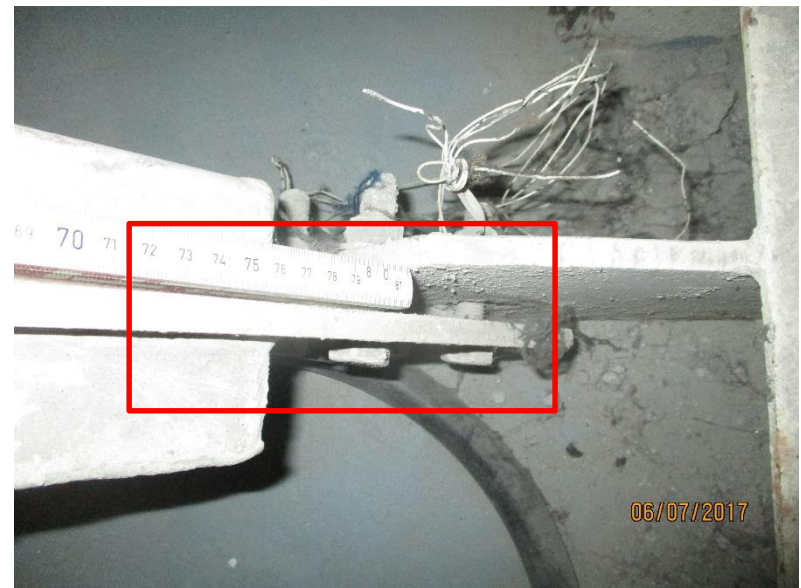


Bolt missing and Improper connection

Observation : Main Factory Building



Missing and loose bolt found in several location.



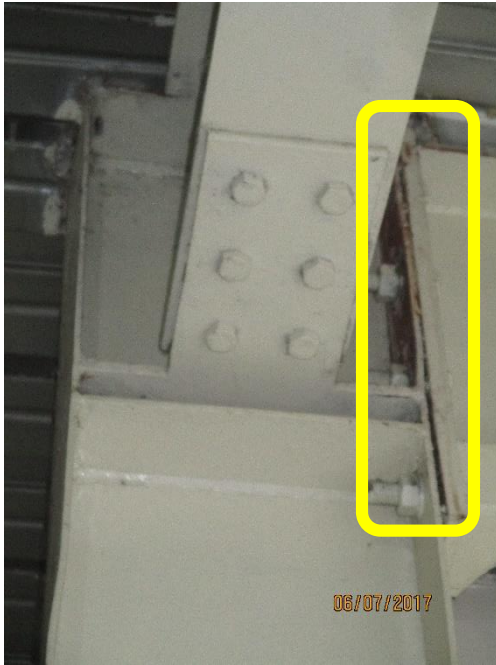
Improper connection found in beam-column joint and bracing joint.

Observation : Main Factory Building



Corrosion found in beam column connection and column base plate joint at toilet zone

Observation : Main Factory Building



Corrosion at beam-column joint



Corrosion at column base inside toilet zone

Observation : Main Factory Building



Apparently non engineered stair with poor support condition



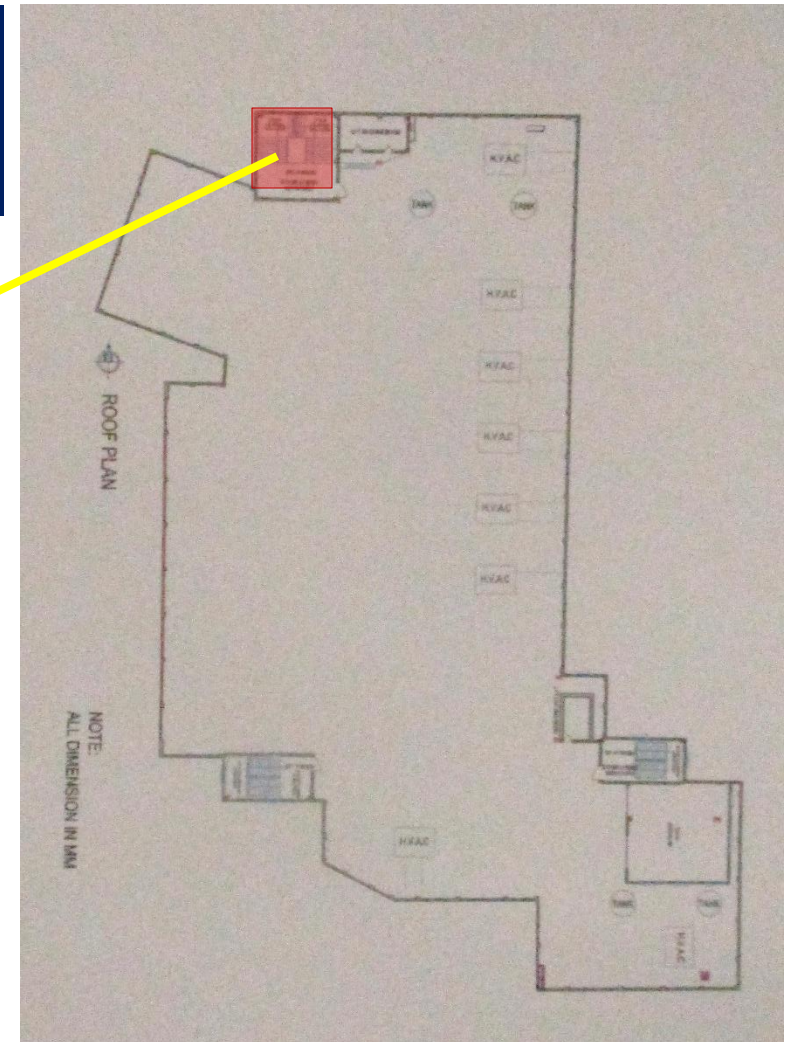
Apparently non-engineered steel stair on roof. Steel pipes are poorly welded with roof slab. The stair does not have adequate bracing and the connection to the building and it appears to be poor.



Falling hazard risk at roof



No railing was found beside roof water tank at North-west corner of main production building.

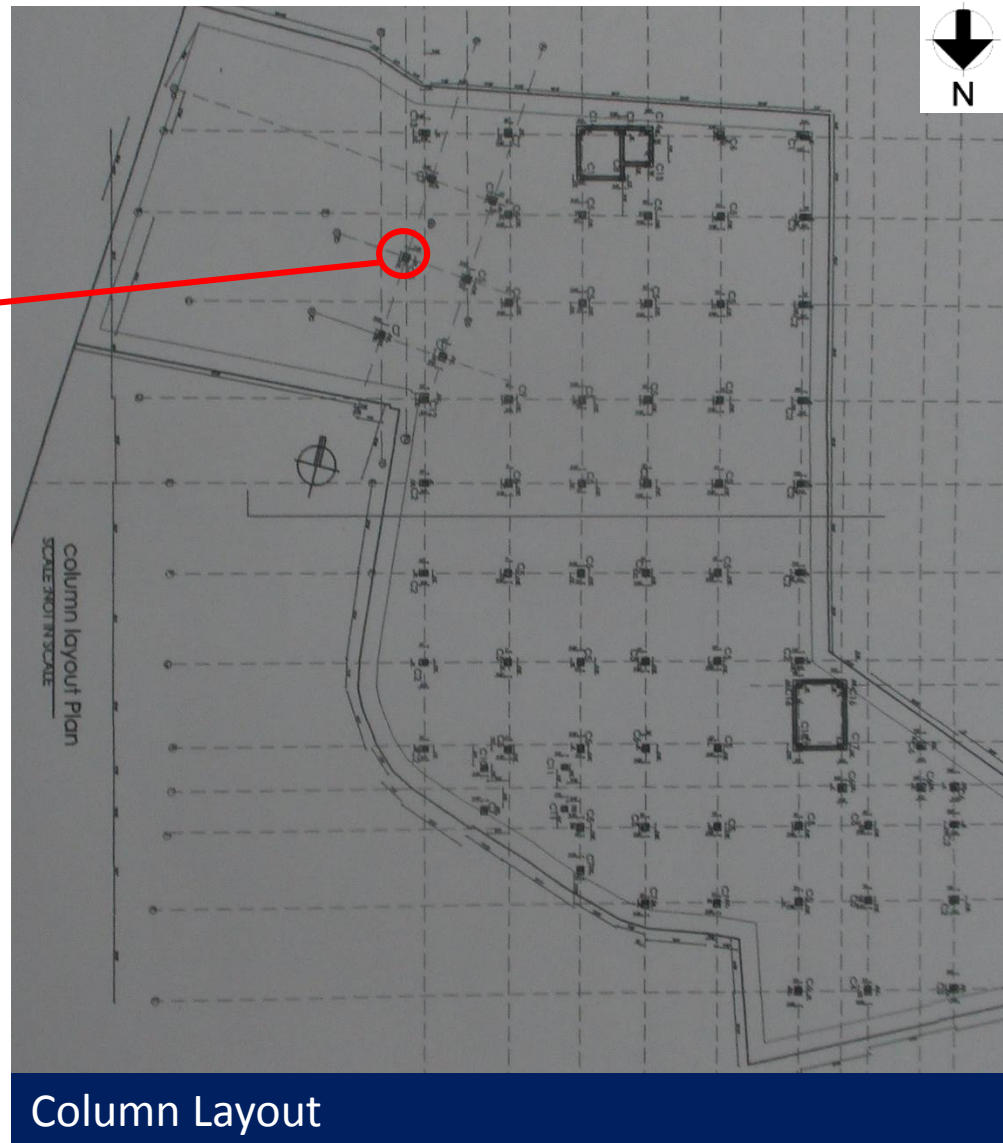


Roof Layout plan



Columns susceptible to vehicle impact

Observation : Main Factory Building



Impact protection not provided to columns at loading –unloading area. Columns are susceptible to impact loading from vehicles.

Observation – Main Factory Building



In sufficient documents for Utility buildings



Generator room



Sub-station

Structural drawings were not available for all utility buildings during visit.



Pump house



Apparently non-engineered connection (Generator room & Pump house)



Generator & boiler room



Pump house

Apparently non-engineered shed. There is no proper connection between support and truss and truss missing in some place. Building engineer to check the capacity of the lightweight steel roofs under lateral and vertical loading.



Problems Observed

Main Factory Building:

- Item 01: Steel columns to be stressed above normal design limits as per load certificate.
- Item 02: Discrepancies between drawings and on site condition.
- Item 03: Bolt missing and light connection.
- Item 04: Corrosion found in beam column joint and column base plate at toilet zone.
- Item 05: Apparently non engineered stair with poor support condition.
- Item 06: Falling hazard risk at roof.
- Item 07: Columns susceptible to vehicle impact.

Utility Buildings:

- Item 08: In sufficient documents for Utility buildings.
- Item 09: Apparently non-engineered connection (Generator room & Pump house).



Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	(Main Factory Building) Steel columns to be stressed above normal design limits as per load certificate	Building engineer to review the design of the existing steel columns and recommend strengthening if necessary.	6-weeks
2	(Main Factory Building) Steel columns to be stressed above normal design limits as per load certificate	Produce and actively manage a loading plan for all floor plates within the factory, giving consideration to floor capacity and column capacity	6-weeks
3	(Main Factory Building) Steel columns to be stressed above normal design limits as per load certificate	Continue to implement load plan.	6-months
4	(Main Factory Building) Steel columns to be stressed above normal design limits as per load certificate	Carry out any remedial measures recommended by above mentioned engineering assessment .	6-months
5	(Main Factory Building) Discrepancies between drawings and on site condition.	Engage an Engineer to produce an “as constructed” drawings which reflect the actual site dimensions with complete structural information.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
6	(Main Factory Building) Bolt missing and light connection	Factory Engineer to check the member joints and install missing Bolts.	6-weeks
7	(Main Factory Building) Bolt missing and light connection	Factory Engineer to snag all light connections and take remedial actions if required.	6-weeks
8	(Main Factory Building) Corrosion found in beam column joint and column base plate at toilet zone	Apply suitable method to protect the steel members from corrosion.	6-weeks
9	(Main Factory Building) Corrosion found in beam column joint and column base plate at toilet zone	Complete further testing on areas of deterioration and have a structural engineer develop a remediation plan.	6-months
10	(Main Factory Building) Apparently non engineered stair with poor support condition	Factory Engineer to install adequate structural members to stable steel stair.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
11	(Main Factory Building) Falling hazard risk at roof	Provide proper edge protection at mentioned area on roof.	6-weeks
12	(Main Factory Building) Columns susceptible to vehicle impact	Install a barrier to prevent vehicle impact in column.	6-weeks
13	(Utility Buildings) In sufficient documents for Utility buildings.	Prepare up-to-date as-built documentation for all utility buildings.	6-weeks
14	(Utility Buildings) Apparently non-engineered connection (Generator room & Pump house)	Building engineer to check the capacity of the lightweight steel roofs under lateral and vertical loading.	6-weeks
15	(Utility Buildings) Apparently non-engineered connection (Generator room & Pump house)	Carry out remedial works resulting from engineering assessment of building.	6-months