

AKH Stitch Art Ltd.

Chandanpur, Rajfulbariya, Hemayetpur, Savar, Dhaka, 1340.

(23.79367E, 90.25252N)

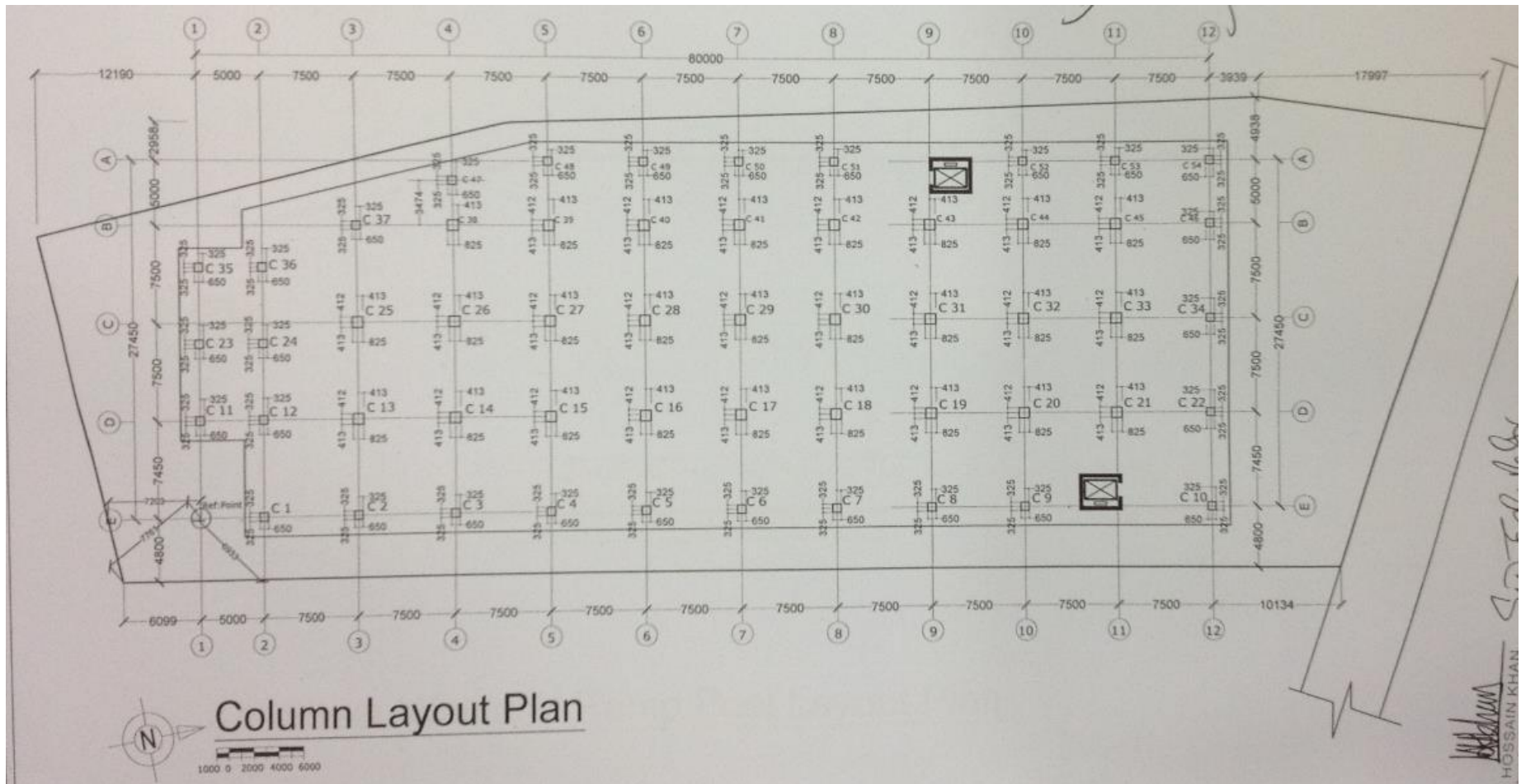
07 May 2014



Building Observations

Preliminary calculations indicate high Punching Shear Force in suspended slabs in Factory Building

Structural drawings not consistent with the as-constructed arrangement of the factory



- Constructed columns smaller than indicated on the structural drawings.
- Building engineer to survey and update drawings as required.

Drawing inconsistencies

Non-engineered steel structures



Dining area at roof level

- Roof structure in dining area appears to be non-engineered.
- Roof may be susceptible to uplift.
- Link-bridge from main building to guards' quarters also appears non-engineered.



Link-bridge to rear of building

Non-engineered structures

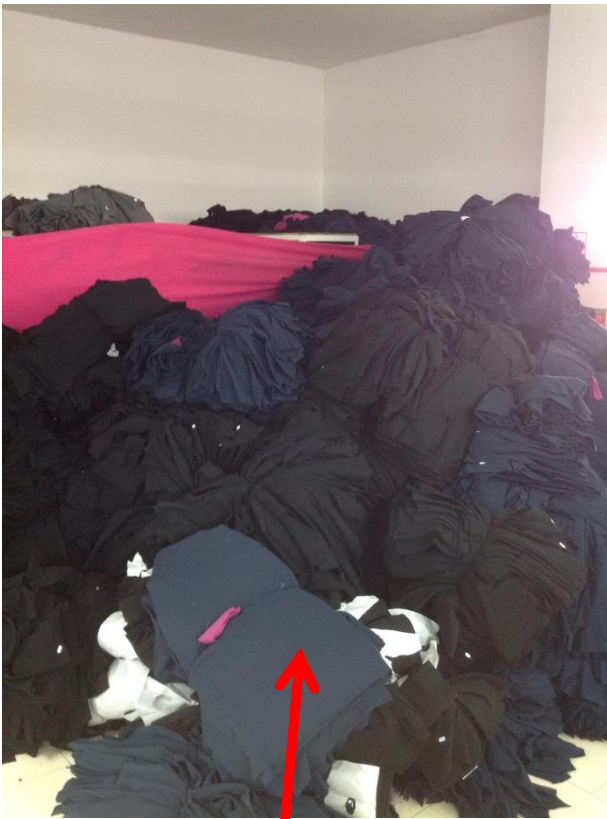
Columns susceptible to impact loading



Columns at Loading Bay are susceptible to impact loading from vehicles.

Columns susceptible to impact loading

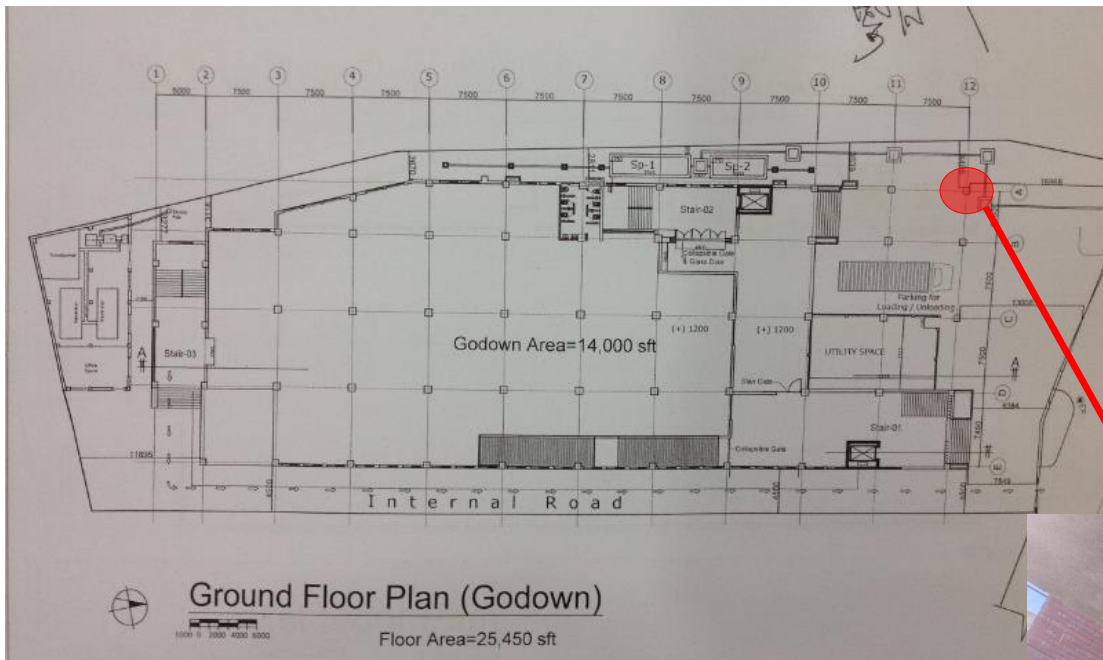
Localised areas of high loading



- Uncontrolled stacking of materials observed.
- No load management system in place.

Localised areas of high loading

Exposed reinforcement



- Exposed reinforcement observed at front of building.
- Reinforcement should be protected and concrete repaired.

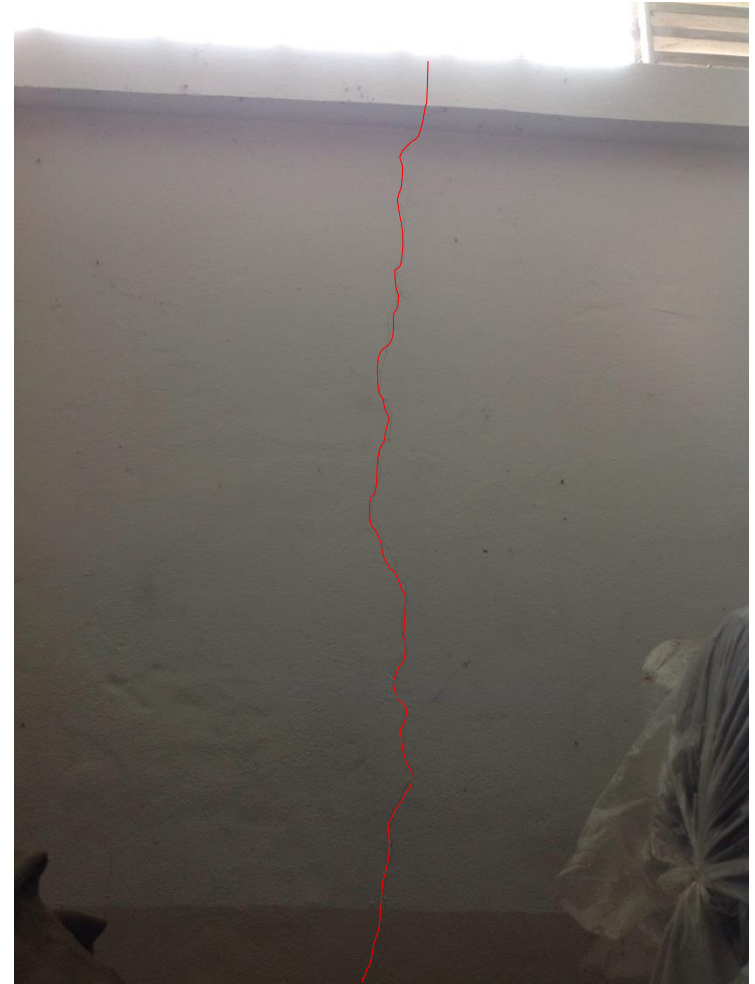
Exposed reinforcement

Cracking and evidence of repairs



Repairs to soffit of 4th floor slab

- Minor hairline cracking and evidence of repairs were observed on suspended slabs.
- Cracking also observed to retaining wall in basement.



Cracking to retaining wall in basement.

Cracking

Priority Actions

Problems Observed

1. Preliminary calculations indicate high Punching Shear Force in suspended slabs
2. Drawings not consistent with the as-constructed arrangement of the factory
3. Non-engineered roof structures
4. Columns susceptible to impact loading
5. Management of storage loads
6. Exposed reinforcement
7. Cracking to structural elements

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Preliminary calculations indicate high punching shear force in suspended slabs	Factory Engineer to review design, loads and punching shear stresses.	Immediate - Now
2	Preliminary calculations indicate high punching shear force in suspended slabs	Verify insitu concrete strengths (using 100mm dia. cores from min 4 locations remote from columns) and existing reinforcement for all slabs for use in punching shear check.	Immediate - Now
3	Preliminary calculations indicate high punching shear force in suspended slabs	Produce and actively manage a loading plan for all floor plates within the factory, giving consideration to floor capacity. This should include a safe level to which any water tanks can be filled.	6-weeks
4	Preliminary calculations indicate high punching shear force in suspended slabs	Continue to implement load management plan	6-months
5	Structural drawings not consistent with the as-constructed arrangement of the factory	Building Engineer to survey as-constructed building and update drawings as required.	6-months
6	Non-engineered structures	Building Engineer to verify capacity and connections of the roof structure to the dining area and the link-bridge	6-months
7	Non-engineered structures	All required strengthening works to be completed.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
8	Columns in the ground floor entrance area are susceptible to impact from delivery vehicles	Building Engineer to review column design and potential for vehicle impact to columns at front of building.	6-months
9	Columns in the ground floor entrance area are susceptible to impact from delivery vehicles	If appropriate, impact protection to be provided.	6-months
10	Management of storage loads	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity (see Item 1).	6-months
11	Management of storage loads	Continue to implement load management plan (see Item 1).	6-months
12	Exposed reinforcement	Area identified to be structurally repaired to ensure further corrosion of reinforcement does not occur.	6-months
13	Cracking to structural elements	Building engineer to record all cracking throughout building, make structural repairs as necessary and monitor on an on-going basis.	6-months
14	Cracking to structural elements	If further cracking occurs, Building Engineer to investigate and remediate as appropriate.	6-months