

MG Niche Flair Limited Ltd. (Unit-2)

H-240, Bhuyanpara, Siddirgonj, Narayangonj
(23.654738, 90.511708)

18th May 2017





Observations



**Column to be stressed above normal
design limits**

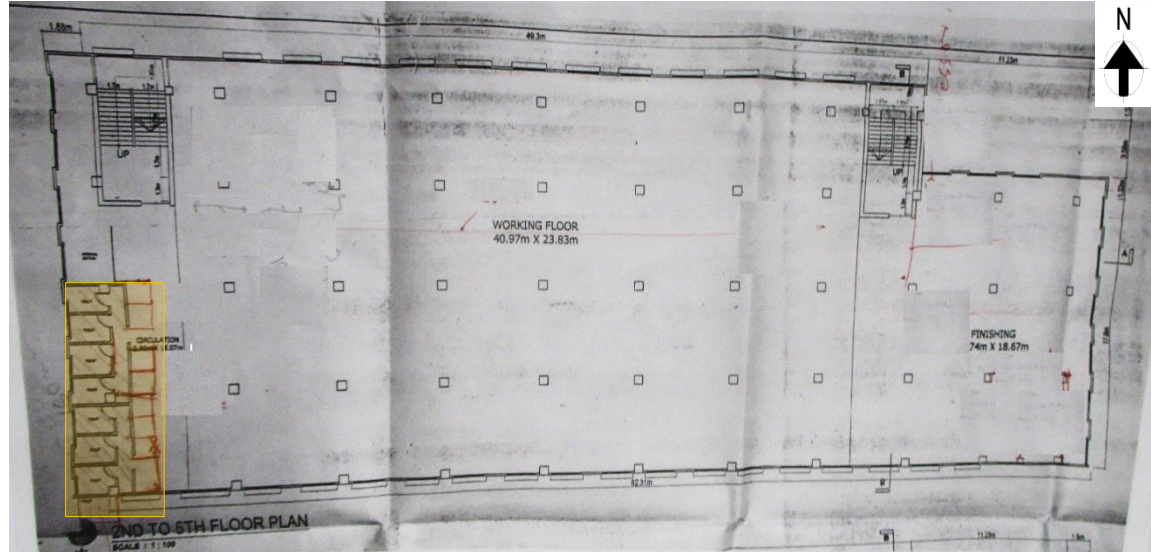
Observation : Production Building



Cursory calculations indicate that the working stress of the column under toilet area would appear to be stressed in excess of normal design limits. Refer to Action 1. Building Engineer to verify in-situ concrete strength and confirm grade of steel reinforcement used.



Toilet build up



Toilet at west cantilever



Plastic water tank having 3000 liters capacity each



Absence of relevant technical documentations

Observation : Production Building



Cantilever slabs were observed on the all elevations of the building. Building Engineer to check structural adequacy of the cantilever and propose and implement any strengthening works if required.



Cantilever at East



Cantilever at South

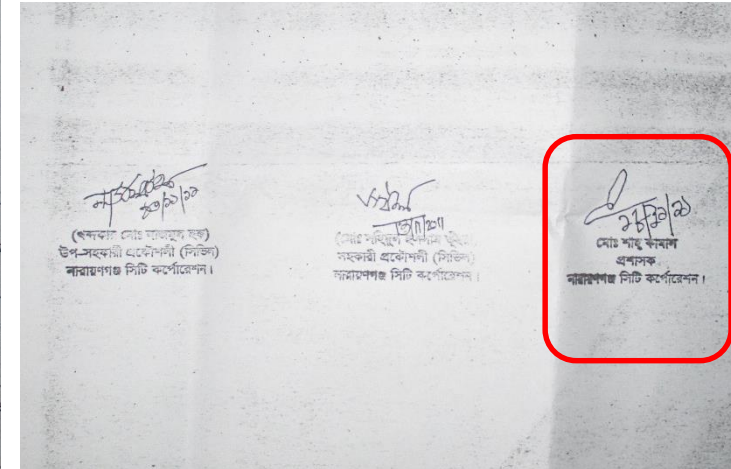
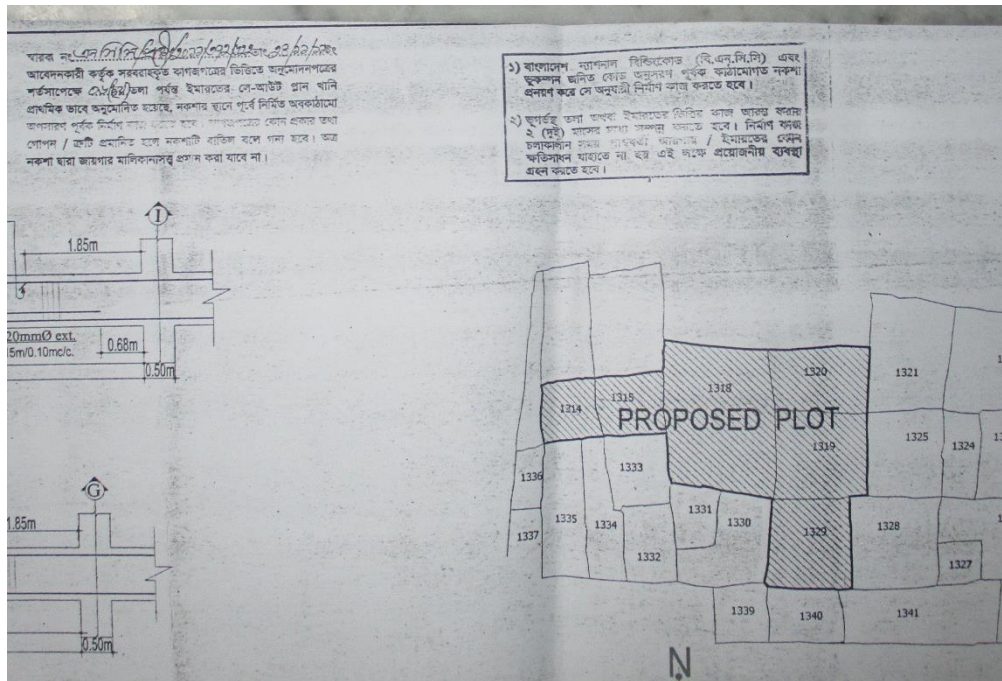


Cantilever at North



Cantilever at west

Observation : Production Building



No structural and architectural documents were available. The only presented building permit drawings were dated on 18th Nov 2011 . But the construction history of the building is unknown.

Observation : Production Building



Expose rebar at roof

Observation : Production Building



Columns reinforcement were exposed at roof level.

Observation : Production Building



No water proofing at roof

Observation : Production Building



Signage of water applied for curing



Newly constructed roof slab



On going construction work at roof

The newly constructed roof slab. Water proofing material hasn't applied to roof.

Waterproofing on the roof slab is to be applied as well as drainage system has to be improved.



Missing drawings

Observation : Utility Buildings



Boiler building



Generator & Sub-station building

There is no structural and architectural drawings for all the utility buildings.



Finish good storage building

Observation : Utility Buildings



Overall stability

Observation : Utility Buildings



Bracings are not installed at front opening of generator & sub-station building.



Bracings are only installed over lintel at front of boiler building

Factory is required that these items to be investigated in an Engineering Assessment

Observation : Utility Buildings



Gap between steel beam-column

Observation : Utility Buildings



At generator & sub-station building gap found in between steel I-beam and column.



Observation : Utility Buildings



Problems Observed

Production Building:

- Item 1: Column to be stressed above normal design limits.
- Item 2: Absence of relevant technical documentations.
- Item 3: Expose rebar at roof.
- Item 4: No water proofing at roof.

Utility Buildings:

- Item 5: Missing drawings.
- Item 6: Overall stability.
- Item 7: Gap between steel beam-column.



Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	(Production building) Column to be stressed above normal design limits	Factory Engineer to review design, loads and columns stresses in area identified above.	Immediate - Now
2	(Production building) Column to be stressed above normal design limits	Verify insitu concrete stresses either by 100mm dia. cores or existing cylinder strength data for [the identified columns] or [100mm dia. cores from 4 columns].	Immediate - Now
3	(Production building) Column to be stressed above normal design limits	A Detail Engineering Assessment of Factory to be commenced, see attached Scope.	Immediate - Now
4	(Production building) Column to be stressed above normal design limits	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	6-weeks
5	(Production building) Column to be stressed above normal design limits	Detail Engineering Assessment to be completed	6-weeks
6	(Production building) Column to be stressed above normal design limits	Continue to implement load plan	6-months
7	(Production building) Column to be stressed above normal design limits	Remedial works to be carried out if required.	6-months



Detail Engineering Assessment

This Schedule develops a minimum level of information, Analysis and testing expected as part of a Detail Engineering Assessment.

The Building(s) have been visually assessed and it is deemed necessary that a detailed engineering assessment be carried out by a competent Engineering Team employed by the factory Owner.

This Request should be read in conjunction with the ACCORD DEA guideline , ACCORD standard for Assessment of Structural Integrity of Existing RMG Factory Buildings in Bangladesh (Tripartite Document), the latest version of these document should be referenced. These document also gives guidance on required competency of Engineering Team.

We expect that the following will be carried out:

1. Development of Full Engineering As-Built Drawings showing Structure, loading, elements, dimensions , levels, foundations and framing on Plan, Section and Elevation drawings .
2. The Engineering team are to carry out supporting calculations with a model based design check to assess the safety and serviceability of the building against loading as set out in BNBC-2006, Lower rate provisions can be applied in accordance with the ACCORD DEA guideline , ACCORD standard following international engineering practice, justification for these lower rate provisions must be made.
3. A geotechnical Report describing ground conditions and commenting on foundation systems used/proposed.
4. A report on Engineering tests carried out to justify material strengths and reinforcement content in all key elements studied see ACCORD DEA guideline & ACCORD standard more details.
5. Detailed load plans shall be prepared for each level showing current and potential future loading with all key equipment items shown with associated loads.
6. The Engineering team will prepare an assessment report that covers the following:
 - As-Built drawings including
 - Plans at each level calling up and dimensioning all structural components
 - Cross sectional drawings showing structural beams, slabs, floor to floor heights, roof build-ups and Basic design information of the structure
 - Highlight any variation between As-built compared to the designed structure
 - Results of testing for strength and materials
 - Results of geotechnical assessment and testing/investigation
 - Details of loading, inputs and results of computer modelling
 - Commentary on adequacy/inadequacy of elements of the structure
 - Schedule of any required retrofitting required for safety or performance of Structure

Any proposals for Retrofitting to follow guidance developed in the ACCORD DEA guideline & ACCORD standard (<http://bangladeshaccord.org/factories/resource-centre/>).



Item No.	Observation	Recommended Action Plan	Recommended Timeline
8	(Production Building) Absence of relevant technical documentations	Building Engineer to confirm that the cantilever slabs have been designed to take the floor and façade loads applied, as part of DEA (See Item 1).	6-weeks
9	(Production Building) Absence of relevant technical documentations	Certified copy of the original design documents to be made and the existing As-built drawings to be updated accordingly.	6-weeks
10	(Production Building) Absence of relevant technical documentations	If changes are observed, Building Engineer to ensure a code adequacy of the constructed structure.	6-months
11	(Production Building) Absence of relevant technical documentations	Remedial works to be carried out if required.	6-months
12	Expose rebar at roof	All exposed reinforcement is required to protect from corrosion which may cause degradation of the concrete.	6-weeks
13	(Production Building) No water proofing at roof	Provide proper water proofing at roof and drainage system must be improved.	6-weeks



Item No.	Observation	Recommended Action Plan	Recommended Timeline
14	(Utility Buildings) Missing drawings	Engage an Engineer to produce an “as constructed” drawings which reflect the actual site dimensions with complete structural and architectural information's.	6-weeks
15	(Utility Buildings) Overall stability	Factory Engineer to perform a Engineering Assessment regarding the resistance of the building to wind and seismic load in both directions as per BNBC.	6-weeks
16	(Utility Buildings) Overall stability	Implement all findings from the EA.	6-months
17	(Utility Buildings) Overall stability	Especially, add bracing in the direction perpendicular to the Moment Resisting Frames, as required.	6-months
18	(Utility Buildings) Gap between steel beam-column	Engage an Engineer to check that the connections are adequate.	6-weeks
19	(Utility Buildings) Gap between steel beam-column	Provide sim plate if required.	6-months