

Anowara Knit Composite Ltd. (New Building 9 Dyeing)

Mulayed, Maona, Sreepur, Gazipur
Co-ordinates: 24.228620, 90.407298
16th November 2020



Buildings Information

1. Building 10 (REB Building) (G+2)
2. Building 11 (Lab Building) (G+2)
3. Building 12 (Dyeing Extension-1) (G+5)
4. Building 13 (Dyeing Extension-2) (G+5)
5. Building 14 (Dyeing Extension-3) (G+5)

Observations

Lack of Design documents



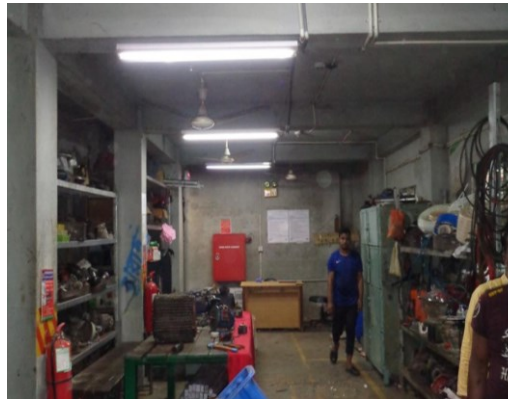
Building 10 (REB Building)



Inside Building 12 (Dyeing Extension-1)



Inside Building 14 (Dyeing Extension-3)



Inside Building 11 (Lab Building)



Inside Building 13 (Lab Building)

No design documents (structural assessment report) for any of these structures was available on site.

Geotechnical Investigation report unavailable



Inside Building 10 (REB Building)



Building 14 (Dyeing Extension-3)



Building 13 (Dyeing Extension-2)



Building 12 (Dyeing Extension-1)



Building 11 (Lab Building)

On site, no geotechnical investigation report was available for these structures.

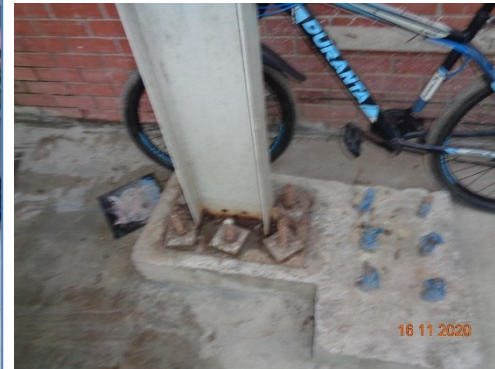
Incomplete as-built drawings of external steel stair



Steel stair



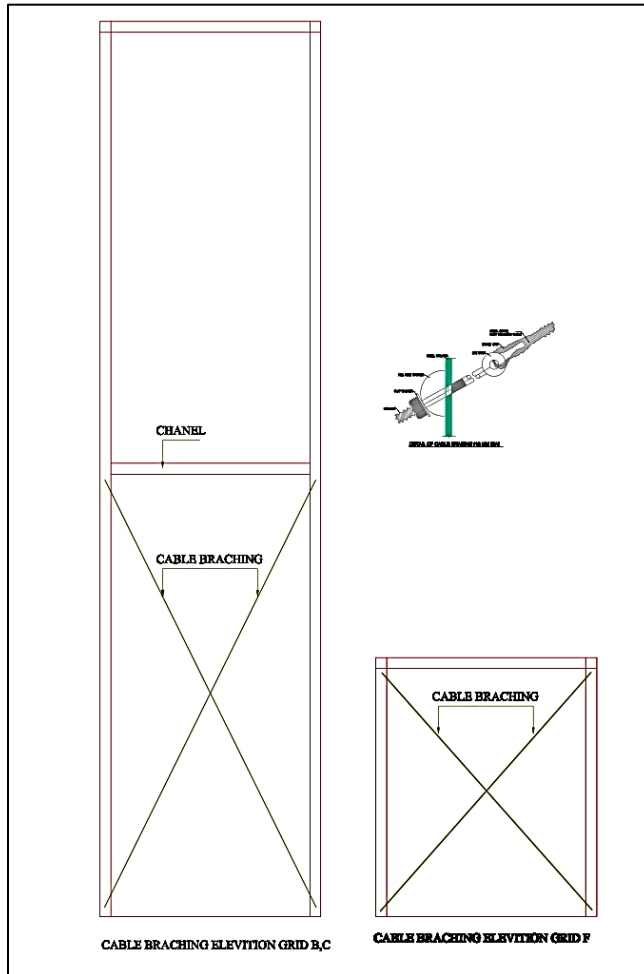
Column-rafter connection



Column-base plate connection

There is a steel stair adjacent to Building 10 (REB Building). Although as-built drawings for the stair was available but it lacks proper detailing of all the joints.

Missing Cable bracings of external steel stair



As built drawings show cable bracings along grid-B and grid-C but on site cable bracings were not found.

Corrosion in the steel stair columns



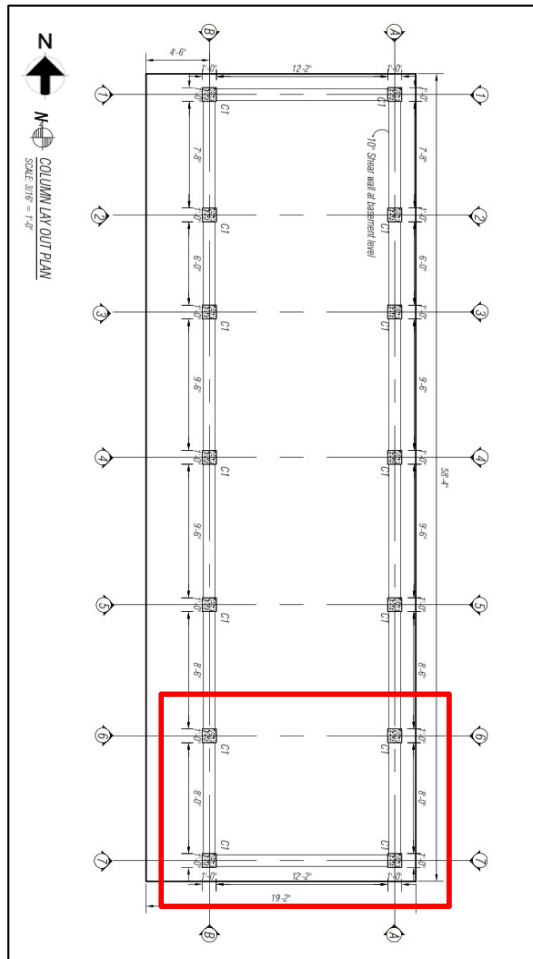
During inspection, corrosion in the steel stair columns was observed

Water ponding on the roof



During inspection, signs of water ponding were observed on the roof.

Mismatches in as built drawings

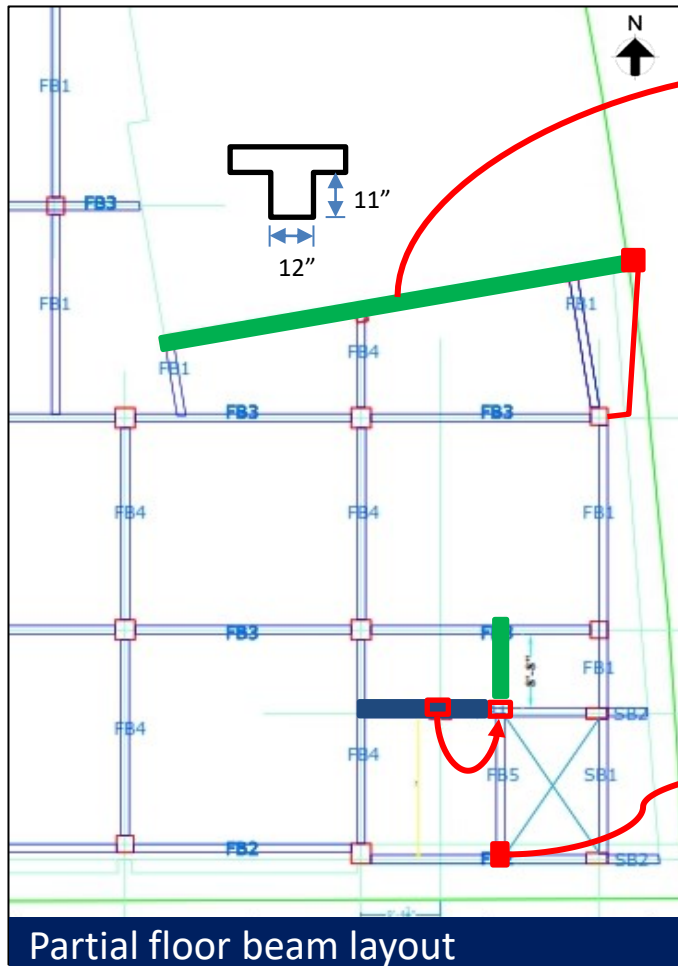


Building 11 (Lab Building)

Building 11 (Lab Building) was found shorter in length along N-S direction. During inspection it was observed that span between gridline 6 and gridline 7 (marked in the layout) was not constructed.

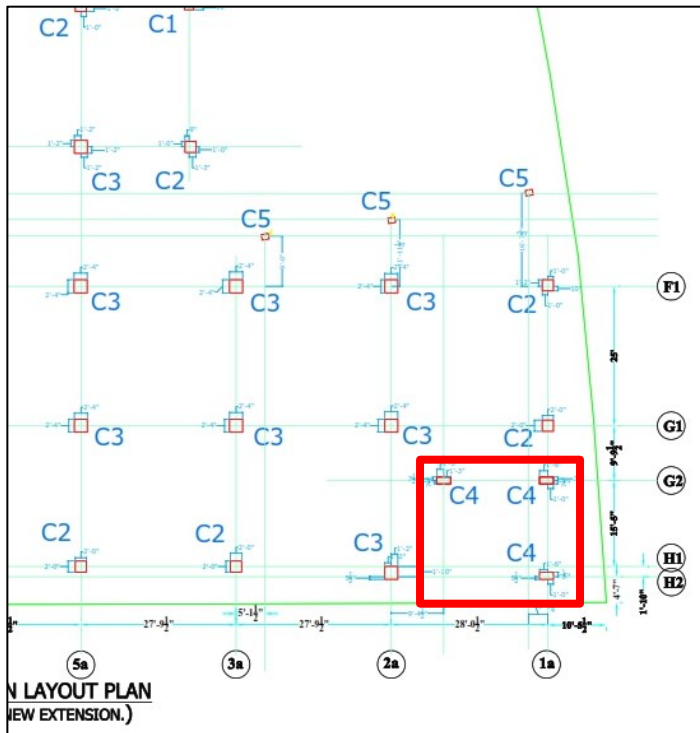
Mismatches in As built drawings

Observation : Building 12 (Dyeing Extension-1)



During inspection, two extra columns (marked red) were found which were not present in as built drawings. Also an undocumented beams (green marked) of size 12" x 11"(d/s) observed. Besides these a shift in column location found and beam in one location(marked blue) was not present. Above mentioned observations are shown in the floor beam layout plan.

Observation : Building 12 (Dyeing Extension-1)



Partial column layout

C4			
	BELOW GRADE BEAM	GROUND FLOOR	ABOVE 1ST FLOOR

Column Schedule of C4 column



Column was measured to be 16" x 25"

As per column schedule, dimensions of C4 column should be 15" X 30" . But on site C4 columns were measured to be 16" X 25" with finishing.

Observation : Building 12 (Dyeing Extension-1)

High loading in Cantilever Area



Loading in the cantilevered areas



Cracks between columns and wall connection

The cantilevered areas in the 2nd floor were heavily loaded and cracks were observed in the walls and column connection.

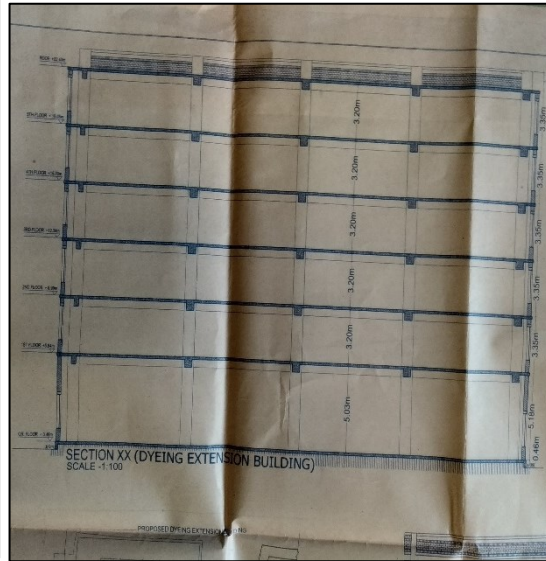
Observation : Building 12 (Dyeing Extension-1)

Future Vertical Extension

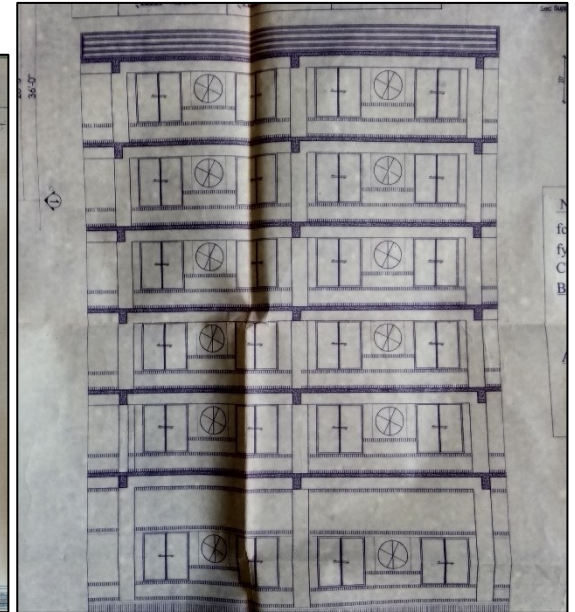
Observation : All Buildings (Except Building 11 (Lab Building))



Building 10 (REB Building)
(permission for 4 storied)



Building 12 (Dyeing
Extension-1) (permission for
6 storied)



Building 14 (Dyeing
Extension-3) (permission for
6 storied)

Building 10 (REB Building) permission application is for 4 storied structure, Building 12 (Dyeing Extension-1), Building 13 (Dyeing Extension-2) and Building 14 (Dyeing Extension-3) permission layout is for 6 storied structure. Till the date of this inspection, Building 10 (REB Building), Building 12 (Dyeing Extension-1), Building 14 (Dyeing Extension-3) were constructed upto three storeys and Building 13 (Dyeing Extension-2) was constructed upto two storeys. These buildings will be extended vertically in future.

Observation : All Buildings (Except Building 11 (Lab Building))

Priority Actions

Problems Observed

All Buildings:

Item-01: Lack of of Design documents.

Item-02: Lack of Geotechnical Investigation report.

Building 10 (REB Building):

Item-03: Incomplete as-built drawings of external steel stair.

Item-04: Missing Cable bracings of external steel stair.

Item-05: Corrosion in the steel stair columns

Item-06: Water ponding on the roof.

Building 11 (Lab Building):

Item-07: Mismatches in as built drawings.

Building 12 (Dyeing Extension-1):

Item-08: Mismatches in as built drawings.

Item -09: High loading in Cantilever Area.

All Buildings(Except Building 11(Lab Building)):

Item-10: Future Vertical Extension

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Lack of Design documents.(All Buildings)	Factory engineer to survey the structure and prepare the design documents including a design report, and a set of structural drawings in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC part 6 and submit to RSC for review.	6-weeks
02	Lack of Design documents.(All Buildings)	Produce and actively manage loading plans for all floors considering floor, column and foundation capacity	6-weeks
03	Lack of Design documents.(All Buildings)	Complete remedial works if arising from design report after reviewed by RSC.	6-months
04	Lack of Design documents.(All Buildings)	Implement floor loading plan after getting acceptance.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
05	Lack of Geotechnical Investigation report (All Buildings)	Factory engineer is required to produce geotechnical investigation report for all the buildings as part of design report.	6-weeks
06	Incomplete as-built drawings of external steel stair (Building 10 (REB Building))	Factory engineer is required to produce accurate as built drawings of the external steel stair.	6-weeks
07	Missing Cable bracings of external steel stair (Building 10 (REB Building))	Factory Engineer is required to install the missing cable bracings.	6-weeks
08	Corrosion in the steel stair columns. (Building 10 (REB Building))	Factory Engineer is required to repair the corrosion and take preventive measures for reoccurrence.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
09	Water ponding on the roof (Building 10 (REB Building))	Factory Engineer is required to provide adequate drainage to prevent water ponding.	6-weeks
10	Mismatches in as built drawings. (Building 11 (Lab Building))	Factory Engineer is required to survey the whole structure and produce accurate as built drawings as part of the design documents.	6-weeks
11	Mismatches in as built drawings. (Building 12 (Dyeing Extension-1))	Factory Engineer is required to survey the whole structure and produce accurate as built drawings as part of the design documents.	6-weeks
12	High loading in Cantilever Area. (Building 12 (Dyeing Extension-1))	Factory Engineer is required to produce a check of the cantilevered area as part of the design documents.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
13	High loading in Cantilever Area. (Building 12 (Dyeing Extension-1))	Produce and maintain load plans for the cantilevered area considering assessment result.	6-weeks
14	Future Vertical Extension (All Buildings (Except Building 11 (Lab Building)))	In case of future vertical extension factory engineer is required to produce Detailed Engineering Assessment(DEA) of the structure/structures according to BNBC and submit to RSC for review.	6-weeks
15	Future Vertical Extension (All Buildings (Except Building 11 (Lab Building)))	Produce and actively manage loading plans for all floors considering floor, column and foundation capacity	6-weeks
16	Future Vertical Extension (All Buildings (Except Building 11 (Lab Building)))	Complete remedial works if arising from design report after reviewed by RSC.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
17	Future Vertical Extension (All Buildings (Except Building 11 (Lab Building)))	Implement floor loading plan after getting acceptance.	6-months