

Fashion Forum Ltd (Extension 2)

53, 54 Diakhali, Zamgora Asulia Savar

(23.933506, 90.286835)

17 September 2023



Building information:

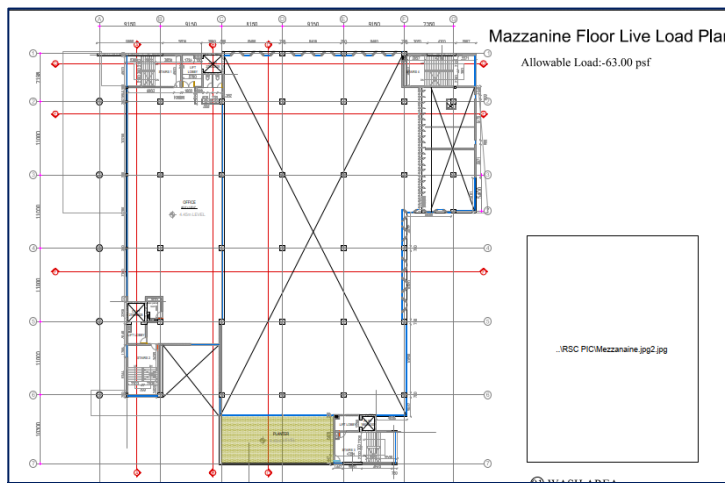
1. **Building-3 (Washing Hub):** Four storied (G+M+3) reinforced concrete building with a mezzanine.

Observations

**Load plan & material strength not
comply with BNBC requirements**



Storage on mezzanine floor



3 kPa live load for mezzanine

UNIVERSITY OF ENGINEERING AND TECHNOLOGY (UET)

DEPARTMENT OF CIVIL ENGINEERING

CONCRETE LABORATORY

1102-01538 /18-2002, Dt. 11/20/09

Eng. Sabir Ferooz, General Manager (Construction), D/O Ashraf Vakil, Lohit, 305 Ghazi

Lab. No. CL-11/20/09

Old Working No. CL-11/20/09

Cylinder: 150mm dia. x 300mm height (1:2:3 Aggregate Type: Normal)

3rd Floor Column

Compressive Strength (ASTM C39)

Test Report

No.	Date of Casting	Specimen per the Load	Specimen Type	Specimen Size	Specimen Weight	Average Compressive Strength	Mode of Failure
1	01/11/2009	3	150mm dia. x 300mm height	150mm	15.00	41.8 MPa	Concrete
2	01/11/2009	3	150mm dia. x 300mm height	150mm	15.00	41.8 MPa	Concrete
3	01/11/2009	3	150mm dia. x 300mm height	150mm	15.00	41.8 MPa	Concrete

Info Samples were tested in accordance with

Continued - Refer to Appendix

Checked by: [Signature]

Dr. M. Akbar, Asst. Professor, Department of Civil Engineering, UET

Test Performed by: [Signature]

Dr. Pooja Kumar, Asst. Professor, Department of Civil Engineering, UET

Test report

Currently, the mezzanine floor of the building is being used for a warehouse. As per BNBC, the minimum floor live load for light storage is 6 kN/m² (125 psf). But the building is being designed for 3 kN/m² live loads.

Moreover, the factory has provided only 4 sets of concrete cylinder test reports from the column, which doesn't comply with the frequency of testing requirement of BNBC (section-5.12.2).

The building engineer is required to revise the floor live load plan following BNBC storage live load requirement and revise the design documents based on in-situ material strength. Verify the in-situ material strength by taking 100 mm core from lower tier columns of the building. The

4.5	INDUSTRIAL, STORAGE & HAZARDOUS (Occupancy - G, H & J)	Workshop, factory, warehouse	1 Light workroom without storage	3.0	2.7
-			2 Machinery hall & circulation area	4.0	4.5
1.8			3 Factory, workshop etc.	5.0	4.5
			4 Manufacturing : light	6.0	4.5 ⁽⁵⁾
			heavy	12.0	9.0 ⁽⁵⁾
2.7			ice	15.0	9.0 ⁽⁵⁾
4.5			5 Printing plant :		
			Press room	7.0	11.0
			Composing and linotype room	5.0	9.0 ⁽⁵⁾
2.7			Paper storage room	12.0	9.0 ⁽⁵⁾
			6 Motor room, fan room etc. including the weight of machinery	7.5	4.5
4.5			7 Cold storage, grain storage	15.0	9.0 ⁽⁵⁾
4.5			8 Storage warehouses : light	6.0	4.5 ⁽⁵⁾
4.5			heavy	12.0	9.0
7.0	9 Foundries	20.0	12.0		

Live load chart of BNBC

Large cantilever at South & East

Almost 5 m cantilever porch was observed at the South and East sides of the building. The cantilever is being used for gardening purposes. The building engineer is required to check the adequacy & and deflection of the cantilever slab.



Garden at cantilever portion

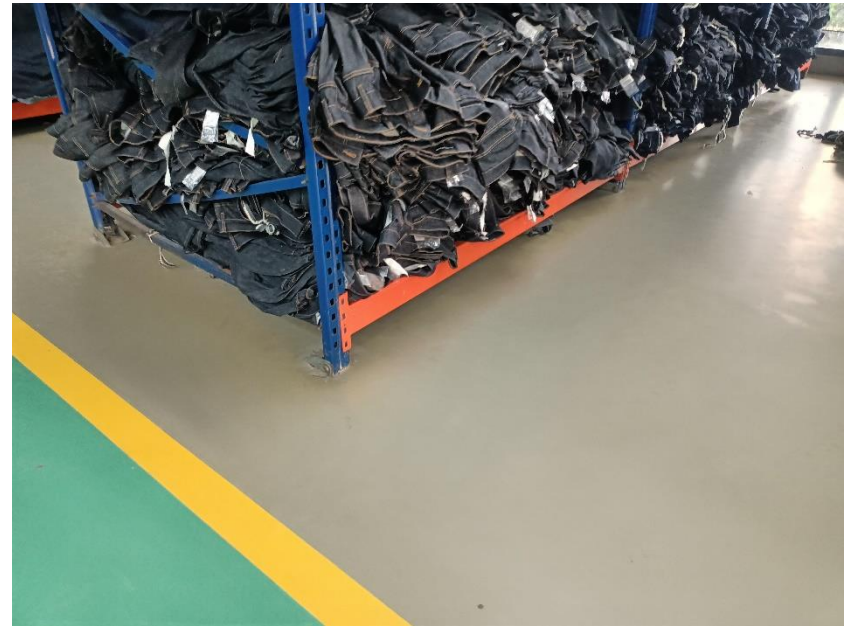


Cantilever Porch at South & East



Cantilever slab

**Racks and plastic water tanks
not anchored or braced**



Storage racks not anchored or braced

Non-structural element storage racks not anchored or braced to resist lateral (earthquake) forces. The building engineer is required to anchor/brace all non-structural elements adequately to resist earthquake forces.

Column susceptible to trolly impact



Susceptive column on floor

Column on different floors level are susceptible to trolley impact. The factory is required to provide separate barrier around the column to avoid possible trolley impact.

Improper drainage on the roof



Sign of water clogging on the roof

Sign of water clogging on the roof was observed that indicates improper drainage system. Building engineer is required to provide proper slope and sufficient discharge point on the roof.

Problems Observed

Building 3:

Item 01: Load plan & material strength not comply with BNBC requirements.

Item 02: Large cantilever at South & East.

Item 03: Racks and plastic water tanks not anchored or braced.

Item 04: Column susceptible to trolley impact

Item 05: Improper drainage on the roof.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Load plan & material strength not comply with BNBC requirements. (Building 3)	Building engineer is required to prepare design report as per BNBC 1.9 provision.	6-weeks
02	Load plan & material strength not comply with BNBC requirements. (Building 3)	Building engineer is required to revise the storage live load limit and related design documents based on BNBC requirements.	6-weeks
03	Load plan & material strength not comply with BNBC requirements. (Building 3)	Verify the in-situ material strength by taking 100 mm core from lower-tier columns.	6-weeks
04	Load plan & material strength not comply with BNBC requirements. (Building 3)	Implement the recommendations of design report.	6-months
05	Load plan & material strength not comply with BNBC requirements. (Building 3)	Implement the floor load plan.	6-months
06	Large cantilever at South & East. (Building 3)	Building engineer is required to check the adequacy & deflection limit of the cantilever slab.	6-weeks
07	Large cantilever at South & East. (Building 3)	Implement any remediation work if required.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
08	Racks and plastic water tanks not anchored or braced. (Building 3)	Building is required to adequately anchor/brace all non-structural elements to resist earthquake forces to comply with the BNBC.	6-months
09	Column susceptible to trolly impact. (Building 3)	Building engineer is required to provide a safety barrier around the column to avoid possible trolly impact.	6-months
10	Improper drainage on the roof. (Building 3)	Building engineer is required to provide a proper slope and the adequate number of discharge points on the roof.	6-months