

Urmi Garments Ltd. (New Factory)

8/1, Staff Quarter Road, Dailla, Demra, Dhaka-1361

(23.7232118, 90.4884774)

17 May 2022

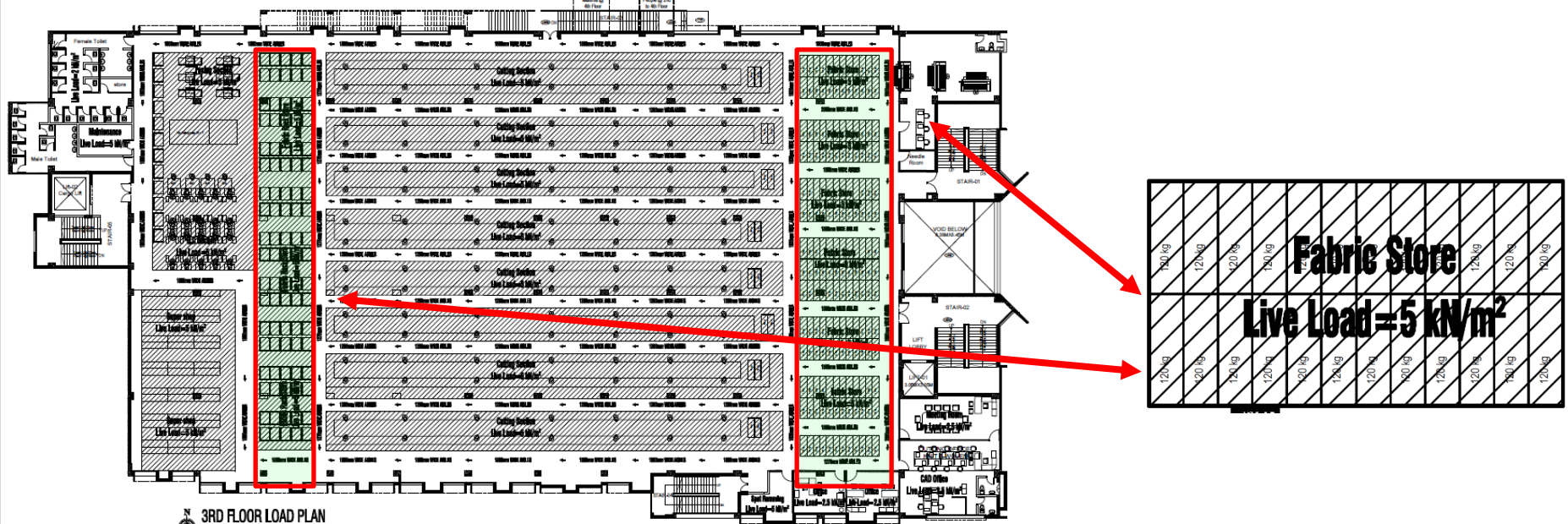


Buildings Information

1. Building-1 (Production Building)
2. Building-2 (Warehouse Building)
3. Building-3 (Utility Building)
4. Building-4 (Guard House)

Observations

Design report need to be revised.



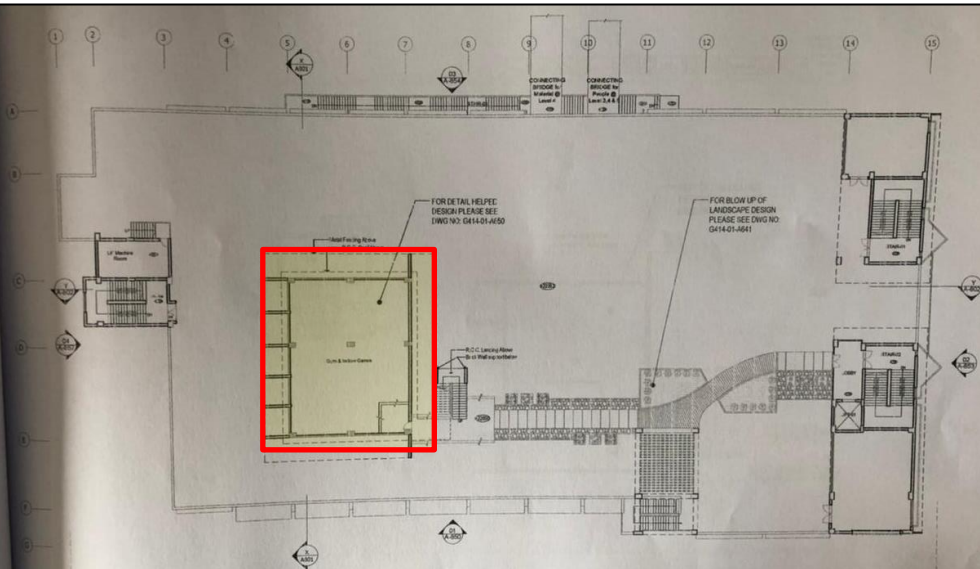
3RD FLOOR LOAD PLAN

3rd floor Layout Plan. Fabric store at marked area.

At 3rd floor, fabric store has been shown in layout in marked location. The live load of that area has been considered 5 kPa. As per BNBC, minimum loading 6 kPa is required for the light storage. Factory engineer is required to update the floor loading plan, software-based analysis and design report following BNBC loading requirement.

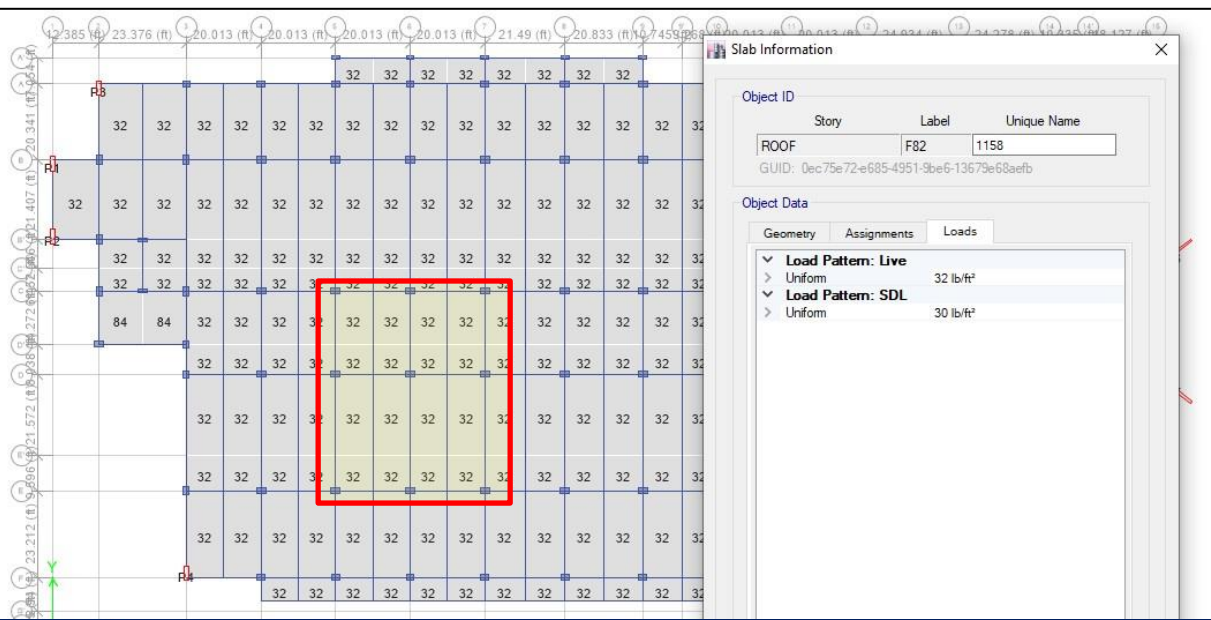
INDUSTRIAL, STORAGE & HAZARDOUS (Occupancy - G, H & J)	Workshop, factory, warehouse	1 Light workroom without storage	3.0	2.7
		2 Machinery hall & circulation area	4.0	4.5
		3 Factory, workshop etc.	5.0	4.5
		4 Manufacturing : light	6.0	4.5 ^(S)
		heavy	12.0	9.0 ^(S)
		ice	15.0	9.0 ^(S)
		5 Printing plant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

BNBC live load Table



Gymnasium & indoor game room has been proposed at roof level below helipad frame. The live load of that area has been considered 32 psf (1.5 kPa) in FEA model and load plan was not available for the roof level. As per BNBC, minimum loading 3 KPa is required for the fixed seat gymnasium. Factory engineer is required to update the floor loading plan, software-based analysis and design report following BNBC loading requirement.

Gym & indoor game room at marked location

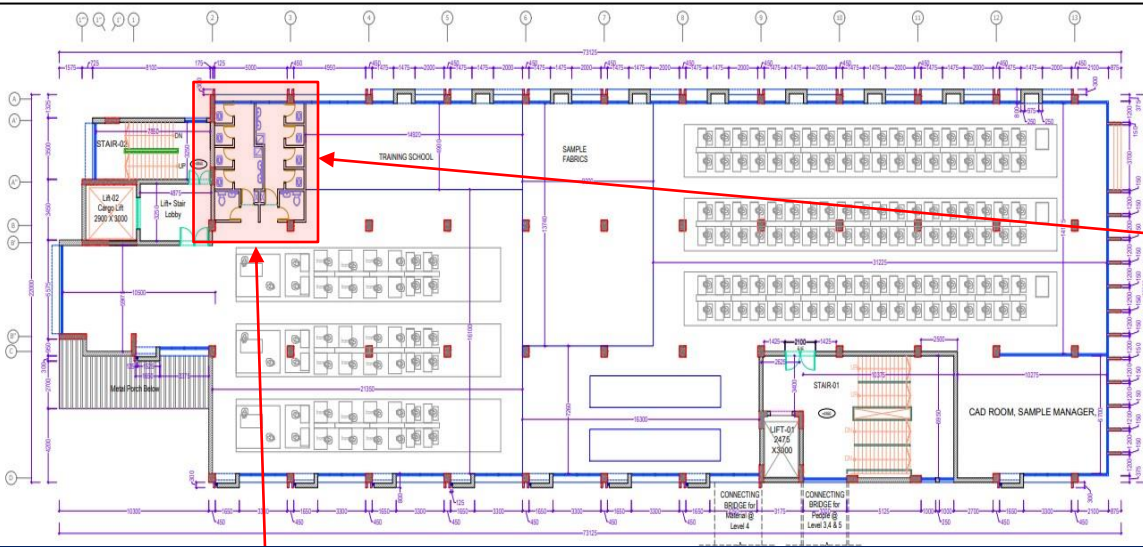


Live load considered 32 psf (1.5 kPa) in FEA model

ASSEMBLY (Occupancy - E)	Library, auditorium, cinema, lecture hall, restaurant, bar, mosque, church (E1-E4)	1 Assembly room:		
		with fixed seat	3.0	2.7
		without fixed seat	5.0	4.5
		2 Stages and projection room	5.0	4.5
		3 Library:		
	Stadium, art gallery, grand stand, museum, gymnasium (E5)	Reading room – without book storage	2.5	4.5
		with book storage	4.0	4.5
		Stack room for book	6.5 ⁽³⁾	7.0
		1 With fixed seats	3.0	2.7
		2 Without fixed seats	5.0	4.5
		3 Corridor, stair and passage way	5.0	4.5

BNBC live load requirements for Gymnasium

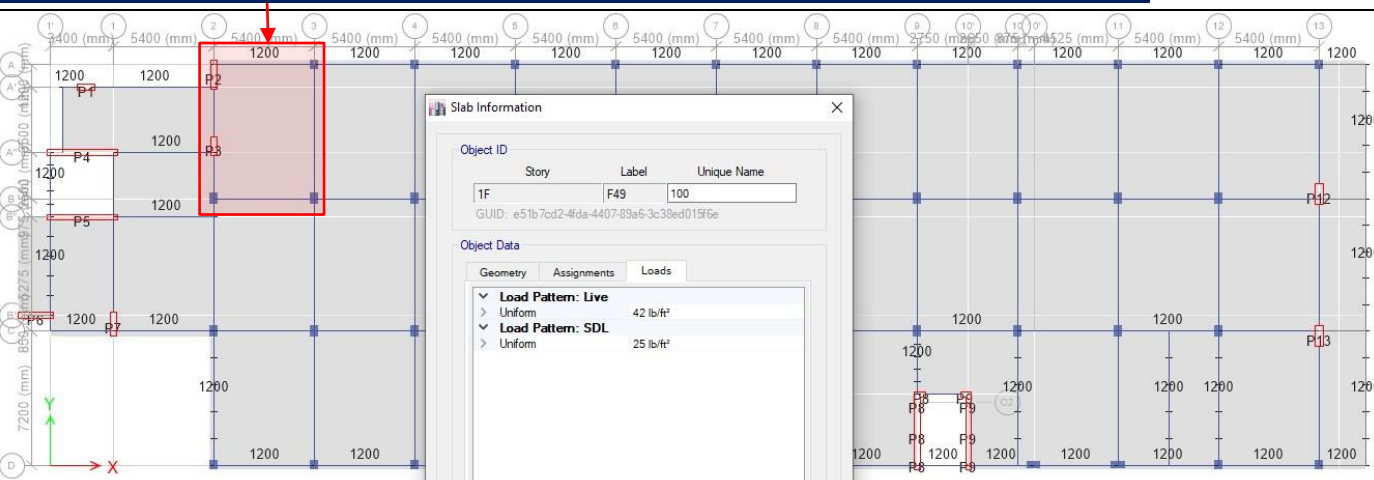
Design report need to be revised.



1st floor Layout plan



Toilet partition wall



Toilet partition wall loading not considered – marked location

At 1st floor, 2.44 m toilet partition wall was found. But the loading from the 125 mm brick wall has not been in ETABS FEA model. Factory engineer is required to update the floor loading plan, software-based analysis and design report following BNBC loading requirement.

8 Observations: Building-2

Expose rebar at roof



Production Building



Warehouse Building

Exposed rebar at column on roof of Production & Warehouse Building

Exposed reinforcement was found extended from column on roof. All exposed reinforcement is to be protected from corrosion which may cause degradation of the concrete. Factory engineer is required to take necessary measures to prevent the corrosion in exposed rebar.

Stacking of construction material on roof



Stacking of construction materials and wastage found on the roof.

Water ponding on roof



Water ponding was found at roof. The water drainage system was found but adequate sloping was not found. Water proofing layer casting was ongoing at time of inspection. The factory engineer is required to develop proper drainage system with adequate sloping on the mentioned area.

Non-structural element not braced/anchored



Racks on different floors are not adequately anchored or braced to resist earthquake forces. The factory engineer is required to anchor and brace all nonstructural elements to resist earthquake forces.

Observation: Building-1 & Building-2

Problems Observed

Building-1:

Item 01: Design report need to be revised.

Building-2:

Item 02: Design report need to be revised.

Building-1 & Building-2:

Item 03: Expose rebar at roof

Item 04: Stacking of construction material on roof

Item 05: Water ponding on roof

Item 06: Non-structural element not braced/anchored.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Design report need to be revised. (Building-1)	Building engineer to update the design document including load plan, FEA model & design report in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC.	6-weeks
02	Design report need to be revised. (Building-1)	Implement the recommendations of design report.	6-months
03	Design report need to be revised. (Building-2)	Building engineer to update the design document including load plan, FEA model & design report in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC.	6-weeks
04	Design report need to be revised. (Building-2)	Implement the recommendations of design report.	6-months
05	Exposed rebar found. (Building-1 & Building-2)	All exposed reinforcement is to be protected from corrosion which may cause degradation of the concrete.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
06	Stacking of construction material on roof. (Building-1 & Building-2)	Remove construction materials and wastage from roof.	6-weeks
07	Water ponding on roof (Building-1 & Building-2)	The factory engineer to develop proper drainage system with adequate sloping to resist water ponding on roof.	6-months
08	Non-structural element not braced/anchored. (Building-1 & Building-2)	Adequately anchor and brace all non-structural elements to resist earthquake forces and comply with the BNBC.	6-weeks