EXCOM Fashions Ltd. (relocated)

Nimertek, Rajfulbaria,Savar,Dhaka
(23.803371, 90.265160)
7th November 2021

RSC RMG SUSTAINABILITY COUNCIL

Buildings Information

1. Building 1 (G+2)
2. Building 2 (Dormitory) (G+1)
3. Shed-1 (Generator) (Single storied)
4. Shed-2 (Boiler) (Single storied)

Observations

Design Report needs to be prepared

Observations: Building-1

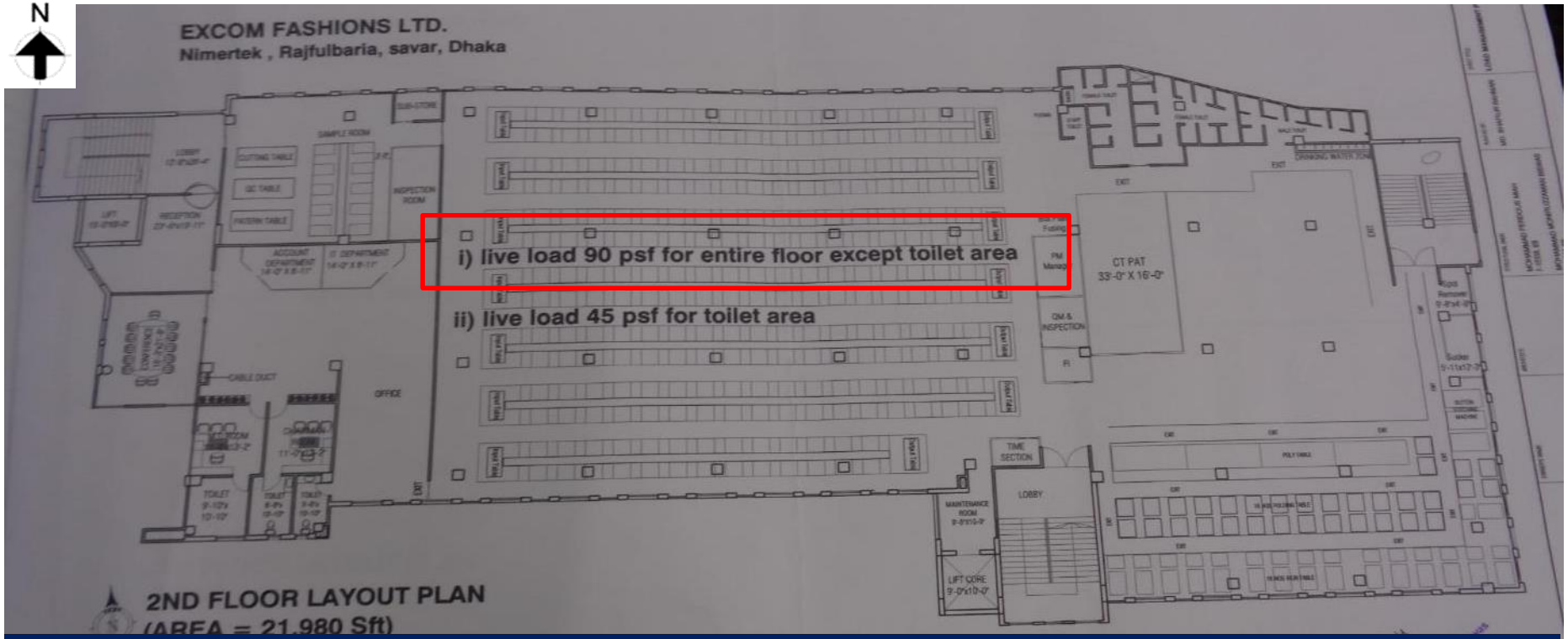
East view

As per BNBC, every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. At the time of inspection, only as-built drawing was available, but no design report was available which is required to be prepared in compliance with section 1.9.1.1 (part-6, BNBC).

Observations: Building-1

Prepared load plan to be revised

Observations: Building-1



Live load plan- 2nd floor 4.28 kPa (90 psf)

Live load on typical floor is considered as 4.28 kPa in prepared load plan. As per BNBC- Part 6, live load for light storage areas is required to be considered minimum 6 kPa. However, the factory engineer is required to revise the load plan as per BNBC requirement and check the design accordingly.

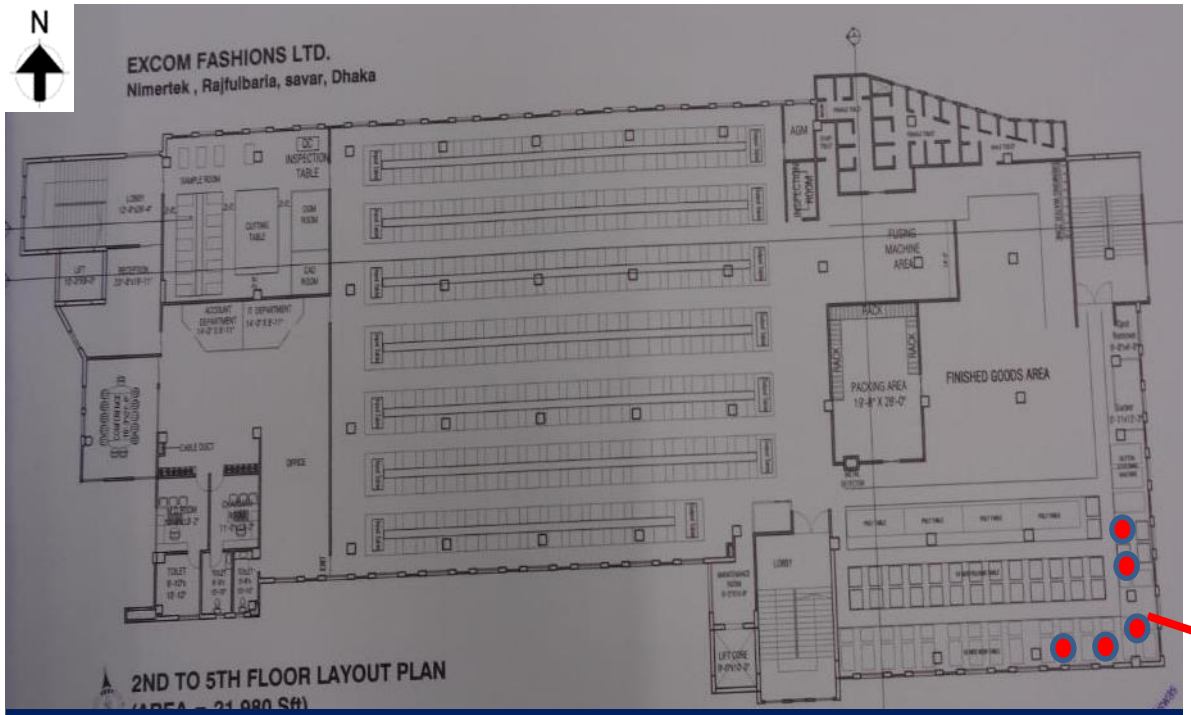
INDUSTRIAL, STORAGE & HAZARDOUS (Occupancy - G, H & J)	Workshop, factory, warehouse	1 Light workroom without storage	3.0	2.7
		2 Machinery hall & circulation area	4.0	4.5
		3 Factory, workshop etc.	5.0	4.5
		4 Manufacturing : light	6.0	4.5
		heavy	12.0	9.0 (5)
		ice	15.0	9.0 (5)
		5 Printing plant :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

Live load table (BNBC part-6)

Storage on 2nd floor

Observations: Building-1

Discrepancy in as-built drawing

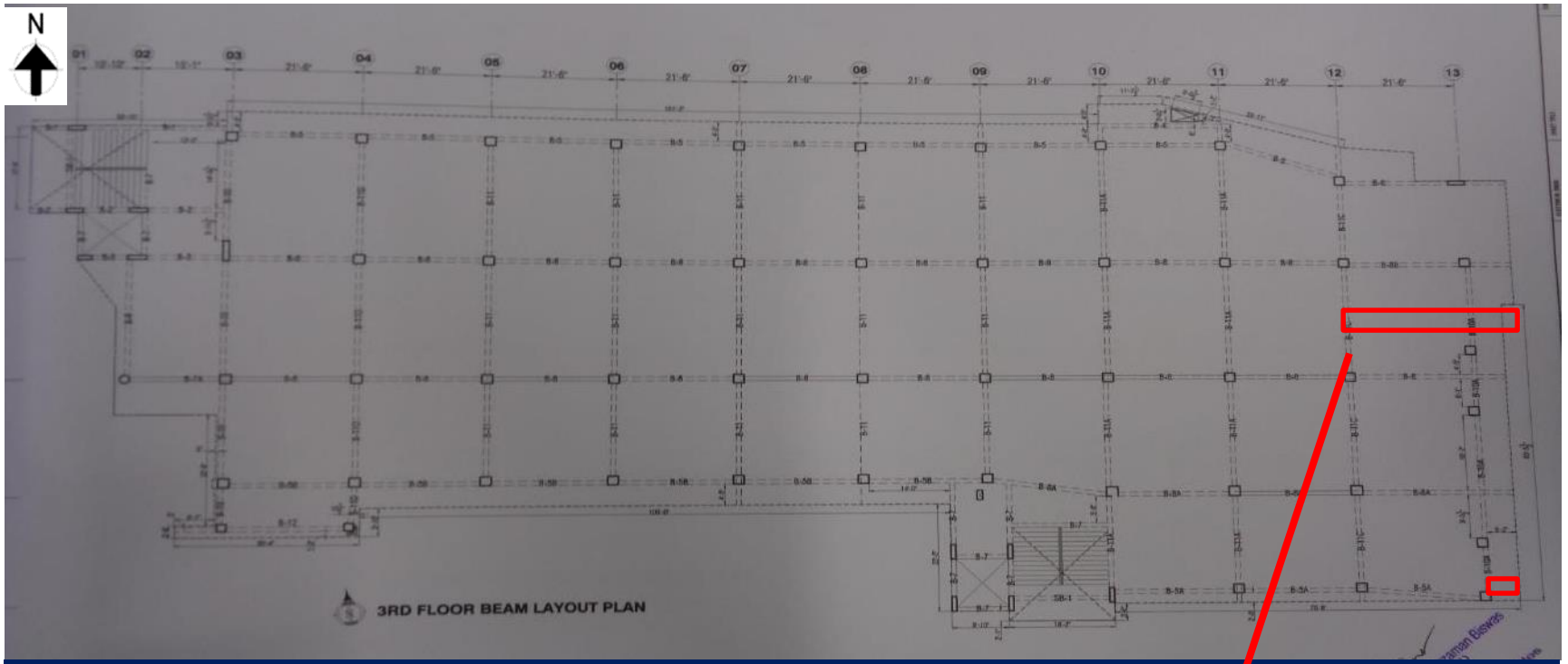


Roof layout

Five plastic water tank having capacity of 2000 litre each found on roof slab which were not shown in roof layout. Factory engineer is required to update the as-built drawing as well as check the capacity of roof beam-slab considering the point load.

Plastic water tank (2000 liter each)

Observations: Building-1



Third floor (Existing roof) beam layout

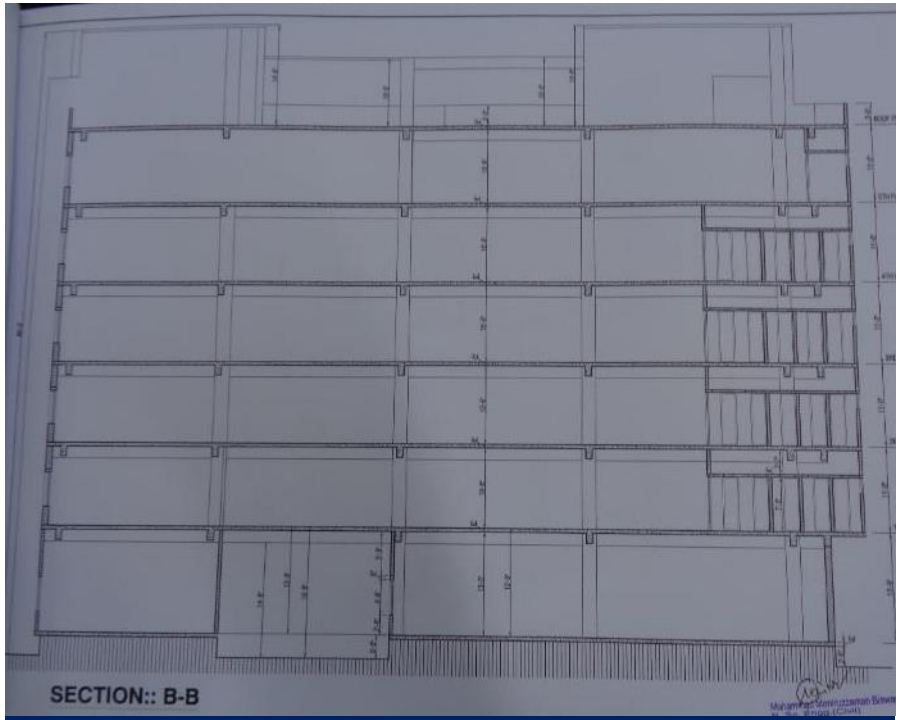
Highlighted beams were found onsite but not shown in drawing. Factory engineer is required to update the as-built drawing.

Beam not shown in drawing

Observations: Building-1

Possible vertical extension

Observations: Building-1

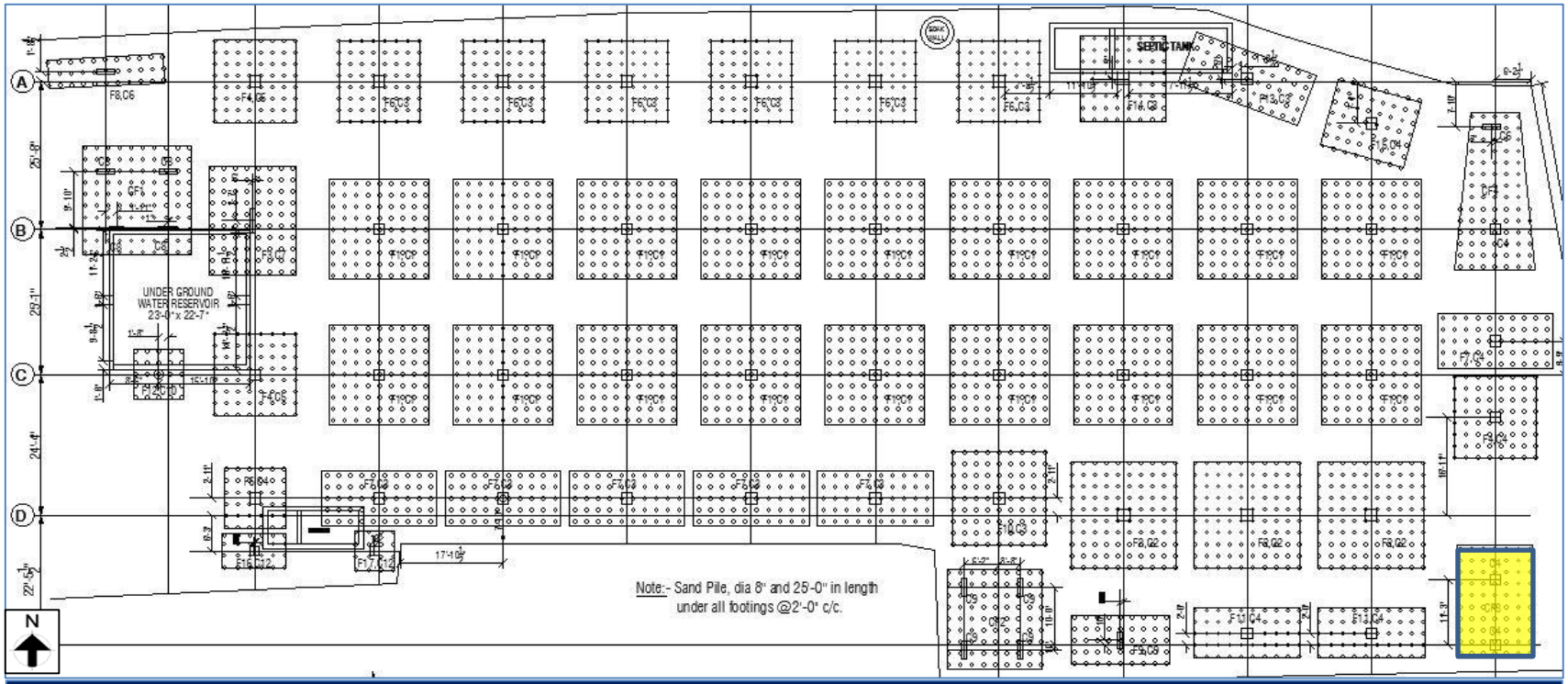


Building is designed as 6 storied

Building is currently 3 storied

The building has permit drawing for 6 storied and factory is intended to conduct vertical extension in future. However, the building is currently existed as three storied.

Observations: Building-1



Stressed column/foundation in layout

Cursory calculation indicates the stress in highlighted column & foundation in layout will exceed normal design limit for above of 4 storied. Factory engineer is required to review, design of column and foundation stress in-case of conducting any vertical extension above 4 storied. Also, take 4-100 mm diameter concrete cylinder core from lower tier of the building to evaluate concrete strength of the existing column.

Observations: Building-1

Lack of lateral stability of the roof shed

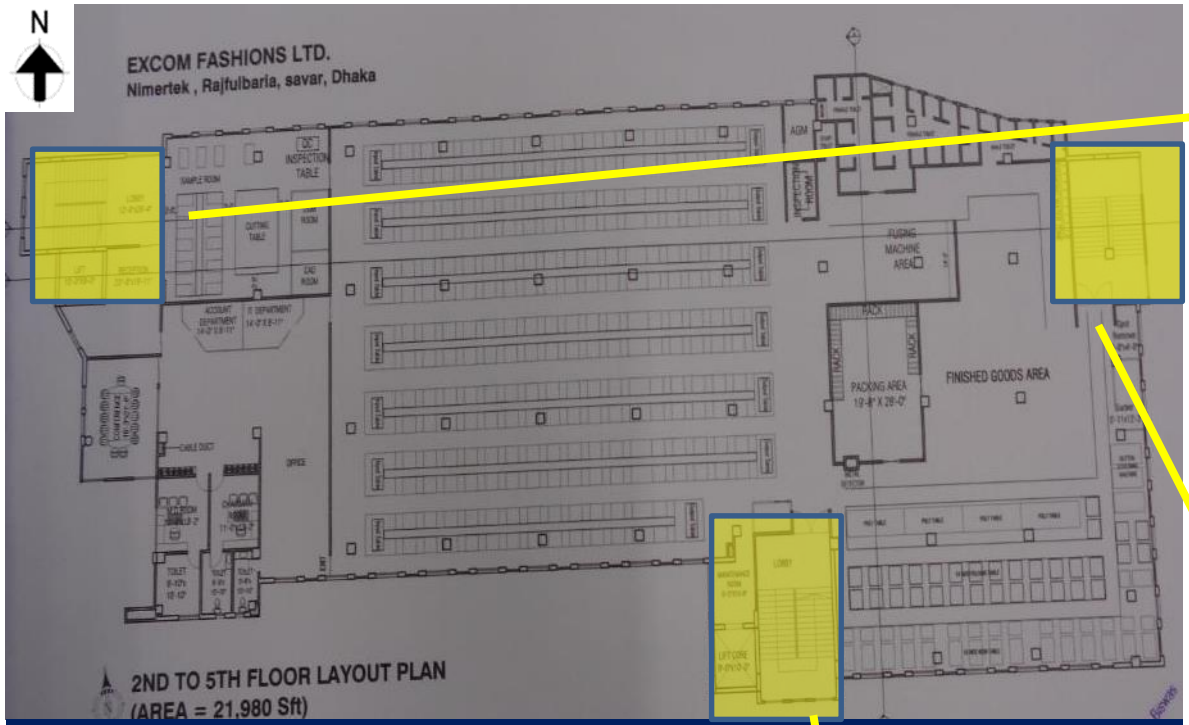
No framing (along periphery)/bracing system provided

Truss framing is provided along long direction at mid portion, but no compression member provided (along periphery). Also, roof bracing is not provided for roof. Factory engineer is required to check the lateral stability of the shed.

Observations: Building-1

Apparently non engineered shed over staircase & lift room

Observations: Building-1



Staircase/lift core location

No apparent load path with poor connection

No apparent load path with poor connection

No apparent load path with poor connection

No apparent load path with poor connection in all sheds over staircase and lift room. Factory engineer is required to check the connections against uplift forces or replace with engineered structure.

Observations: Building-1

Water ponding on roof slab

Water ponding on roof slab due to poor drainage system

Water ponding on roof slab due to poor drainage system. Aggregate of slab casting was observed as brick chips. Factory is required to improve drainage system and water proofing on roof slab.

Observations: Building-1

Exposed reinforcement left at roof level

Observations: Building-1

Exposed reinforcement left at Staircase

Exposed reinforcement is left at staircase which was prone to corrosion. Factory is required to provide rust proof paint on exposed reinforcement to protect from corrosion.

Observations: Building-1

Design Report needs to be prepared

Observations: Building-2 (Dormitory)

North-East view

As per BNBC, every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. At the time of inspection, only as-built drawing was available, but no design report was available which is required to be prepared in compliance with section 1.9.1.1 (part-6, BNBC).

Observations: Building-2 (Dormitory)

Apparently non engineered steel stairs

Steel stair-1

Steel stair-2

Two non engineered steel stairs were found with no obvious stability system, poor connection and apparently undersized members. Factory engineer is required to check the adequacy of those steel stairs or replace with engineered structures.

Observations: Building-2 (Dormitory)

Apparently non engineered steel sheds

Observations: Boiler Shed, Generator Shed

Boiler

Generator

Both sheds were appeared to be non engineered with no obvious stability system, poor connection and apparently undersized members. Factory engineer is required to check the adequacy of those sheds or replace with engineered structures.

Observations: Boiler Shed, Generator Shed

Brick wall appeared to be out of plumb

Observations: Boiler Shed, Generator Shed

Brick wall drifted (apparently) from original position

A 250 mm thick and 3.05 m high brick wall was appeared to be out of plumb which may have been drifted vertically due to foundation settlement or any lateral movement. Factory engineer is required to check the plumb of wall and investigate the reason for the vertical displacement. Also, implement remediation work according to the investigation report.

Observations: Boiler Shed

Severe corrosion on steel members

Observation: Steel Stairs & Boiler Shed

Severe corrosion in steel members

Severe corrosion was observed on steel members at steel stairs and Boiler shed. Factory is required to replace the damaged steel members and provide rust proof paint on all steel members to protect from corrosion.

Observation: Steel Stairs & Boiler Shed

Problems Observed

Building-1:

Item 01: Design Report needs to be prepared

Item 02: Prepared load plan to be revised

Item 03: Discrepancy in as-built drawing

Item 04: Possible vertical extension

Item 05: Lack of lateral stability of the roof shed

Item 06: Apparently non engineered shed over staircase & lift room

Item 07: Water ponding on roof slab

Item 08: Exposed reinforcement left at roof level

Building-2 (Dormitory):

Item 09: Design Report needs to be prepared

Item 10: Apparently non engineered steel stairs

Boiler Shed, Generator Shed:

Item 11: Apparently non engineered steel sheds

Boiler Shed:

Item 12: Brick wall appeared to be out of plumb

Steel stairs & Boiler Shed:

Item 13: Severe corrosion on steel members

Priority Action

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Design Report needs to be prepared (Building-1)	Factory engineer is required to prepare in compliance with section 1.9.1.1 (part-6, BNBC).	within 6-weeks
02	Design Report needs to be prepared (Building-1)	Implement any remediation work if required.	within 6-months
03	Prepared load plan to be revised (Building-1)	Factory engineer is required to revise the load plan as per BNBC requirement and check the review the design accordingly.	within 6-weeks
04	Prepared load plan to be revised (Building-1)	Implement any remediation work if required from design check.	within 6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
05	Prepared load plan to be revised (Building-1)	Implement load plan.	within 6-months
06	Discrepancy in as-built drawing (Building-1)	Factory engineer is required to update the as-built drawing.	within 6-weeks
07	Discrepancy in as-built drawing (Building-1)	Check the capacity of roof beam-slab considering the point load.	within 6-weeks
08	Discrepancy in as-built drawing (Building-1)	Implement remediation if required from the design check.	within 6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
09	Possible vertical extension (Building-1)	Prior to any vertical extension above 4-storied, a Detail Engineering Assessment is required to commence.	within 6-months
10	Possible vertical extension (Building-1)	As part of Detail Engineering Assessment, factory engineer is required to review, design of column and foundation stress in-case of conducting any vertical extension above 4 storied.	within 6-months
11	Possible vertical extension (Building-1)	Take 4-100 mm diameter concrete cylinder core from lower tier of the building to evaluate concrete strength of the existing column.	within 6-months
12	Possible vertical extension (Building-1)	Implement remediation work if required.	within 6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
13	Lack of lateral stability of the roof shed (Building-1)	Factory engineer is required to check the lateral stability of the shed.	within 6-weeks
14	Lack of lateral stability of the roof shed (Building-1)	Implement any remediation work if required.	within 6-months
15	Apparently non engineered shed over staircase & lift room (Building-1)	Factory engineer is required to check the connections against uplift forces or replace with engineered structure.	within 6-weeks
16	Apparently non engineered shed over staircase & lift room (Building-1)	Implement remediation work if required.	within 6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
17	Water ponding on roof slab (Building-1)	Factory engineer is required to improve drainage system and water proofing on roof slab.	within 6-weeks
18	Exposed reinforcement left at roof level (Building-1)	Factory engineer is required to provide rust proof paint on exposed reinforcement to protect from corrosion.	within 6-weeks
19	Design Report needs to be prepared (Building-2 (Dormitory))	Factory engineer is required to prepare in compliance with section 1.9.1.1 (part-6, BNBC).	within 6-weeks
20	Design Report needs to be prepared (Building-2 (Dormitory))	Implement remediation work if required.	within 6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
21	Apparently non engineered steel stairs (Building-2 (Dormitory))	Factory engineer is required to check the adequacy of the steel stairs or replace with engineered structure.	within 6-weeks
22	Apparently non engineered steel stairs (Building-2 (Dormitory))	Implement any remediation work where required.	within 6-months
23	Apparently non engineered steel sheds (Boiler Shed, Generator Shed)	Factory engineer is required to check the adequacy of the sheds or replace with engineered structure.	within 6-weeks
24	Apparently non engineered steel sheds (Boiler Shed, Generator Shed)	Implement any remediation work where required.	within 6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
25	Brick wall appeared to be out of plumb (Boiler Shed)	Factory engineer is required to check the plumb of wall and investigate the reason for the vertical displacement.	within 6-weeks
26	Brick wall appeared to be out of plumb (Boiler Shed)	Implement remediation work according to the investigation report.	within 6-weeks
27	Severe corrosion on steel members (Steel Stairs & Boiler Shed)	Factory is required to replace the damaged steel members where required.	within 6-weeks
28	Severe corrosion on steel members (Steel Stairs & Boiler Shed)	Provide rust proof paint on all steel members to protect from corrosion.	within 6-weeks