Hydroxide Knitwear Ltd. (Extension)

Mouchak, Kaliakoir, Gazipur, Dhaka
(24.022136, 90.296435)
23 May & 24 July 2023

RSC RMG SUSTAINABILITY COUNCIL

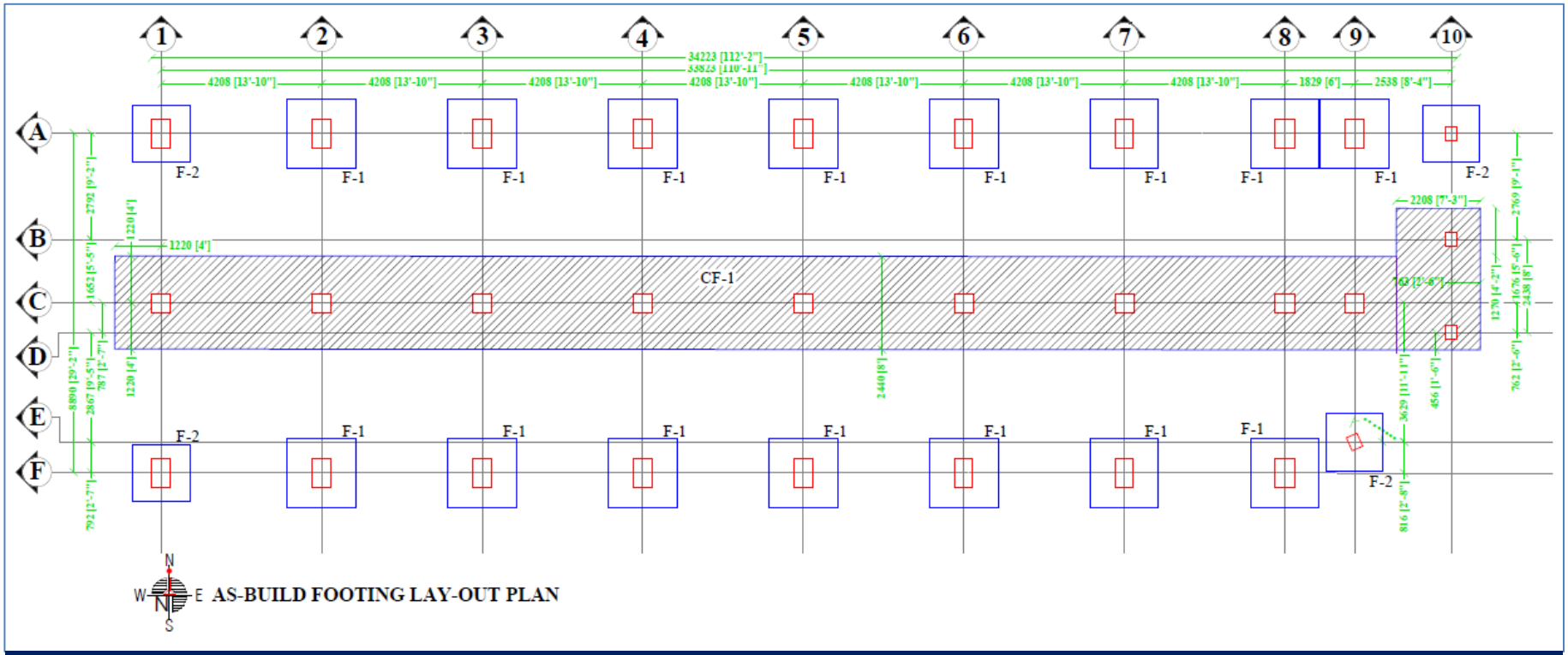
Building Information

1. **Building-2:** The structure is a four-storied (G+3) RC building.
2. **Building-5:** The structure is currently four-storied (G+3) RC building and proposed for seven-storied (G+6).
3. **Building-6:** The structure is a single storied RC building.
4. **Shed-1:** The structure is a single storied self supported profiled & curved roof structure.
5. **Shed-4:** The structure is a single storied steel shed with mezzanine floor.
6. **ETP Plant:** The structure is a single storied RC structure with steel roof.
7. **Shed-9:** The structure is a single storied steel shed.
8. **Shed-10:** The structure is a single storied steel shed.

Observations

High stressed footing

Observation: Building 2



Foundation layout

Cursory calculation indicates that stress exceeds the normal design limit for edge and corner foundation, considering the floor live load 3kPa, minimum concrete strength based on aggregate type and allowable soil bearing capacity 5.33 T/m2. Building engineer is required to review the design, loads and foundation stresses.

Typical floor loading

Observations: Building-2

Absence of design documents

Observation: Building-5

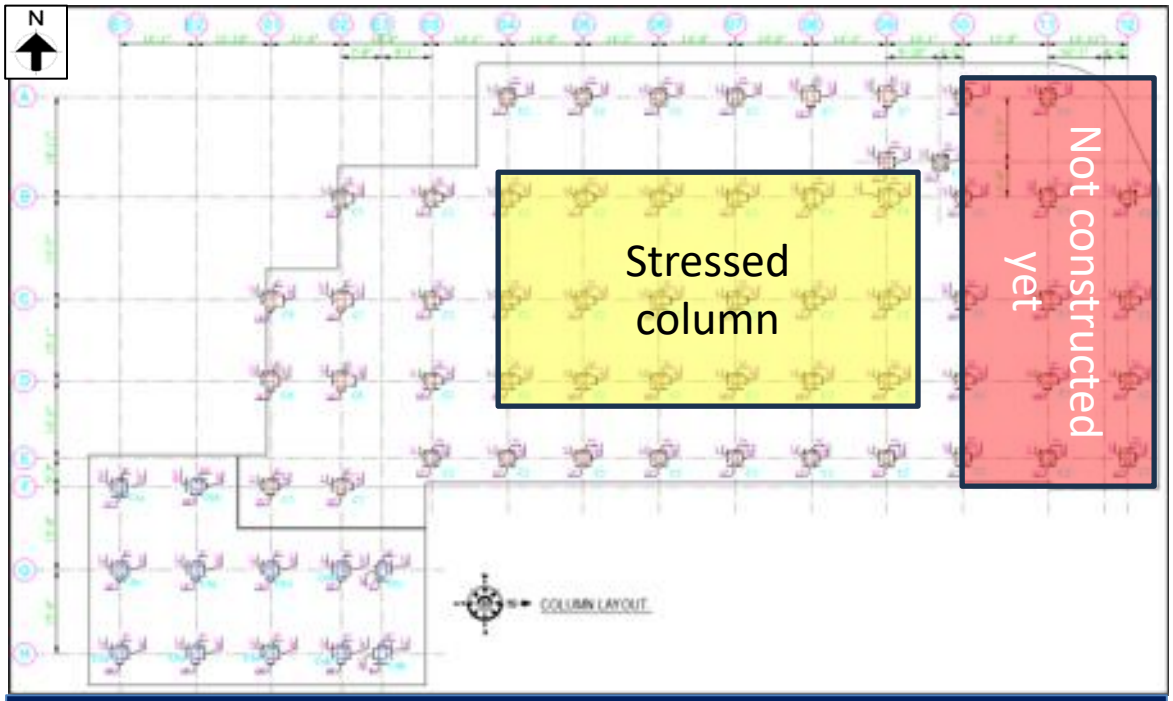
As per BNBC, every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2, part-6 of BNBC. At the time of inspection, only as-built drawing found on site, but design report & load plan were not available which are required to be prepared in compliance with section 1.9.1.1 (part-6, BNBC).

No design report was available for Building 5

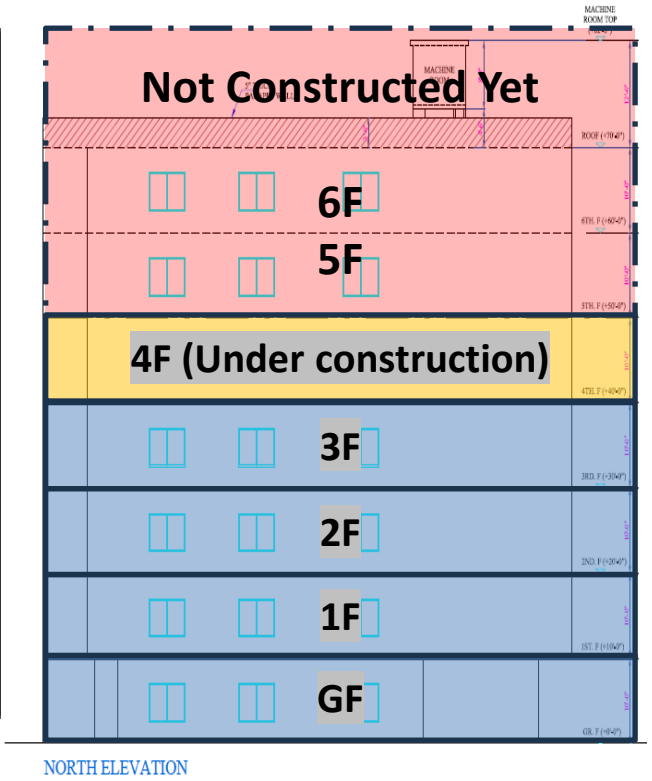
Observation: Building-5

Possible vertical extension

Observation: Building-5



Stressed column/foundation in layout



NORTH ELEVATION

Cursory calculation indicates the stress in highlighted column in layout will exceed normal design limit for above of 5 storied. Building engineer is required to review, design of column stress in-case of conducting any vertical extension above 5 storied.

Observation: Building-5

Lack of design report and as-built drawing

Observation: Shed 01

Warehouse Shed

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, part-6 of BNBC. At the time of inspection, no design report and as-built drawing was available which are required to be prepared in compliance with section 1.9.1.1 (part-6, BNBC).

Observation: Shed 01

Lack of drawings-Structural & Architectural

Observation: Building 06, Shed-04, 09 & 10

As-built drawings were not found for the mentioned structures (Building-6, Shed-4, Shed-9 & Shed-10). The building engineer to survey the structure and prepare as-built structural drawings with clear connection details.

Building-06 (Guard Room)

Shed-04 (Husk Boiler)

Shed-09 (Dining Shed)

Shed-10 (Canteen Shed)

Observation: Building 06, Shed-04, 09 & 10

Apparently inadequate connection

Observation: Shed-04, 09 & 10

Apparently inadequate connection was observed at the lightweight roof of these Shed. The building engineer to check the connection adequacy of the lightweight roof against the uplift pressure of wind.

Shed-04 (Husk Boiler)

Shed-09 (Dining Shed)

Shed-10 (Canteen Shed)

Observation: Shed-04, 09 & 10

Absence of permit drawing local authority

Observation: Building-5, Building-6, Shed-1, Shed-4, ETP, Shed-9 and Shed-10

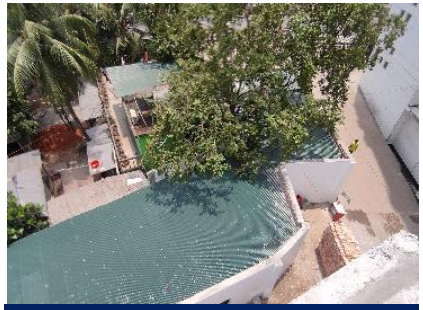
Building-5

Building-6

Shed-1

Shed-4

Shed-10



Shed-9

ETP

At the time of inspection, no approval drawing from local authority was available for the above-mentioned structures. Building engineer is required to seek approval from the local authority.

Observation: Building-5, Building-6, Shed-1, Shed-4, ETP, Shed-9 and Shed-10

Problems Observed

Building-2:

Item 01: High stressed footing.

Building-5:

Item 02: Absence of design documents.

Item 03: Possible vertical extension.

Shed-1:

Item 04: Lack of design report and as-built drawing

Building 06, Shed 04, 09 & 10:

Item 05: Lack of drawings-Structural & Architectural.

Item 06: Apparently inadequate connection.

Building-5, Building-6, Shed-1, Shed-4, ETP, Shed-9 and Shed-10:

Item 07: Absence of permit drawing from local authority.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	High stressed footing. (Building 2)	Building engineer is required to review the design, loads and foundation stresses.	6-weeks
02	High stressed footing. (Building 2)	Produce and actively manage the floor loading plan following BNBC	6-weeks
03	High stressed footing. (Building 2)	Carry out remedial works (if any) after review by RSC.	6-months
04	High stressed footing. (Building 2)	Implement floor load plan.	6-months
05	Absence of design documents. (Building 5)	Building engineer is required to 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, part-6 of BNBC and submit it to RSC for review.	6-weeks
06	Absence of design documents. (Building 5)	Produce and actively manage a set of floor loading plan following BNBC.	6-weeks
07	Absence of design documents. (Building 5)	Carry out remedial works (if any) after review by RSC.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
08	Absence of design documents. (Building 5)	Implement floor load plan.	6-months
09	Possible vertical extension. (Building 5)	In-case of conducting any vertical extension above 5 storied, a Detail Engineering Assessment (DEA) need to be carried out following BNBC.	6-weeks
10	Possible vertical extension. (Building 5)	Carry out remedial works (if any) after review by RSC.	6-months
11	Lack of design report and as-built drawing. (Shed 1)	Building engineer is required to 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, part-6 of BNBC and submit it to RSC for review.	6-weeks
12	Lack of design report and as-built drawing. (Shed 1)	Carry out remedial works (if any) after review by RSC.	6-months
13	Lack of drawings-Structural & Architectural. (Building 06, Shed 04, 09 & 10)	Building engineer is required to prepare the full set of as-built drawing in compliance with section 1.9.1.2 (part-6, BNBC).	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
14	Apparently inadequate connection. (Shed 04, 09 & 10)	Building engineer is required to check the connection of the steel shed for the uplift pressure of wind.	6-weeks
15	Apparently inadequate connection. (Shed 04, 09 & 10)	Complete implementation of remedial works if required.	6-months
16	Absence of permit drawing from local authority. (Building-5, Building-6, Shed-1, Shed-4, ETP, Shed-9 and Shed-10)	Building engineer is required to seek and collect approval from the local authority.	6-months