

Lariz Fashion Limited

Madanpur, Bandar, Narayanganj

(23.689260; 90.548276)

18 May 2022



Buildings Information

1. Factory Building (B+G+9)

Observations

Design code consideration for the existing building

3 ANALYSIS FOR STRUCTURAL ADEQUACY

3.1 STRUCTURAL SYSTEM

The structural system of the building is a Basement+G+10 Storied RCC building with beam column frame structure. The building is classified as an Intermediate moment resisting frame (IMRF) structure.

3.2 CODES AND PRACTICES

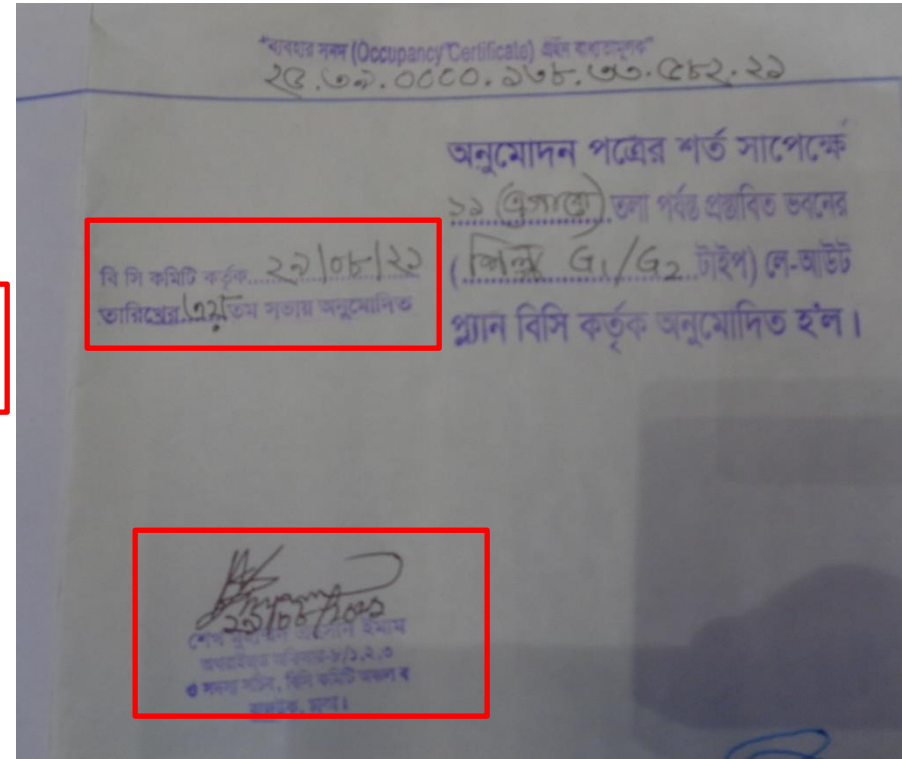
For the present project relevant sections of Bangladesh National Building Code (BNBC, 2006) have been used for analysis. For the reinforced concrete design, American Concrete Institute (ACI 318-99) code has been consulted as and when became necessary to complement the BNBC.

3.3 MATERIAL PROPERTY

The principal material of construction is reinforced concrete. As per investigation and design drawings, the following material properties has been used:

- ❖ Yield strength of Rebar, f_y = 72500 psi (As per test report)
- ❖ Compressive strength of concrete (Column), f_c' = 4500 psi (As per test report)
- ❖ Compressive strength of concrete (Beam), f_c' = 4000 psi (As per test report)
- ❖ Young's modulus of concrete (Stone), E_c = 57,000 $\sqrt{f_c'}$

Engineering Assessment Report is prepared as per
BNBC-2006

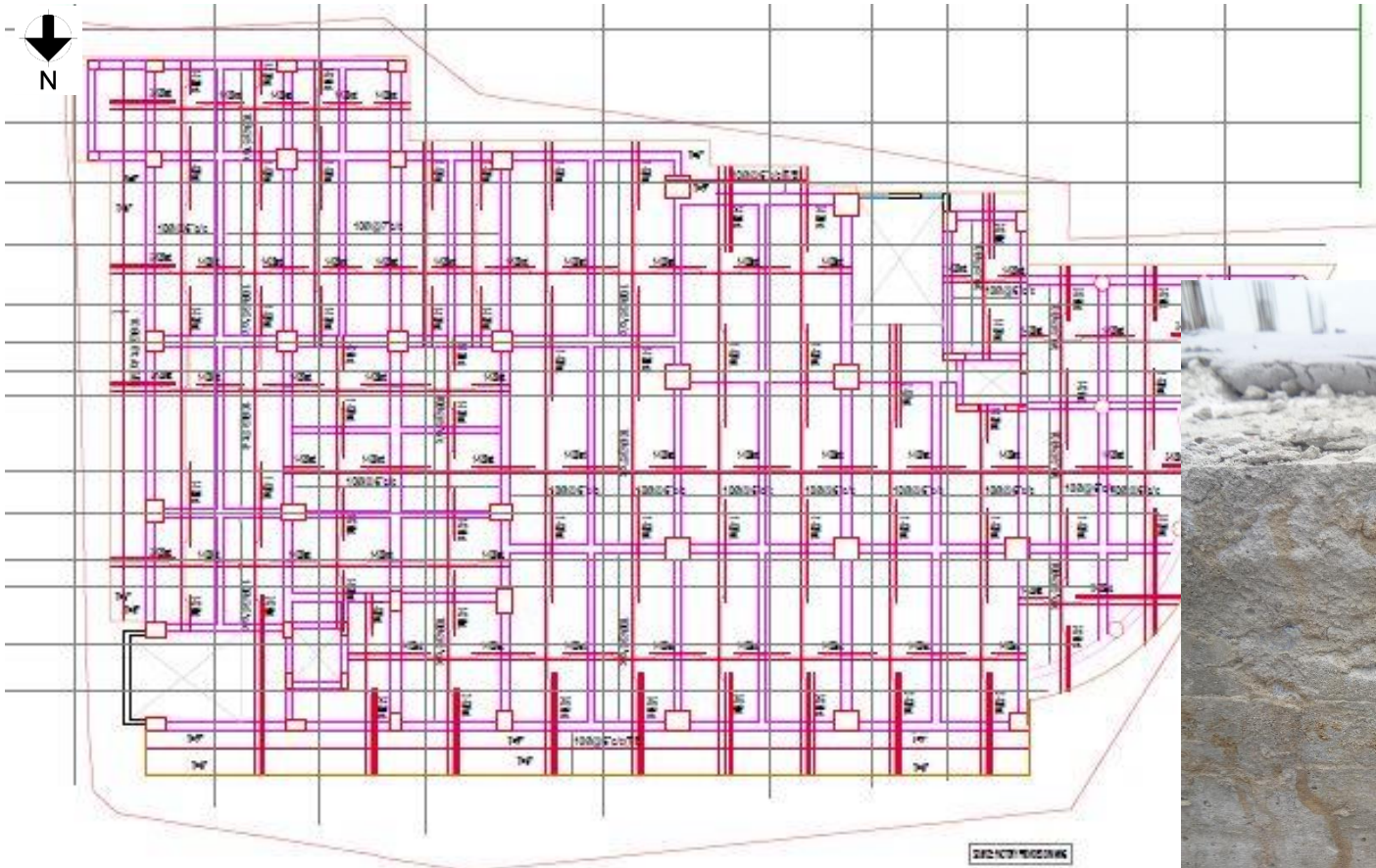


The permit drawing of building was approved on
29 August 2021

The permit drawing of building was approved on 29 August 2021 (after 11 February 2021, publication date of BNBC 2020) but Engineering Assessment Report for this building is prepared as per BNBC-2006. Factory engineer is required to prepare the design code according to the BNBC 2020 provision and requirements.

Observation: Factory Building

Discrepancies in as-built drawing



3RD TO 10TH FLOOR SLAB REINFORCEMENT DETAILS.
SLAB THICKNESS=8"

Slab thickness mentioned as 200 mm in provided drawing



Slab thickness measured as 150 mm on site

Slab thickness mentioned as 200 mm in provided drawing
 Factory engineer is required to survey the whole structure and update the as-built drawing as per onsite condition. Also, check the slab adequacy for original thickness.

Exposed reinforcement left at roof level



Exposed reinforcement left at roof

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

Falling Hazard at roof level and stair area



Parapet/railing was missing at roof and stair area

Factory is required to provide parapet/railing at all locations of roof and staircase to avoid possible falling hazard.

Non-structural elements found unbraced/not anchored



Storage rack found within the building without braced/anchored

Factory is required to brace/anchor all non structural elements.

Problems Observed

Factory Building:

Item-1: Design code consideration for the existing building.

Item-2: Discrepancies in as-built drawing.

Item-3: Exposed reinforcement left at roof level.

Item-4: Falling Hazard at roof level and stair area.

Item-5: Non-structural elements found unbraced/not anchored.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Design code consideration for the existing building.	Factory engineer is required to Design code consideration for the existing building.	6-weeks
02	Design code consideration for the existing building.	Factory engineer is required to prepare the design code according to the BNBC 2020 provision and requirements.	6-weeks
03	Design code consideration for the existing building.	Carryout remedial works if required.	6-months
04	Discrepancies in as-built drawing (Factory Building)	Factory engineer is required to survey the whole structure and update the as-built drawing as per onsite condition.	6-weeks
05	Discrepancies in as-built drawing (Factory Building)	Also, check the slab adequacy for original thickness.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
06	Discrepancies in as-built drawing (Factory Building)	Carryout remedial works if required.	6-months
07	Exposed reinforcement left at roof level (Factory Building)	Factory is required to provide rust proof paint on exposed reinforcement to protect from corrosion.	6-weeks
08	Falling Hazard at roof level and stair area (Factory Building)	Factory is required to provide parapet/railing at all locations of roof and staircase to avoid possible falling hazard.	6-weeks
09	Non-structural elements found unbraced/not anchored (Factory Building)	Factory is required to brace/anchor all non structural elements.	6-weeks