

Ibrahim Knit Garments Pvt. Ltd. Extension-1

Ailpara Pathantoli, Siddirganj, Naranganj

(23.642181, 90.513432)

16th February 2021



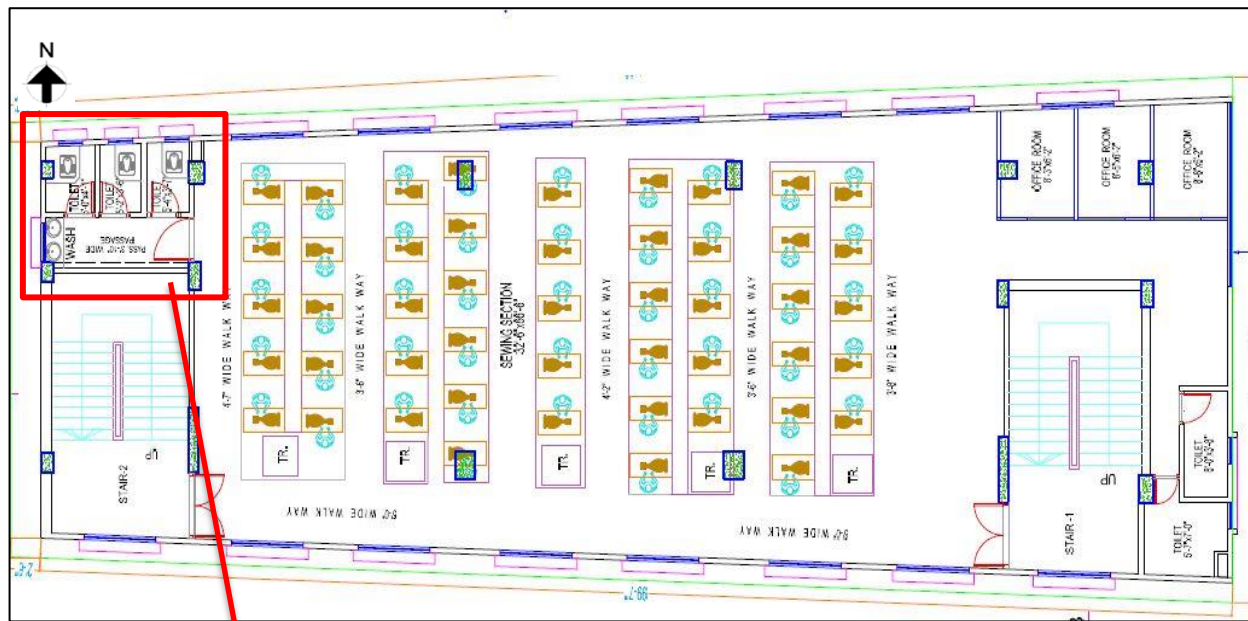
Building Information

1. Building-4 (G+5)
2. Building-5 (Proposed G+5) (Completed G+2)

Observations

Stress in column exceeds normal design limit

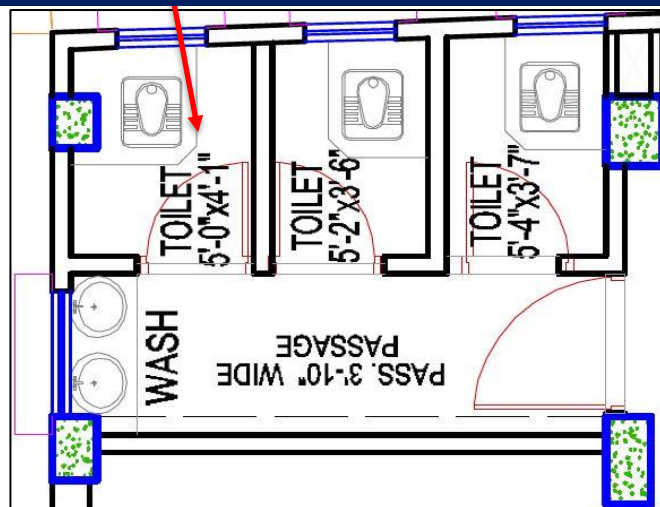
Discrepancies in as built drawing with on site condition



Floor layout plan & blow up of toilet zone area.



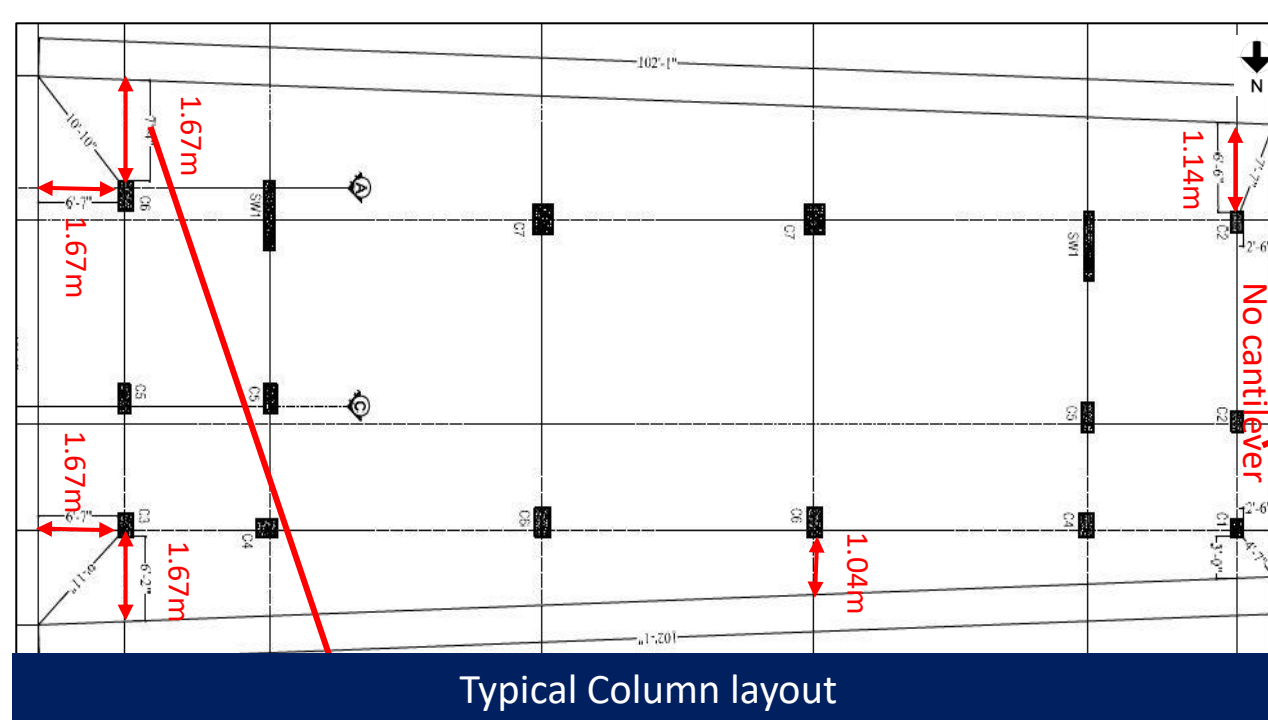
Floor build up found 100 mm



Floor build up and wall height not shown in as-built drawing

In as-built architectural drawing, the height of the toilet partition wall and floor build up were not shown. However, the height of the partition wall was found 1.98 m and floor build up was found 100 mm.

Factory engineer is required to survey the whole structure and update the as-built drawing. Also, Factory engineer to update the design document including in compliance with section 1.9.1 as per BNBC 2006.



Dimension of cantilever was not found as per provided drawing with on-site condition. Also, cantilever has been shown in drawing at west side of the building but cantilever was not found at site condition. Factory engineer is required to survey the whole structure and update the as-built drawing as per on-site condition in accordance with section 1.9.1.2 (BNBC Part-6).

Water ponding on roof slab

Observation: Building-4

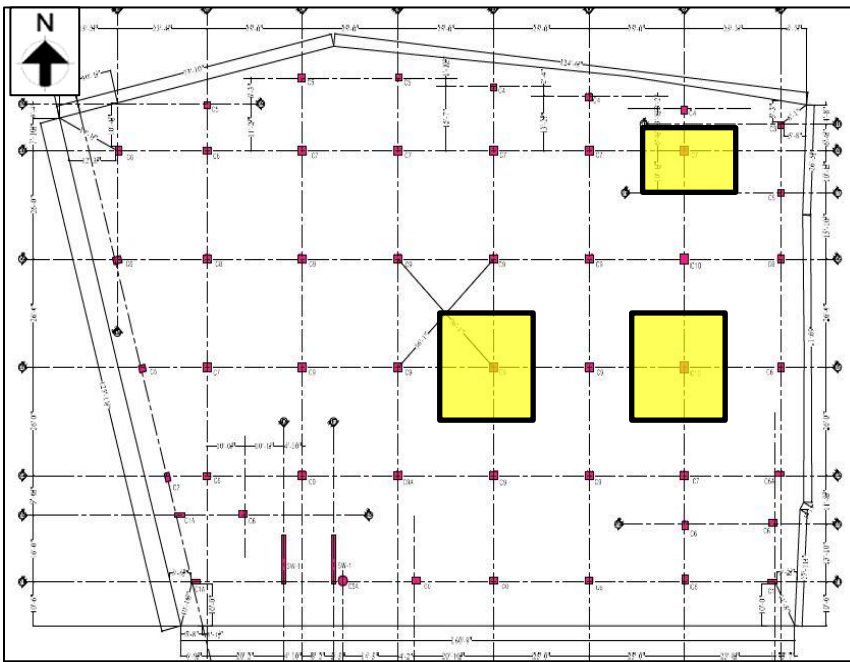


Water ponding on roof slab

Water ponding was found on roof slab due to improper slope. Any cracks or damage on the roof surface will allow water to seep into the concrete slab beneath the finishes and cause long term soaking of the slab and corrosion of the rebar. Factory is required to provide necessary slope and improve drainage system to prevent water ponding.

Observation: Building-4

Column to be stressed above normal design limit considering possible vertical extension



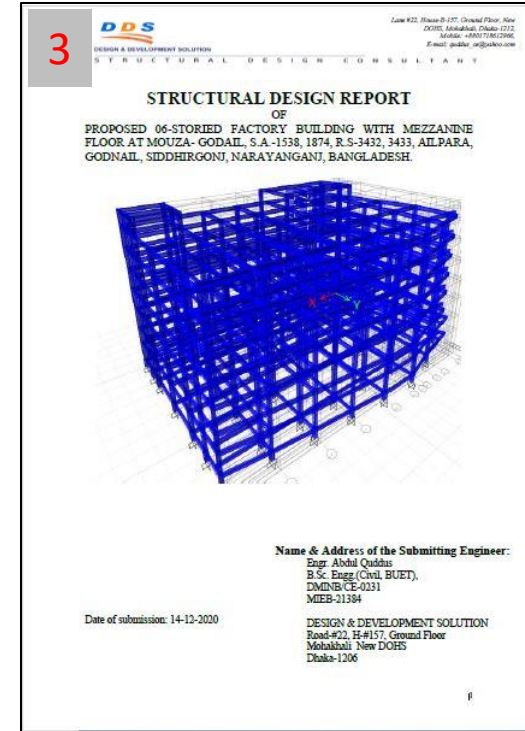
Column Layout Plan

Cursory calculation indicates that the marked columns are stressed above normal design limit considering prepared live load plan (5 KPa for typical floor and 1.5 KPa for roof) and minimum concrete strength based on aggregate type for the 6 storied building. Factory engineer is required to carry out a Detail Engineering Assessment (DEA) in compliance with section 1.9.1 BNBC 2006 prior to any vertical extension.

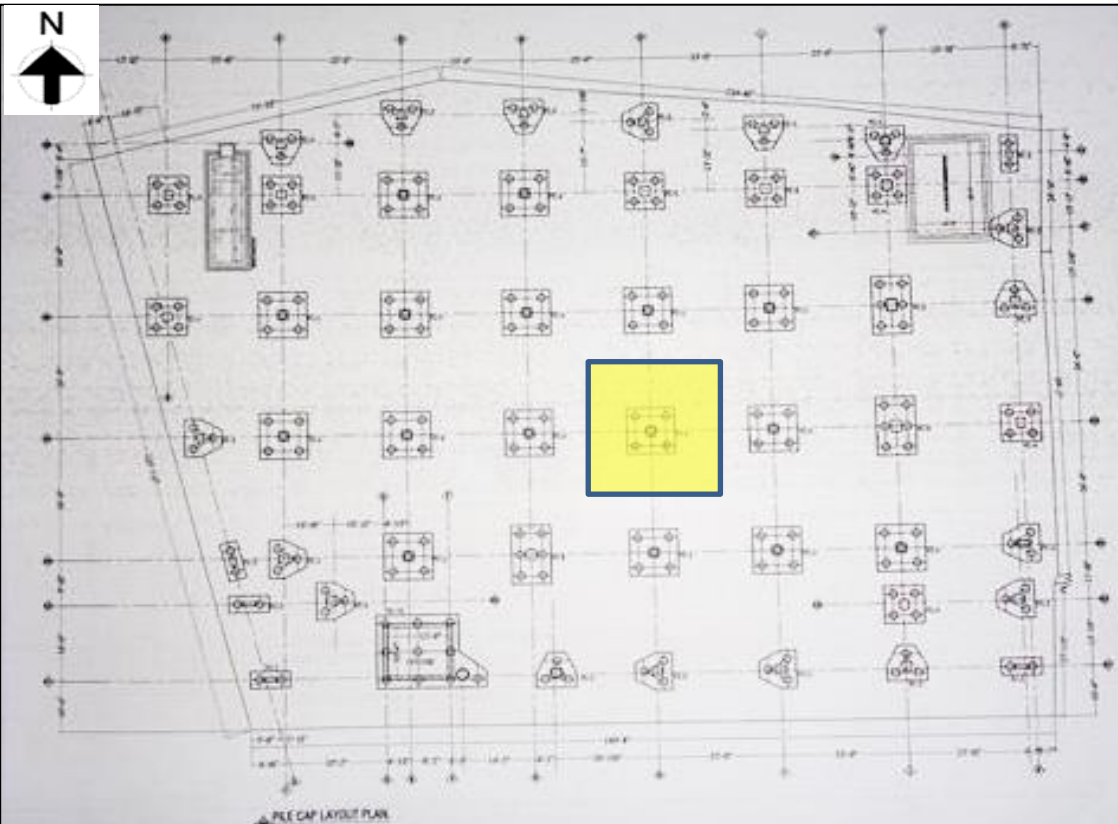


1. Building is currently three storied 2. Extended re-bar at roof for vertical extension 3. Design report prepared for 6 storied structure.

This building is permitted for 6 storied (G+5) storied from local authority. Currently, the building is three storied (G+2). Design documents of the structure has been prepared considering 6 storied building. Also, extended portion of column rebar was found at roof level which indicates the possibility of vertical extension.



Foundation to be stressed above normal design limit considering possible vertical extension



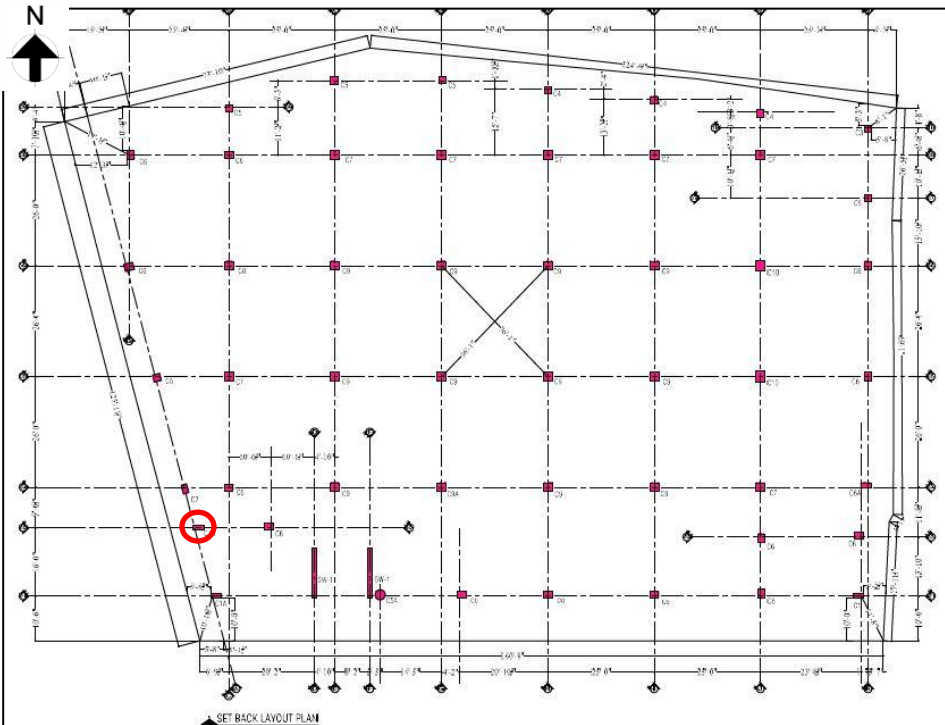
Pile Layout plan



Building is currently three storied

Cursory calculation indicates that the marked foundation is stressed above normal design limit considering prepared live load plan (5 KPa for typical floor and 1.5 KPa for roof).
Factory engineer is required to carry out a Detail Engineering Assessment (DEA) complying with BNBC prior to any vertical extension.

Discrepancies in as built drawing with on site condition



Column layout

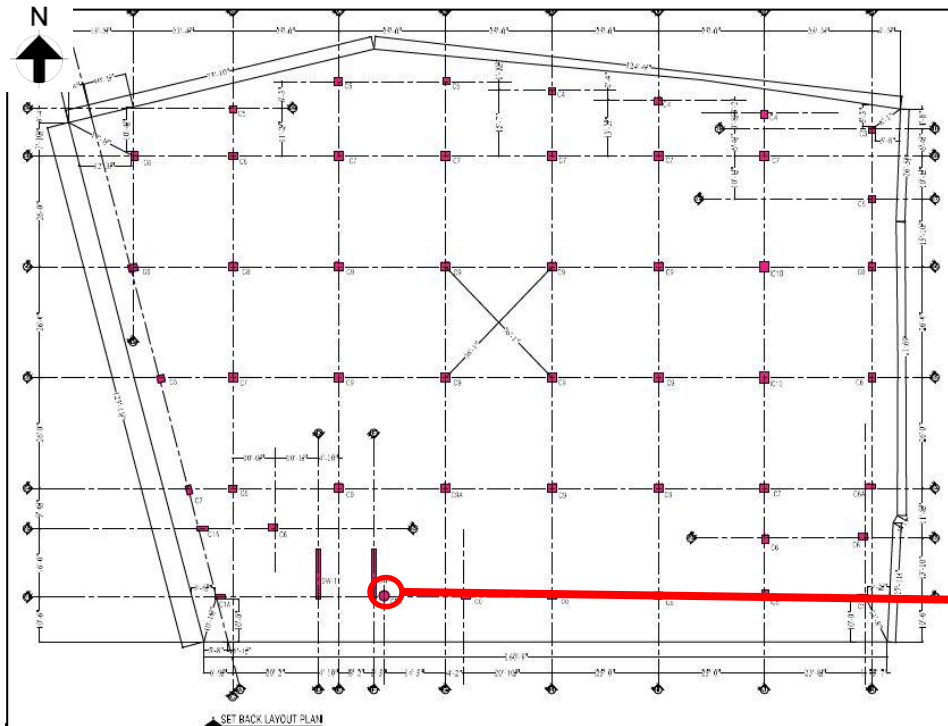
Dimension of the highlighted column (C-1A) was found 350mmX625mm instead of 300mmX750mm. Factory engineer is required to survey the whole structure and update the as-built drawing in compliance with the section 1.9.1.2 (Part-6; BNBC 2006).

COLUMN ID	BELOW GROUND LEVEL		GROUND TO 2ND FLOOR	
	NOS.OF REINFORCEMENT	COLUMN SIZE	NOS.OF REINFORCEMENT	COLUMN SIZE
C1	● 16-20mmØ	33" 15"	● 16-20mmØ	30" 12"
C1A	● 18-20mmØ	33" 15"	● 18-20mmØ	30" 12"
C2	● 16-20mmØ	28" 18"	● 16-20mmØ	25" 15"

Dimension shown in schedule-300mmX750mm



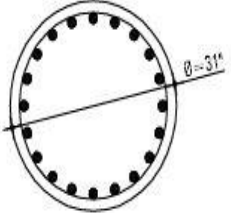
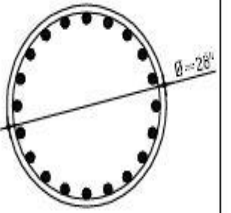
Dimension found -350mmX625mm



Column layout



Circular column

SHORT COLUMN SCHEDULE OF SIZE AND REINFORCEMENT				
COLUMN ID	BELOW GROUND LEVEL		GROUND FLOOR	
	NOS.OF REINFORCEMENT	COLUMN SIZE	NOS.OF REINFORCEMENT	COLUMN SIZE
C5A	● 20-20mmØ Tie-10mmØ spiral 3"/c		● 20-20mmØ Tie-10mmØ spiral 3"/c	

Dimension shown in schedule- 750mm

Dimension of the highlighted column (C-5A) was found 700mm (diameter) instead of 750mm. Factory engineer is required to survey the whole structure and update the as-built drawing as per on-site condition in accordance with section 1.9.1.2 (BNBC Part-6).

Also, building engineer to update the design document including a design report in compliance with section 1.9.1.1 as per BNBC.

Water ponding on roof slab



Water ponding on roof slab

Water ponding was found on roof slab due to improper slope. Any cracks or damage on the roof surface will allow water to seep into the concrete slab beneath the finishes and cause long-term soaking of the slab and corrosion of the rebar. The factory is required to provide the necessary slope and improve the drainage system to prevent water ponding.

Problems Observed

Building-4:

Item 1: Stress in column exceeds normal design limit.

Item 2: Discrepancies in as built drawing with on site condition.

Item 3: Water ponding on roof slab.

Building-5:

Item 4: Column to be stressed above normal design limit considering possible vertical extension.

Item 5: Foundation to be stressed above normal design limit considering possible vertical extension.

Item 6: Discrepancies in as built drawing with on site condition.

Item 7: Water ponding on roof slab.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Stress in column exceeds normal design limit (Building-4)	Factory Engineer to review design, loads and columns stresses and prepare Engineering Assessment (EA) in compliance with section 1.9.1.1 and section 1.9.1.2 as per (Part-6; BNBC 2006).	6-weeks
02	Stress in column exceeds normal design limit (Building-4)	Verify in-situ concrete stresses by 100mm dia. cores.	6-weeks
03	Stress in column exceeds normal design limit (Building-4)	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	6-months
04	Discrepancies in as built drawing with on site condition (Building-4)	Factory engineer is required to survey the whole structure and update the as-built drawing as per on-site condition in compliance with section 1.9.1.2 (Part-6; BNBC 2006).	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
05	Water ponding on roof slab (Building-4)	Factory is required to develop proper slope and improve drainage system to prevent water ponding.	6-weeks
06	Column to be stressed above normal design limit considering possible vertical extension (Building-5)	Factory engineer is required to carry out a Detail Engineering Assessment (DEA) in compliance with BNBC 2006 prior to any vertical extension.	6-weeks
07	Foundation to be stressed above normal design limit considering possible vertical extension (Building-5)	Factory engineer is required to carry out a Detail Engineering Assessment (DEA) in compliance with BNBC 2006 prior to any vertical extension.	6-weeks
08	Discrepancies in as built drawing with on site condition (Building-5)	Factory engineer is required to survey the whole structure and update the as-built drawing as per on-site condition in compliance with section 1.9.1.2 (Part-6; BNBC 2006).	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
09	Discrepancies in as built drawing with on site condition (Building-5)	Building engineer to update the design document including a design report, and a set of structural drawings in compliance with section 1.9.1.1 and section 1.9.1.2 as per (Part-6; BNBC 2006).	6-weeks
10	Water ponding on roof slab (Building-5)	Factory is required to develop proper slope and improve drainage system to prevent water ponding.	6-weeks