



P.M. Knittex (Pvt.) Ltd. -New Building -3

Plot No.- Chowdhuri bari, Godhnail, Narayangonj.

Co-ordinates: 23.644875, 90.513760

05th November 2019





Observations

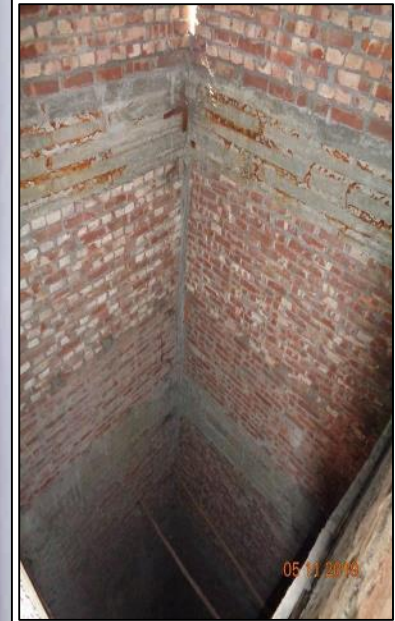


Discrepancies between as-built drawings and on-site condition

3 **Observations: New Building- 3**



Column Layout Plan



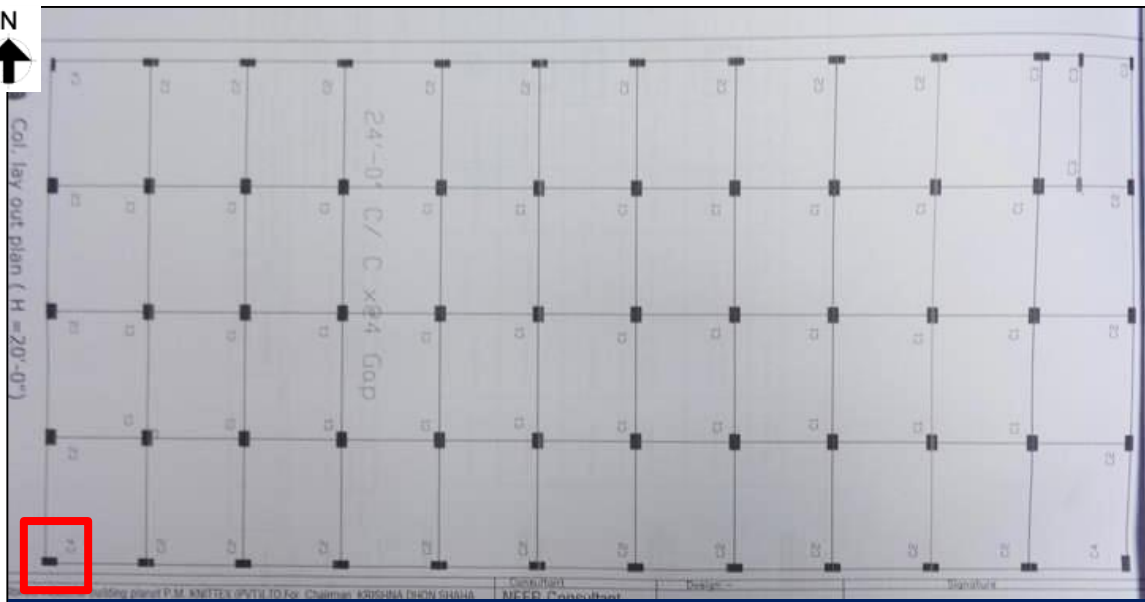
Lift Core



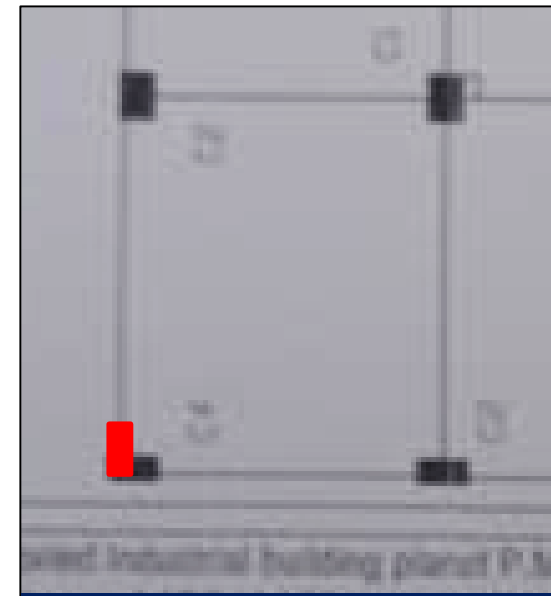
Column size was found 300mmX250mm

Column was found at marked location for lift core. Column size was found 300mmX250mm. But in as-built drawing, no columns has been shown. Grid dimensions was found missing in the column Layout plan.

4 Observations: New Building- 3



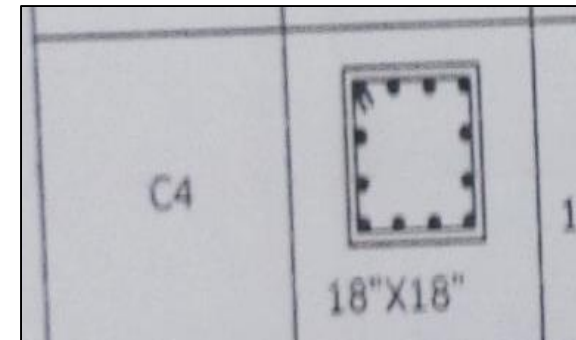
Column Layout Plan



Column Orientation Mismatch



Actual Size of column was found 750mmX450mm



Size of column shown
450mmX450mm

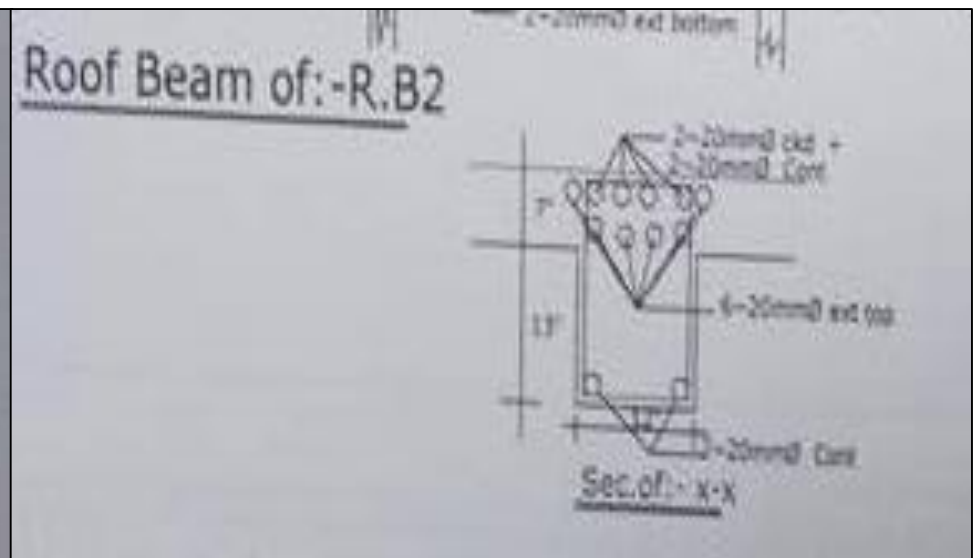
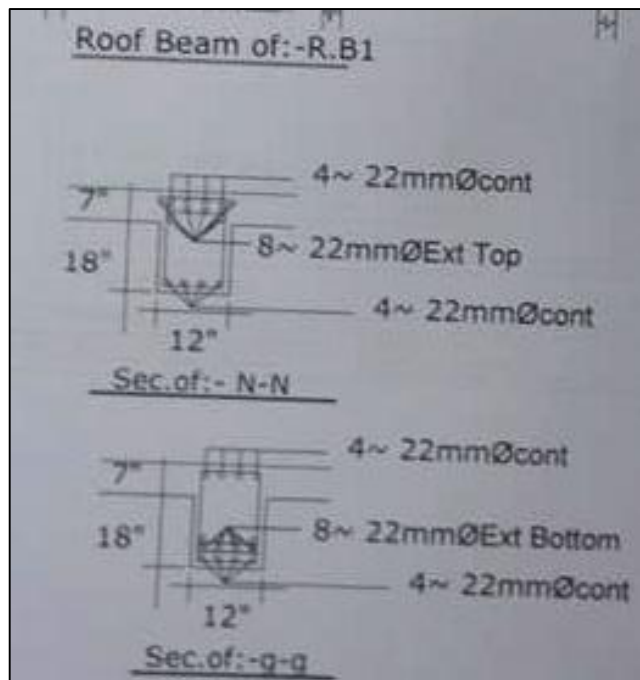
Column orientation was found mismatch with site condition (as shown in drawing). Long face of column was found along north direction. Size of column was found 750mmX450mm instead of 450mmX450mm.

6 Observations: New Building- 3



Tie beam was found in Ground Floor along periphery. But in as built drawing, layout and sectional details of the tie beam was not found.

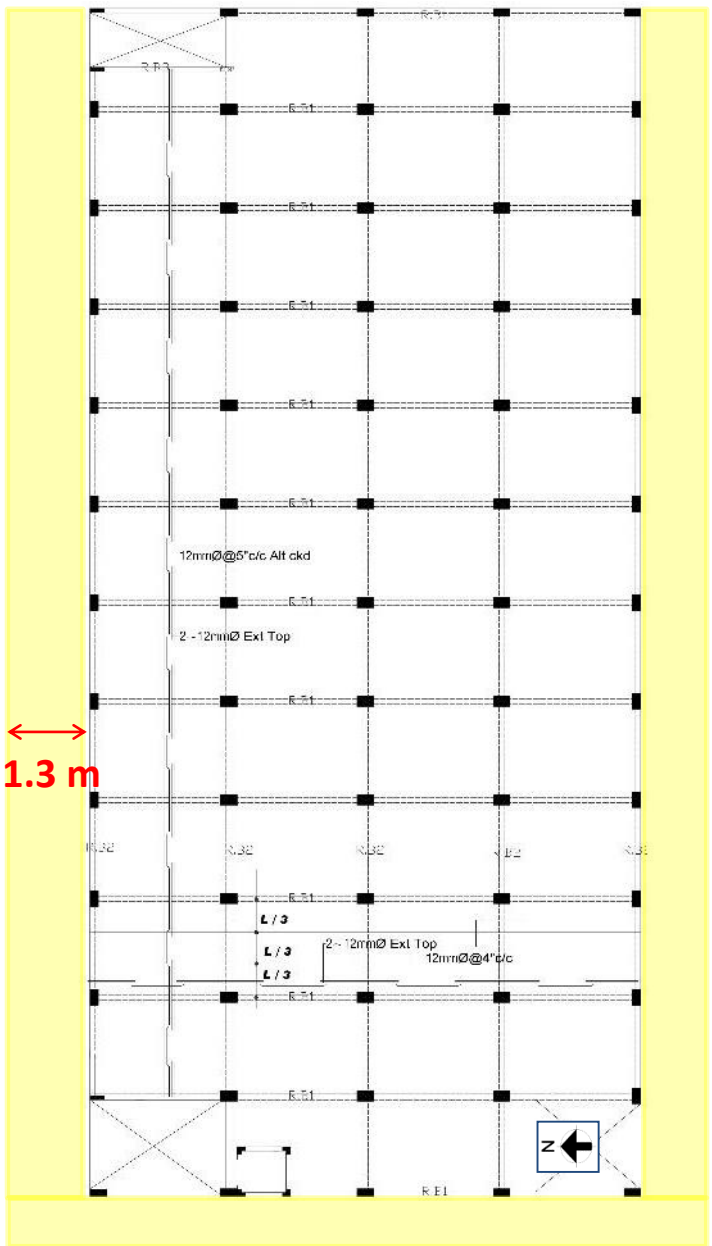
7 Observations: New Building- 3



In As-built drawing, size of re-bar for beam has been used for 20mm & 22mm dia re-bar.



Re-bar of the beam was found 10mm diameter at site condition. Also the actual number of the re-bar in beam was found less than the as-built drawing.



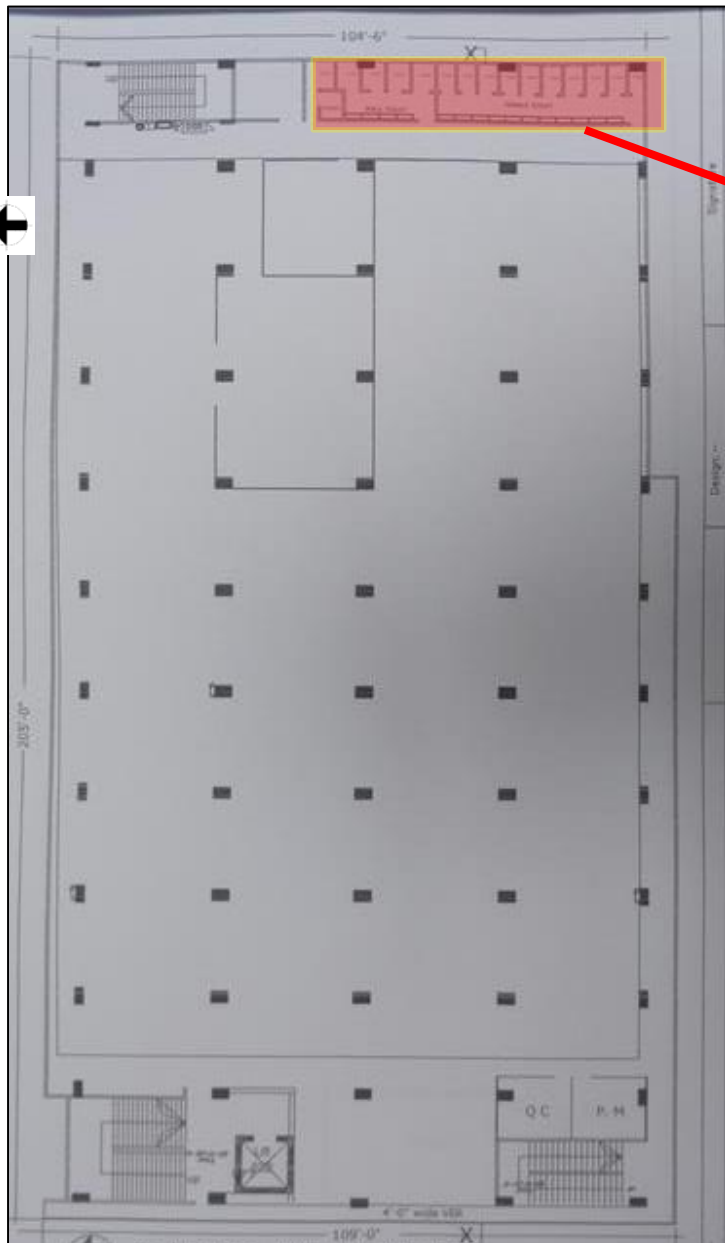
1.3 m

Beam-Slab Layout

Cantilever area



1.3 m Cantilever slab was found in three sides of the structure. No information was provided in the structural drawing.



Floor plan



225mm build up was found in toilet zone. No information was provided in the drawings.



Fire pump room was found at ground floor (- 2.7 m from PL). But in drawing, details of the fire pump room has not been included.



Uncontrolled loading at 1st Floor

Observations: New Building- 3



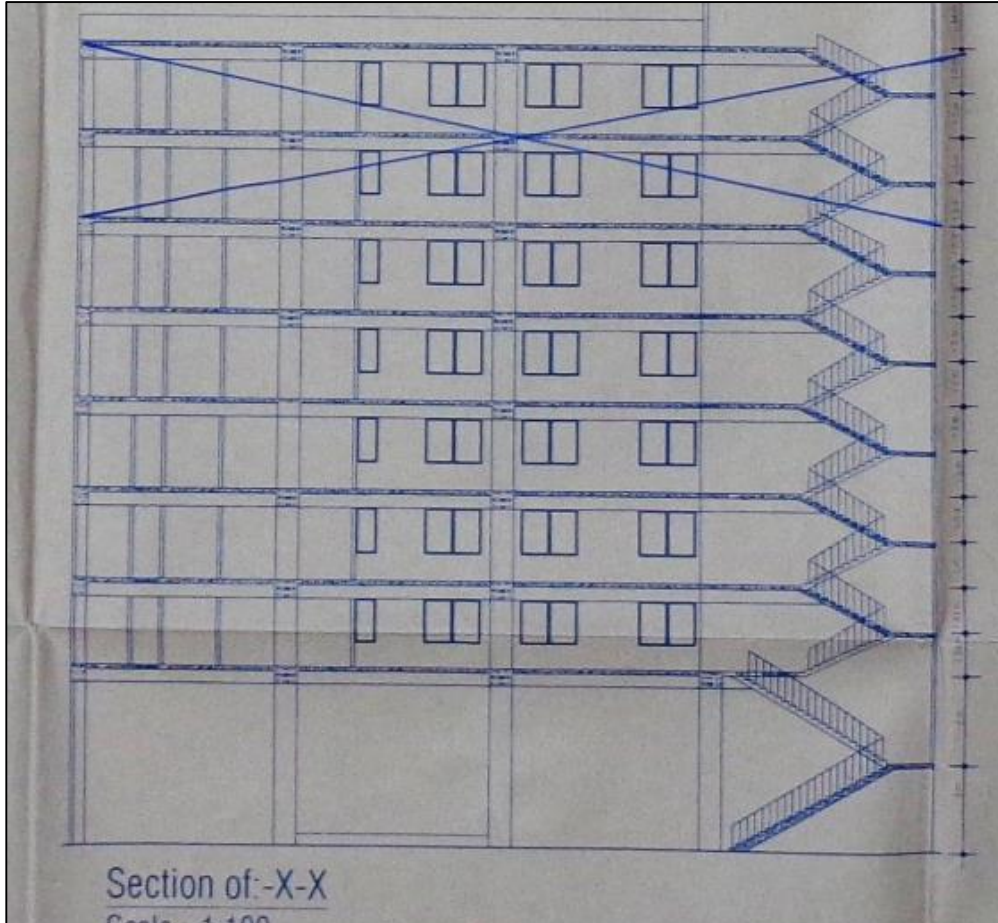
Uncontrolled loading was found at 1st floor of the building. Loading was found more than 3 kPa. Factory is required to reduce the loading to 3 kPa. Factory is required to prepare the floor loading plan and maintain accordingly.



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



This building is permitted for Six (G+5) storied from local authority. Currently, the building is four storied (G+3). Extended portion of column rebar was found at roof level which indicates the possibility of vertical extension. The factory engineer is required to carry out a Detail Engineering Assessment considering BNBC provision prior to any extension work.



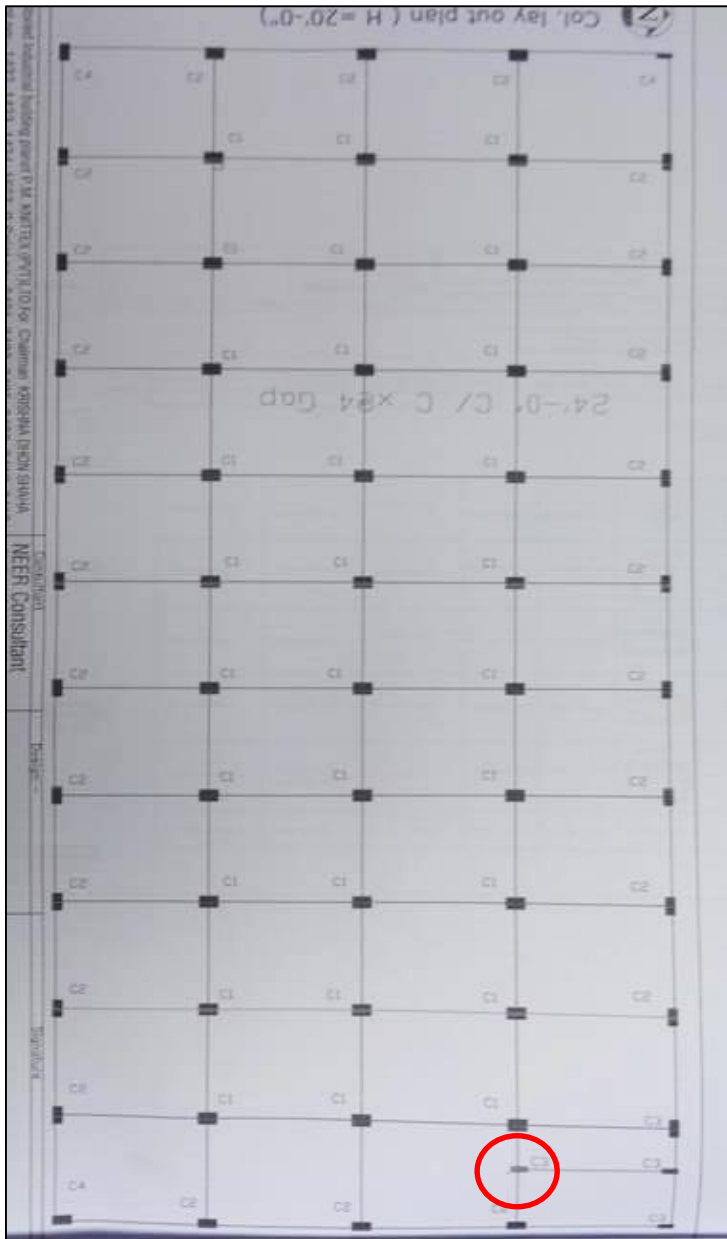
Permitted drawing of Six storied building from local authority



Rebar extension at roof level



Existing four Storied Building



Typical Column layout



NO	Col Size	G.L TO P.L	P.L TO 2nd	RING G.L TO 2nd	4THto 5th	RING 4THto 5th
C1	2'-0" X 3'0"	20~22mm	20~22mm	10mm ϕ s/c/c	10~20mm 10~22mm	10mm ϕ s/c/c
C2	18" X 3'0"	18~20mm	18~20mm	10mm ϕ s/c/c	10~20mm 6~16mm	10mm ϕ s/c/c
C3	10" X 3'0"	16~20mm	16~20mm	10mm ϕ s/c/c	16~16mm	10mm ϕ s/c/c
C4	18" X 18"	12~20mm	12~20mm	10mm ϕ s/c/c	12~16mm	10mm ϕ s/c/c
C5	18" X 10"	10~20mm	10~20mm	10mm ϕ s/c/c	10~16mm	10mm ϕ s/c/c

Column Schedule

Cursory calculation indicates that the working stress of one ground floor column (marked in layout) exceed the normal design limit considering six storied (G+5) building and 3kPa floor loading with minimum concrete strength. The Building engineer is required to review the design, loads and columns stress as per BNBC for possible vertical extension. For the existing four storied (G+3), the working stress of the ground floor column is within normal design limit.



Corrosion in Exposed Re-bar at roof



Corrosion was found in exposed re-bar roof level. Factory is required to take necessary action to prevent corrosion in exposed re-bar due to weathering effect.

Observations: New Building -3



Poor support system of Stair Roof.



Non-engineered stair roof shed was found. Poor connection was found in roof shed & supporting wall. Factory engineer is required to check the capacity of the connection and suggest to develop the connections.

Observations: New Building -3



Lack of as-built drawing



No documentation was available onsite for the Utility Building



Problems Observed

New Building -3 :

Item 01: Discrepancies between as-built drawings and on-site condition.

Item 02: Uncontrolled loading at 1st Floor.

Item 03: Column to be stressed above normal design limit for possible vertical extension

Item 04: Corrosion in Exposed Re-bar at roof.

Item 05: Poor support system of Stair Roof.

Utility Building :

Item 06: Lack of as-built drawing.



Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Discrepancies between as-built drawings and on-site condition	The factory engineer is required to survey the structure and produce as-built drawings with complete structural information.	6-weeks
2	Uncontrolled loading at 1st Floor	Factory is required to prepare the floor loading plan and maintain accordingly.	6-weeks
3	Uncontrolled loading at 1st Floor	Continue to implement load plan.	6-months
4	Column to be stressed above normal design limit for possible vertical extension	The factory engineer is required to carry out a Detail Engineering Assessment considering BNBC provision prior to any extension work.	6-weeks
5	Column to be stressed above normal design limit for possible vertical extension	Carryout remedial works if required.	6-months
6	Corrosion in Exposed Re-bar at roof	All exposed reinforcement to be protected from corrosion.	6-weeks
7	Poor support system of Stair Roof	Factory engineer is required to check the capacity of the connection and suggest to develop the connections.	6-weeks
8	Poor support system of Stair Roof	Implement the action suggested by factory engineer.	6-months
9	Lack of as-built drawing	Prepare “as constructed” drawings with complete structural information.	6-weeks