

Alim Knit (BD) Ltd (Extension)

Nayapara, Kashimpur, Gazipur, Bangladesh

(23.986086, 90.318966)

24 December 2023

Structural Inspection Report



1. Building Information:

Building-3: Five (B+G+4) storied building with ETP in basement

Thermo Oil & EGB Boiler Building: Three (G+2) storied building

Generator Building: Two (G+1) storied building

Boiler Shed: Sing storied shed.

Disel Generator Shed: Sing storied shed.

ETP: Sing storied shed.

Fire Control & Guard Room: Sing storied shed.

WTP: Open structure.

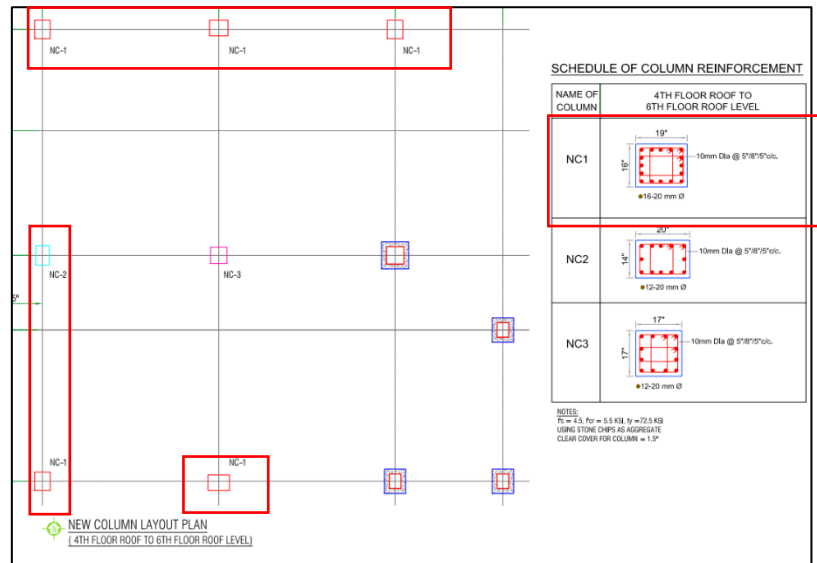
Security Control Post: Sing storied shed.

2. Observations:

Observation-1: Discrepancies in as-built structural drawings (Building-3).



12@25mm dia rebar (4X4) for NC1 Column found at site



4 numbers of re-bar were found each of the NC1 column instead of 5 numbers.

Description: During the inspection, total 12 numbers of 25mm dia of re-bar was found for the NC1 at site. But in the provided drawing total 16 numbers of 20mm dia re-bar has been shown. The building engineer is required to survey the full structure and produce accurate as-built drawings.

Observation-2: Design check is required for lateral loading. (Building-3).



Building-3

Description: Design report was available for Building-3. The factory is required to submit design documents to the RSC for detailed review against lateral loading for the existing building.

Observation-3: Apparently non-engineered steel stair. (Building-3)



Description: The connections of the steel stair is inadequate at 2nd floor. A building engineer is required to check the adequacy of the steel stair.

Observation-4: Poor drainage system on roof. (Building-3)



Description: During the inspection, a poor roof drainage system and signs of stagnant water were found on the roof. The building engineer is required to improve the water drainage system on the roof with proper slope & adequate number of water outlets.

Observation-5: Lack of anchorage of machine on 2nd floor. (Building-3)



Description: On the 2nd floor, anchorages were not found. Building engineer is required to anchor all the vessel/tanks/machinery.

Observation-6: Design report needs to be reviewed for lateral loading. (Thermo Oil Heater & EGB Boiler Building)



Description: A set of design reports was available for the building. The building engineer is required to submit the design documents to the RSC for detail review against lateral forces.

Observation-7: Inadequate connection/anchorage of steel stair. (Thermo Oil Heater & EGB Boiler Building)



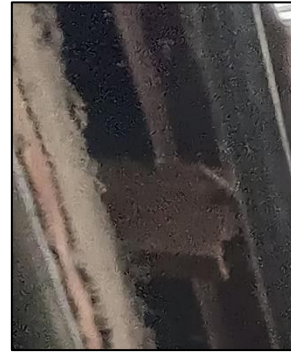
Description: Inadequate structural connections were found on steel stair to enter 2nd floor of Thermo Oil Heater & EGB Boiler Building. Building engineer is required to check the connection adequacy of the steel stair.

Observation-8: Exposed rebar on roof. (Thermo Oil Heater & EGB Boiler Building)



Description: Exposed reinforcement is left at roof and 2nd floor open area, which is prone to corrosion. Building engineer is required to remove the rust and provide rust proof coating on exposed reinforcement to protect from corrosion.

Observation-9: Adequacy of connection needs to be verified. (Diesel Generator Shed)



Description: The roof of the structure is made of light weight steel shed supported by brick wall. The connection of the steel shed with brick wall seems to be inadequate. Building engineer is required to check the adequacy of the steel connection for uplift forces.

Observation-10: Crack on Brick wall. (Fire Control & Guard room)



Description: Crack found on brick wall of Fire Control & Guard room. Building engineer is required to investigate the cause of wall cracks and repair with a suitable method.

Observation-11: Vehicle impact on slab & parapet wall. (Fire Control & Guard Room)



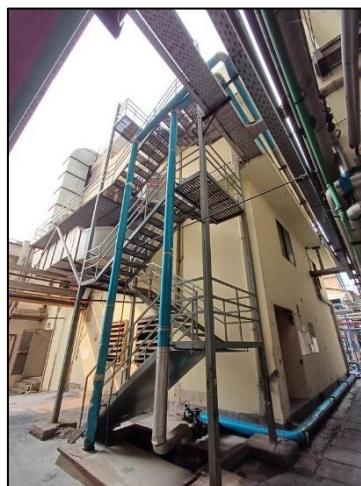
Description: Parapet walls are susceptible to vehicle impact. The building engineer is required to take necessary action to avoid the vehicle impact in the wall.

Observation-12: Structural connection between Boiler Shed and adjacent Building-3. (Boiler Shed)



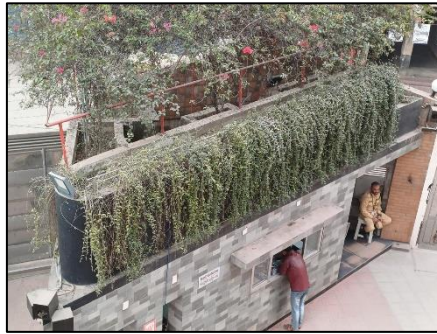
Description: The truss of the shed is supported by the slab of adjacent Building-3. The building engineer is required to suggest necessary alternatives to make the shed separate, develop proper remedial scheme and submit the design documents to the RSC for detail review.

Observation-13: Design report needs to be reviewed for lateral loading. (Generator Building)



Description: A set of design reports was available for the building. The building engineer is required to submit the design documents of the building and adjacent steel stair to the RSC for detail review against lateral forces.

Observation-14: Heavy loading on suspended floor (Security Control Post)



Description: Heavy loading on 1st floor of Security Control Post. The building engineer is required to check the slab adequacy for the imposed loading and submit the design documents to the RSC for review.

Observation-15: Lack of design document for Conveyor Belt Shed.



Description: An undocumented conveyor belt shed was observed having no design documents. The building engineer is required to prepare a set of design reports for the shed and conveyor belt and submit the design documents to the RSC for review against lateral & gravity forces.

Observation-16: Vehicle impact on the steel column of Conveyor Belt Shed.



Description: Distress due to vehicle observed on the steel column. The factory is required to provide necessary precautionary signage and barrier surrounding the susceptible steel columns to avoid further impact.

3. Action Plan

1.	Discrepancies in as-built structural drawings (Building-3).	The building engineer is required to survey the full structure and produce accurate as-built drawings.	within 6 weeks
2.	Design check required against lateral loading. (Building-3).	The factory is required to submit design documents to the RSC for detailed review against lateral loading for the existing building.	within 6 weeks
3.		Carry out suggested remedial works if required.	within 6 months
4.	Apparently non-engineered steel stair. (Building-3)	Building engineer is required to check the structural adequacy of the steel stair.	within 6 weeks
5.		Carry out suggested remedial works if required.	within 6 months
6.	Poor drainage system on roof. (Building-3)	The building engineer is required to improve the water drainage system on the roof with proper slope & adequate number of water outlets.	within 6 weeks
7.	Lack of anchorage of machine on 2 nd floor. (Building-3)	Building engineer is required to anchor all the vessel/tanks/machinery.	within 6 weeks
8.	Design report needs to be reviewed for lateral loading. (Thermo Oil Heater & EGB Boiler Building)	The building engineer is required to submit the design report to RSC for further checking considering lateral loading.	within 6 weeks
9.		Carry out suggested remedial works if required.	within 6 months
10.	Adequacy of steel stairs needs to be checked. (Thermo Oil Heater & EGB Boiler Building)	Building engineer is required to check the structural adequacy of the steel stair.	within 6 weeks
11.		Carry out suggested remedial works if required.	within 6 months
12.	Exposed rebar on roof. (Thermo Oil Heater & EGB Boiler Building)	Building engineer is required to provide rust proof coating on exposed reinforcement to protect from corrosion.	within 6 weeks
13.	Apparently inadequate connection. (Diesel Generator Shed)	Building engineer is required to check the adequacy of the steel connection for uplift forces.	within 6 weeks
14.		Carry out suggested remedial works if required.	within 6 months

15.	Crack on Brick wall. (Fire Control & Guard room)	Building engineer is required to investigate the cause of wall cracks and repair with a suitable method.	within 6 weeks
16.	Vehicle impact on wall. (Fire Control & Guard room)	The building engineer is required to take necessary action to prevent the vehicle impact in the wall.	within 6 weeks
17.	Structural connection between Boiler Shed and adjacent structure. (Boiler Shed)	The building engineer is required to suggest necessary alternatives to make the shed separate, develop proper remedial scheme and submit the design documents to the RSC for detail review.	within 6 weeks
18.		Carry out suggested remedial works.	within 6 months
19.	Design report needs to be reviewed for lateral loading. (Generator Building)	The building engineer is required to submit the design documents of the building and adjacent steel stair to the RSC for detail review against lateral forces.	within 6 weeks
20.		Carry out suggested remedial works if required.	within 6 months
21.	Heavy loading on suspended floor (WTP & Security Control Post)	The building engineer is required to check the slab adequacy for the imposed loading and submit the design documents to the RSC for review.	within 6 weeks
22.		Carry out suggested remedial works if required.	within 6 months
23.	Lack of design document for Conveyor Belt Shed.	The building engineer is required to prepare a set of design reports for the shed and conveyor belt and submit the design documents to the RSC for review against lateral & gravity forces.	within 6 weeks
24.		Carry out suggested remedial works.	within 6 months
25.	Vehicle impact on the steel column of Conveyor Belt Shed.	The factory is required to provide necessary precautionary signage and barrier surrounding the susceptible steel columns to avoid further impact.	within 6 weeks