TM Jeans Ltd

Holding-41, Ward-22, Bahadurpur, Mirzapur, Gazipur

(24.0770719, 90.3634895)

12 November 2024

RSC RMG SUSTAINABILITY COUNCIL

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1. Building Information

Building 01 (Production Building) is a six-storied (G+5) reinforced concrete (RC) structure.

Building 2 (Medical, Childcare & Dining Building) is a three-storied reinforced concrete structure.

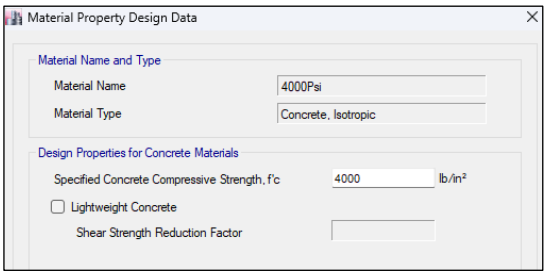
Building 3 (Utility Building) is a single-storied reinforced concrete structure.

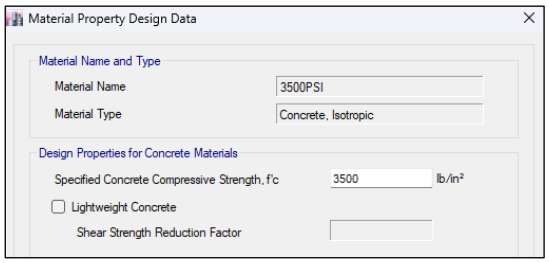
Building 4 (Security Post) is a single-storied steel shed.

Building 5 (Fire Pump Room) is a single-storied RC basement structure with a steel shed over the stair.

2. Observation

Observation-01: Lack of Engineering Assessment report. (Building 1: Production Building)





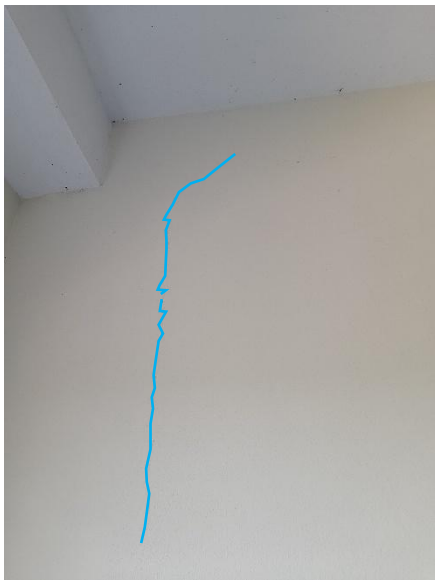
Description: During the inspection, only fourteen concrete cylinder test reports were available for the production building. Among the cylinder test reports: seven sets from the foundation, two sets from the column, two sets from the Slab and three sets from the Beam. The provided number of cylinder test reports does not meet the requirement of frequency of test as per BNBC-2020: Part-6: Section 5.12.2. In FEA model 4000psi concrete strength has been considered for column and 3500 psi for the beam & slab.

The building engineer is required to provide the adequate number of existing cylinder strength data test reports otherwise verify the in-situ concrete strength by taking at least four numbers of concrete cores from the lower tier of columns. Also, concrete cores need to be taken from the beam and slab at least four numbers based on concrete type.

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 as per BNBC.

However, the building engineer is required to prepare a full set of Engineering Assessment (EA) documents considering the capacity of structural members, floor use, in-situ material strength, and actual site condition.

Observation-02: Cracks in masonry wall. (Building 1: Production Building)



Description: Cracks in masonry walls were observed at stair case. The building engineer is required to identify the reason for the cracks and repair with suitable method.

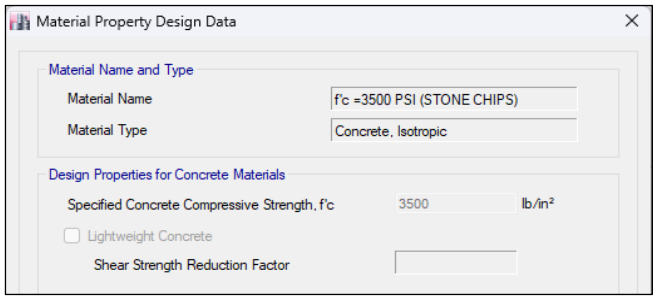
Observation-03: Dampness in the brick wall. (Building 1: Production Building)

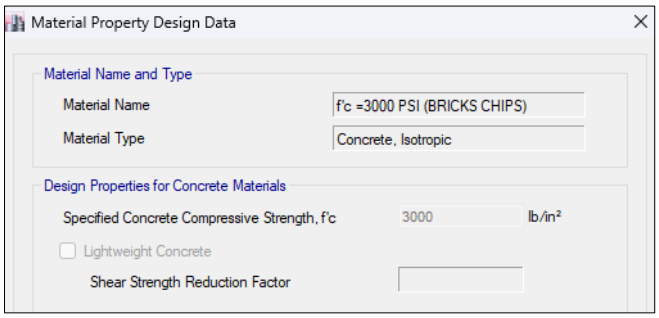
Description: During the inspection, dampness was observed on the brick wall. The building engineer is required to seal the source of water and repair the damp areas with a suitable method.

Observation-04: Non-structural elements were not found anchored or braced.
(Building 1: Production Building).

Description: Steel racks were found unbraced and not anchored. Building engineer is required to anchor or brace the non-structural elements.

Observation-05: Lack of Engineering Assessment report. (Building 2: Medical, Childcare & Dining Building).





Description: During the inspection only one sets of concrete cylinder test report from footing was available for Building-2. The provided number of cylinder test reports does not meet the requirement of test frequency as per BNBC-2020: Part-6: Section 5.12.2. In FEA model 3500 psi concrete strength has been considered for the column and 3000 psi for the beam & slab.

The building engineer is required to provide the adequate number of existing cylinder strength data test reports otherwise verify the in-situ concrete strength by taking at least four numbers of concrete cores from the lower tier of columns. Also, concrete cores need to be taken from the beam and slab at least four numbers based on concrete type.
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 as per BNBC.

However, the building engineer is required to prepare a full set of Engineering Assessment (EA) documents considering the capacity of structural members, floor use, in-situ material strength, and actual site condition.

Observation-06: Falling hazard risk on 2nd floor. (Building 2: Medical, Childcare & Dining Building)

Description Railings/barriers were missing at 2nd floor level. Also the construction materials was found stored at edge of the slab that may cause serious injuries if fall down. The building engineer is required to provide railing/barrier at 2nd floor.

Observation-07: Column seems to be slender (Building 3: Utility Building)




Description: Ground floor columns are 5.86 m in length and 300X300 mm in size. The KL/r= 33.83; indicates that the columns are slender. So, the building engineer is required to check the adequacy of the column for the slenderness.
Also, the building engineer is required to prepare a full set of Engineering Assessment (EA) for the structure.

Observation-08: Lack of as-built drawing. (Building 4: Security Post)



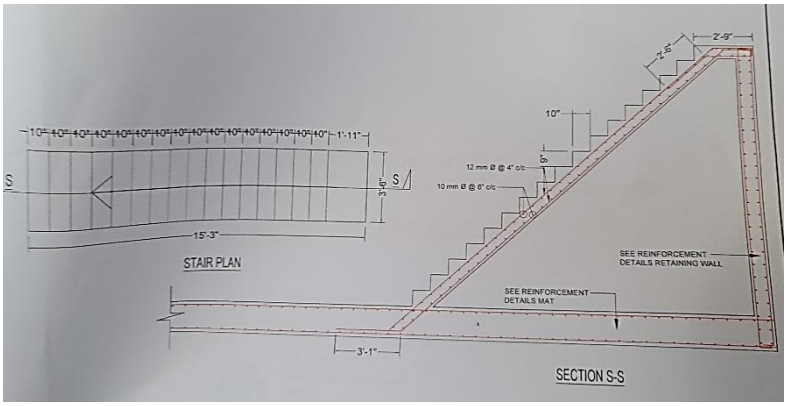
Description: This is a single-storied steel truss roof structure supported by RC column and steel lattice column. The as-built drawings were not available for the structure. The building engineer is required to survey the whole structure and prepare accurate as-built drawing.

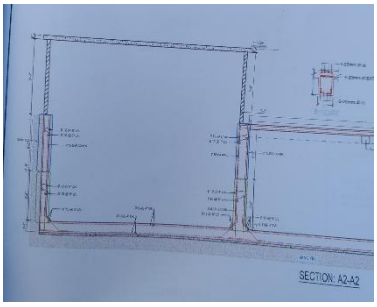
Observation-09: Non-engineered connection and distorted members. (Building 4: Security Post)




Description: The connection between the RC column and truss found to be non-engineered. Also distorted member of the lattice column was found. Building engineer is required to develop engineered connection and check the adequacy of lattice column. Submit required calculations and remedial drawing to RSC as part of Safety Check Report.

Observation-10: Mismatch in provided as-built drawing. (Building 5: Fire Pump Room)





Description: During the inspection, steel stair was found at fire pump room. But in the provided as-built drawing, RC stair has been shown. Also RC roof slab has been shown in drawing but light weight steel roof was found. The building engineer is required to update the full set of as built drawing.

Observation-11: Light-weight non-engineered steel roof (Building 5: Fire Pump Room)

Description: The steel roof of the fire pump room is non-engineered shed. Also lack of connection with the brick wall. Building engineer is required to re-place the shed with engineered shed and develop proper connection. Check the adequacy of the steel shed and connection against the uplift capacity. Submit required calculations and remedial drawing for the steel shed to RSC as part of Safety Check Report.

Observation-12: Falling hazard risk (Building 5: Fire Pump Room)

Description: During inspection, falling hazard risk was found in the fire pump room. Building engineer is required to provide barrier to mitigate the falling hazard.

3. Action Plan:

Item No.	Observation	Action Plan	Timeline
1	Lack of Engineering Assessment report. (Building 1: Production Building)	The building engineer is required to prepare the Engineering Assessment (EA) based on design/in-situ material strength. Submit EA to RSC for further review.	within 6 weeks
2	Lack of Engineering Assessment report. (Building 1: Production Building)	Provide the adequate number of existing cylinder strength data test reports otherwise verify in-situ concrete strength from column, beam and slab by taking at least 4 cores from each.	within 6 weeks
3	Lack of Engineering Assessment report. (Building 1: Production Building)	Carry out remedial work if required.	within 6 months
4	Cracks in masonry wall. (Building 1: Production Building)	The building engineer is required to identify the reason for the cracks and repair with suitable method.	within 6 weeks
5	Dampness in the brick wall. (Building 1: Production Building)	The building engineer is required to seal the source of water and repair the damp areas with a suitable method.	within 6 weeks
6	Non-structural elements were not found anchored or braced (Building 1: Production Building).	Building engineer is required to anchor or brace all the non-structural elements (steel racks)	within 6 weeks
7	Lack of Engineering Assessment report. (Building 2: Medical, Childcare & Dining Building)	The building engineer is required to prepare the Engineering Assessment (EA) based on design/in-situ material strength. Submit EA to RSC for further review.	within 6 weeks
8	Lack of Engineering Assessment report. (Building 2: Medical, Childcare & Dining Building)	Provide the adequate number of existing cylinder strength data test reports otherwise verify in-situ concrete strength from column, beam and slab by taking at least 4 cores from each.	within 6 weeks
9	Lack of Engineering Assessment report. (Building 2: Medical, Childcare & Dining Building)	Carry out remedial work if required.	within 6 months
10	Falling hazard risk on 2nd floor. (Building 2: Medical, Childcare & Dining Building)	The building engineer is required to provide railing/barrier at 2nd floor.	within 6 weeks

11	Column seems to be slender (Building 3: Utility Building)	The building engineer is required to prepare the Engineering Assessment (EA) document for the structure and submit to RSC for review.	within 6 weeks
12	Column seems to be slender (Building 3: Utility Building)	Carry out remedial work if required.	within 6 months
13	Lack of as-built drawing. (Building 4: Security Post)	The building engineer is required to survey the full structure and update the as-built drawings.	within 6 weeks
14	Non-engineered connection and distorted members. (Building 4: Security Post)	Building engineer is required to develop engineered connection and check the adequacy of lattice column. Submit required calculations and remedial drawing to RSC as part of Safety Check Report.	within 6 weeks
15	Mismatch in provided as-built drawing. (Building 5: Fire Pump Room)	The building engineer is required to survey the full structure and update the as-built drawings.	within 6 weeks
16	Light-weight non-engineered steel roof (Building 5: Fire Pump Room)	The building engineer is required to replace the shed with an engineered shed and develop the proper connection. Check the adequacy of the steel shed and connection uplift. Submit required calculations and remedial drawings to RSC as part of the Safety Check Report.	within 6 weeks
17	Falling hazard risk (Building 5: Fire Pump Room)	The building engineer is required to provide the railing/barrier to mitigate the falling hazard.	within 6 weeks