Viyellatex Limited (Extension)

297 khairtul,Tongi,Gazipur.

(23.9198555441, 90.387490388)

7 November 2023

1. Building Information

Building 3 (HR Building): Two storied RC concrete building.

Building 4 (Lab Building): Four storied partial RC concrete and partial steel building.

Building 5 (Chemical Building): Four storied partial RC concrete building.

Building 6 (Utility-3): Three storied partial RC concrete and partial masonry building.

Building 7 (Security Building): Partial two storied RC concrete building.

Building 9 (Utility-1): Partial two storied RC concrete building with steel roof shed.

Shed-4 (Boiler Room-3): Single storied steel shed.

Shed 5 (Generator room): Single storied steel shed.

Shed 7 (Workshop): Single storied steel shed.

Shed 9 (ETP): Single storied RC concrete building.

Shed 10 (Utility Scrap Room): Single storied steel shed.

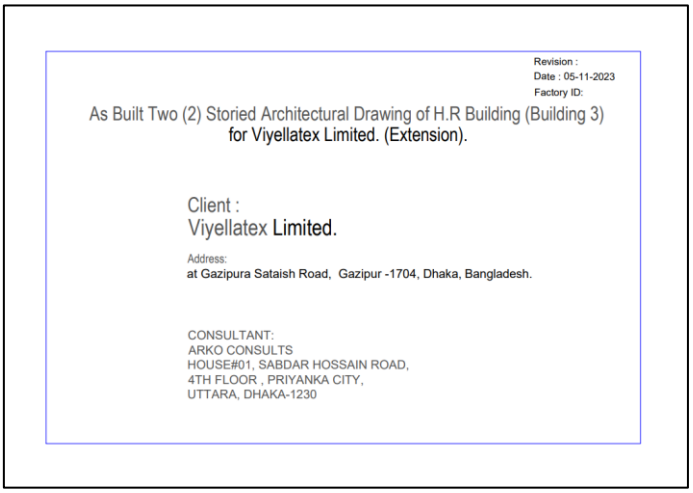
2. Observations

Observation-1: Lack of design report. (Building 3 (HR Building)).

Description: 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 documents shall include as built drawings and a design report which shall be prepared in compliance with section 1.9.1, part-6 of BNBC.

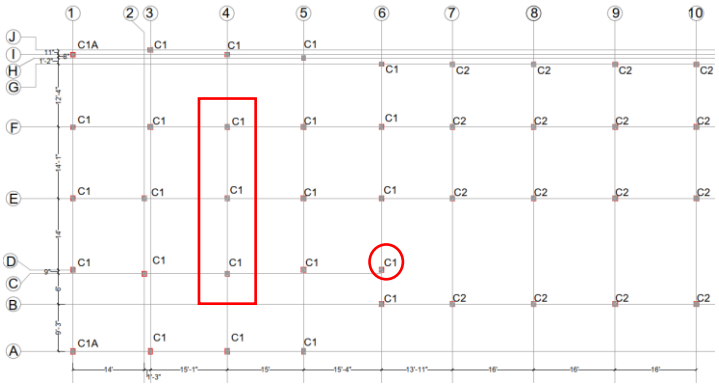
During inspection, the design report was not available on site. The building engineer is required to prepare a design report based on in-situ material strength & software-based analysis and submit it to RSC for review.

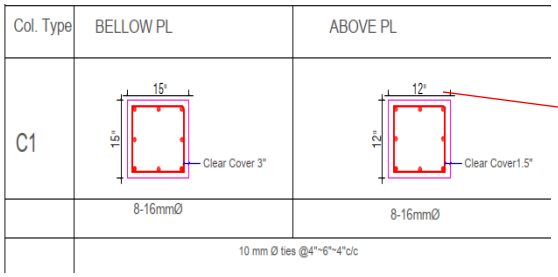
Observation-2: Lack of geotechnical investigation report. (Building-3 (HR Building)).

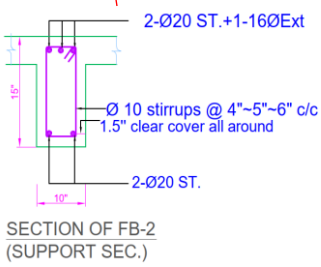


Description: The geotechnical investigation report is not available for building 3 (HR Building). A geotechnical engineer is required to prepare a Geotechnical investigation report.

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







Description: During the inspection, mismatches were found between the onsite condition and the as-built drawing.

- Marked C1 column size was found 250x300 mm instead of 300x300 mm.
- FB2 was found 250x450 mm instead of 250x375 mm.
- Diagonal truss member was found double angle L-50x50x4 instead of single angle.

However, the building engineer is required to survey the full structure and produce accurate as-built drawings.

Observation 4: Undocumented structures. (Building-3 (HR Building)).



Description: During the inspection, an undocumented canopy, and external steel stairs were found adjacent to Building 3. Design documents were not available for the canopy and stair. The building engineer is required to prepare design documents with as-built drawings reflecting the as-constructed condition.

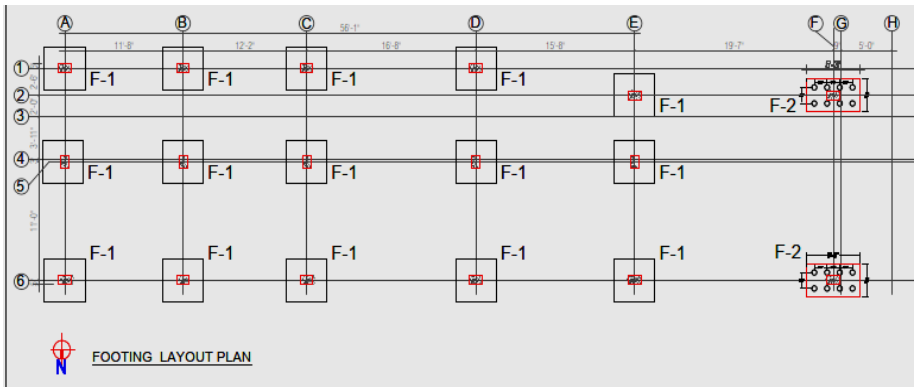
Observation 5: Crack found on false slab and wall in the toilet area. (Building-3 (HR Building)).


Description: Crack was found on false slab and wall in the toilet area. The building engineer is required to repair the crack as per the suggestion of the building engineer.

Observation-6: Dampness of brick wall (Building-3 (HR Building)).

Description: Dampness found on brick wall of building 3. The building engineer is required to identify the source of dampness, and take remedial measures to repair the wall accordingly.

Observation-7: Lack of design documents (Building 04 – Lab Building).



Description: Sub-soil investigation report, material strength test report, and details of footing (No dimension was mentioned in the footing layout) were not available on site. The building engineer is required to carry out an Engineering Assessment (EA) based on in-situ material strength and submit it to RSC for review.

Observation-8: Corrosion on steel member (Building 04 – Lab Building).

Corrosion on the steel beam

Corrosion on the water tank supporting structure

Description: Corrosion was found on several steel members. The building engineer is required to apply rust-proof paint on the corroded member.

Observation-9: Dampness of brick wall (Building 04 – Lab Building).

Description: Dampness found on the brick wall of the store building. The factory is required to identify the source of dampness, and take remedial measures to repair the wall accordingly.

Observation-10: Water clogging on the roof. (Building 04 – Lab Building).

Description: Water clogging was observed on the roof of the building. The building engineer is required to develop a proper drainage system on the roof with an adequate slope to resist water ingress.

Observation-11: Lack of lateral stability of steel stair (Building 04 – Lab Building).

Description: No bracing was observed. The building engineer is required to check lateral stability as part of EA and submit it to RSC for review.

Observation-12: Lack of design report (Building 05 - Chemical Building).

Description: As per BNBC, every building or structure designed shall have its design documents prepared by the provision of Section 1.9.1. During the inspection, the design report and soil test report were not available on site.

The building engineer is required to prepare a set of design documents including as-built drawings, live load plan and a design report based on in-situ material strength and software-based analysis which shall be prepared in compliance with section 1.9.1, part-6 of BNBC.

Observation 13: Falling hazard at roof level (Building 05 – Chemical Building).

Description: Falling hazard was observed on the roof. The building engineer is required to provide a barrier to avoid falling hazards.

Observation-14: Damage column due to trolley impact (Building 05 – Chemical Building).

Description: Damage column was found due to trolley impact. The building engineer is required to repair the damaged column and provide a barrier to avoid trolley impact.

Observation-15: Non-engineered steel stair (Building 05 – Chemical Building).

Description: Non-engineered steel stair was found on the west side of the building. The building engineer is required to check the member, connection & stability system of the structure and suggest proper remediation accordingly.

Observation-16: Corrosion on steel stair (Building 05 – Chemical Building).

Description: Corrosion was found in several steel members. The building engineer is required to apply rust-proof paint on the corroded member.

Observation-17: Absence of design report (Building-6: Utility-3).

Description: As per BNBC, every building or structure designed shall have its design documents prepared by the provision of Section 1.9.1. The design documents shall include as-built drawings and a design report which shall be prepared in compliance with section 1.9.1, part 6 of BNBC.

During inspection, the design report was not available on site. The building engineer is required to prepare a design report in compliance with section 1.9.1, part 6 of BNBC.

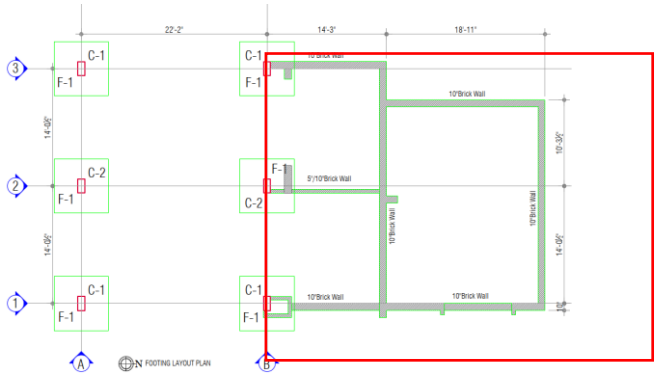
Observation-18: Lack of lateral stability (Building-6: Utility-3).

Description: Lateral stability is provided through truss frame action only, but no roof/wall bracing/compression member is provided therefore there is no obvious lateral stability system in this shed. The building engineer is required to check the lateral stability of the shed.

Observation-19: Apparently inadequate connection (Building-6: Utility-3).

Description: The steel truss frame is inserted into the brick wall poorly without any proper connection. The building engineer is required to check the connection adequacy of the steel members.

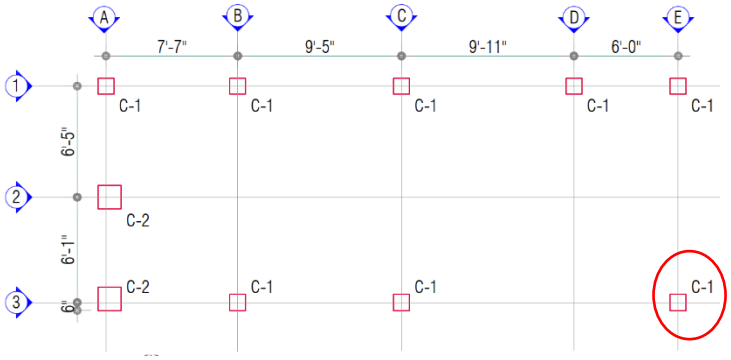
Observation-20: Missing information in as-built drawing (Building-6: Utility-3).



Foundation details not provided for masonry part.

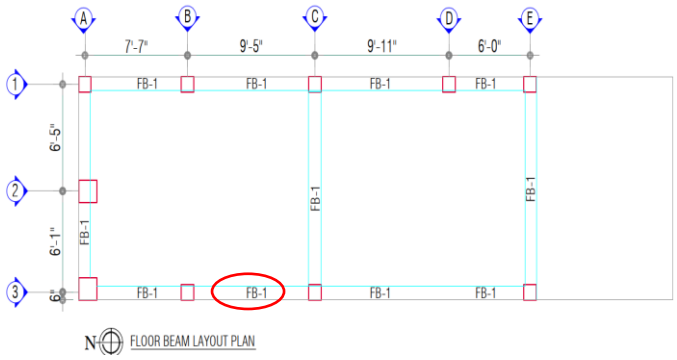
Description: Foundation information and details are only provided for the RC part. No foundation details were provided for the masonry part. The building engineer is required to update the as-built drawing.

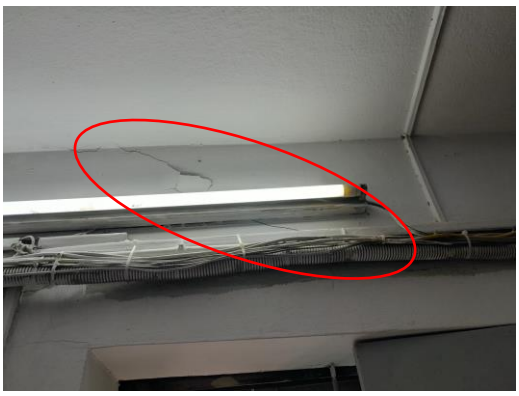
Observation-21: Damage column on the ground floor. (Building 7 (Security Building))



Description: A damaged column was observed at this structure location marked in the column layout. The building engineer is required to produce an investigation report regarding the extent of the damage column and provide remedial measures accordingly.

Observation-22: Beam crack observed at ground floor roof beam. (Building 7 (Security Building))





Description: A beam crack was observed at this structure location marked in the beam layout. The building engineer is required to produce an investigation report regarding the extent of the crack and provide remedial measures accordingly.

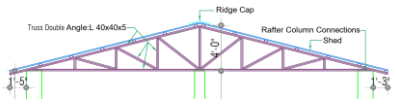
Observation-23: Lack of design report. (Building 9 (Utility-01)).



Description: As per BNBC, every building or structure designed shall have its design documents prepared by the provision of Section 1.9.1. The design documents shall include as-built drawings and a design report which shall be prepared in compliance with section 1.9.1, part 6 of BNBC.

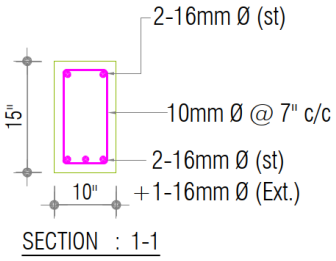
During inspection, the design report was not available on site. The building engineer is required to prepare a design report based on in-situ material strength & software-based analysis and submit it to RSC for review.

Observation-24: Discrepancies in as-built drawings. (Building 9 (Utility-01)).



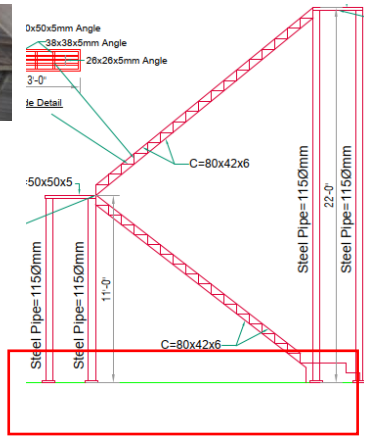
Truss sectional drawing

Boiler room onsite truss condition



FB1 beam section

Ground floor onsite beam condition



Steel Stair

Description: During the inspection, some discrepancies were observed between as built drawing and the on-site condition.

- FB1 was found to be 250x500 instead of 250x375.
- In the truss frame all diagonal members were found single angle 40x40x5 instead of double angle 40x40x5.
- Foundation layout & details were missing for the external steel stair.

Observation 25: Damage beam & column in the boiler room. (Building 9 (Utility-01))

Description: Damage beam & column was observed in the boiler room of building 9. The building engineer is required to produce an investigation report regarding the extent of damage beam & column and provide remedial measures accordingly.

Observation 26: Verify clear cover of RC column under water. (Building 9 (Utility-01))

Description: During inspection, one RC column was found underwater. The building engineer is required to verify the clear cover of the RC column and take necessary remedial measures if required.

Observation-27: Absence of design report (Shed-4).

Description: 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 documents shall include as built drawings and a design report which shall be prepared in compliance with section 1.9.1, part-6 of BNBC. During inspection, the design report was not available on site. The building engineer is required to prepare a design report in compliance with BNBC 1.9.1.

Observation-28: Corrosion on steel members (Shed-4).

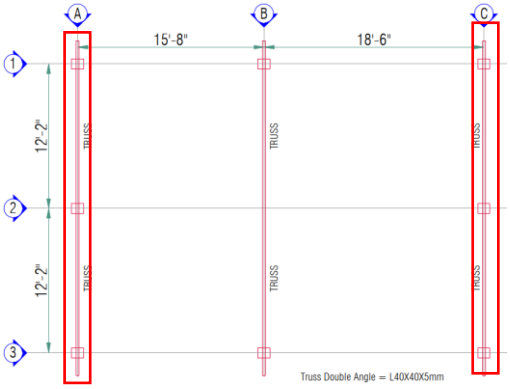
Description: Corrosion was found on steel members. Factory is required to provide rust proof paint on steel members.

Observation-29: Lack of design report. (shed 5 (Generator room)).

Description: As per BNBC, every building or structure designed shall have its design documents prepared following the provision of Section 1.9.1. The design documents shall include as-built drawings and a design report which shall be prepared in compliance with section 1.9.1, part 6 of BNBC.

During inspection, the design report was not available on site. The building engineer is required to prepare a design report based on in-situ material strength & software-based analysis and submit it to RSC for review.

Observation-30: Discrepancies in as-built drawings. (Shed 5 (Generator room)).



Description: During the inspection, some discrepancies were observed between as-built drawing and the on-site condition. The truss frame was not found at grids A & C.

However, The building engineer is required to survey the full structure and produce accurate as-built drawings.

Observation-31: Hairline crack on tie beam. (Shed 5 (Generator room)).

Description: During inspection hairline crack observed on tie beam. The building engineer is required to investigate the type of crack and provide remedial measures if required.

Observation-32: Lack of lateral stability system (Shed 07 - Workshop).

Poor Connection

Description: Lack of lateral stability system, apparent inadequate members and non-engineered connection were observed. The building engineer is required to check the member, connection & stability system of the structure and suggest proper remediation accordingly.

3. Action Plan

Observation	Action Plan	Timeline
Lack of design report. (Building 3 (HR Building)).	The building engineer is required to prepare a design report based on in-situ material strength & software-based analysis and submit it to RSC for review.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
	Produce and actively manage a floor live load plan for all floors of the building based on floor, column & foundation capacity.	within 6 weeks
	Continue implementing an allowable floor load plan.	within 6 months
Lack of geotechnical investigation report. (Building-3 (HR Building)).	A geotechnical engineer is required to prepare a Geotechnical investigation report.	within 6 months
Discrepancies in as-built drawings (Building-3 (HR Building)).	The building engineer is required to survey the full structure and produce accurate as-built drawings.	within 6 weeks
Undocumented structures. (Building-3 (HR Building)).	The building engineer is required to prepare design documents with as-built drawings reflecting the as-constructed condition.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Crack was found on the false slab and wall in the toilet area. (Building-3 (HR Building)).	The factory is required to repair the crack as per the suggestion of the building engineer.	within 6 weeks
Dampness of brick wall (Building-3 (HR Building)).	The building engineer is required to identify the source of dampness and take remedial measures to repair the wall accordingly.	within 6 weeks
Lack of design documents (Building 04 – Lab Building).	The building engineer is required to carry out an Engineering Assessment (EA) based on in-situ material strength and submit it to RSC for review.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Corrosion on steel member (Building 04 – Lab Building).	The building engineer is required to apply rust-proof paint on the corroded member.	within 6 weeks
Dampness of brick wall (Building 04 – Lab Building).	The building engineer is required to identify the source of dampness and take remedial measures to repair the wall accordingly.	within 6 weeks
Water clogging the roof. (Building 04 – Lab Building).	The building engineer is required to develop a proper drainage system on the roof with an adequate slope to resist water ingress.	within 6 weeks

Lack of lateral stability of steel stair (Building 04 – Lab Building).	The building engineer is required to check lateral stability as part of EA and submit it to RSC for review.	within 6 weeks
	Carry out remedial works if required.	within 6 months
Lack of design report (Building 05 - Chemical Building).	The building engineer is required to prepare a set of design documents including as-built drawings and a design report.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Falling hazard at roof level (Building 05 – Chemical Building).	The building engineer is required to provide a barrier to avoid falling hazards.	within 6 weeks
Damage column due to trolley impact (Building 05 – Chemical Building).	The building engineer is required to repair the damaged column and provide a barrier to avoid trolley impact.	within 6 weeks
Non-engineered steel stair (Building 05 – Chemical Building).	The building engineer is required to check the member, connection & stability system of the structure and suggest proper remediation accordingly.	within 6 weeks
	Carry out remedial works if required.	within 6 months
Corrosion on steel stair (Building 05 – Chemical Building).	The building engineer is required to apply rust-proof paint on the corroded member.	within 6 weeks
Absence of design report (Building-6: Utility-3)	The building engineer is required to prepare a design report in compliance with section 1.9.1, part 6 of BNBC.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Lack of lateral stability (Building-6: Utility-3).	The building engineer is required to check the lateral stability of the shed.	within 6 weeks
Apparently inadequate connection (Building-6: Utility-3).	The building engineer is required to check the connection adequacy of the steel members.	within 6 weeks
Missing information in as-built drawing (Building-6: Utility-3).	The building engineer is required to update as-built drawings.	within 6 weeks
Damage column on the ground floor. (Building 7 (Security Building))	The building engineer is required to produce an investigation report regarding the extent of the damage column and provide remedial measures accordingly.	Immediate
	Carry out suggested remedial works where required.	within 6 weeks

Beam crack observed at ground floor roof beam. (Building 7 (Security Building))	The building engineer is required to produce an investigation report regarding the extent of the crack and provide remedial measures accordingly.	Immediate
	Carry out suggested remedial works where required.	within 6 months
Lack of design report. (Building 9 (Utility-01)).	The building engineer is required to prepare a design report based on in-situ material strength & software-based analysis and submit it to RSC for review.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Discrepancies in as-built drawings. (Building 9 (Utility-01)).	The building engineer is required to survey the full structure and produce accurate as-built drawings.	within 6 weeks
Damage beam & column in the boiler room. (Building 9 (Utility-01))	The building engineer is required to produce an investigation report regarding the extent of damage beam & column and provide remedial measures accordingly.	within 6 weeks
	Carry out suggested remedial works where required.	within 6 months
Verify clear cover of RC column under water. (Building 9 (Utility-01))	The building engineer is required to verify the clear cover of the RC column and take necessary remedial measures if required.	within 6 months
Absence of design report (Shed-4)	The building engineer is required to prepare a set of design reports in compliance with section 1.9.1, part 6 of BNBC.	within 6 weeks
	Carry out remedial works if required.	within 6 months
Corrosion on steel members (Shed-4).	Factory is required to provide rust-proof paint on steel members.	within 6 months
Lack of design report. (shed 5 (Generator room)).	The building engineer is required to prepare a design report based on in-situ material strength & software-based analysis and submit it to RSC for review.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Discrepancies in as-built drawings. (Shed 5 (Generator room)).	The building engineer is required to survey the full structure and produce accurate as-built drawings.	within 6 weeks
Hairline crack on tie beam. (Shed 5 (Generator room)).	The building engineer is required to investigate the type of crack and provide remedial measures if required.	within 6 weeks
Lack of lateral stability system (Shed 07 - Workshop).	The building engineer is required to check the member, connection & stability system of the structure and suggest proper remediation accordingly.	within 6 weeks
	Carry out remedial works if required.	within 6 months