

Knit Concern Ltd (Extension)

62, Water Works Road Godnail, Narayangonj.

(23.640958, 90.513462)

22 January 2025



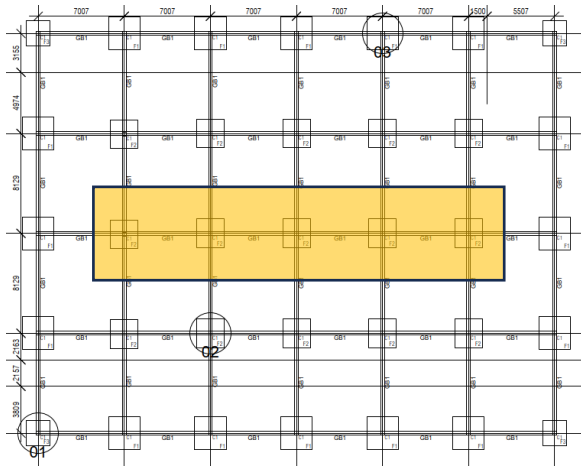
1. Building information

1. Shed 1 Chemical Godown
2. Shed 2 Raw Fabric Store
3. Shed 3 Yarn Godown
4. Shed 4 (Diesel Generator & Chiller Building)
5. Shed 6 (Yarn Dyeing)
6. Shed 9 (Dyeing KCL)
7. Shed 14 (New Thermal Boiler)
8. Shed 17 (Boiler & Generator Room (Beside Yarn Dyeing))
9. Compressor, Fire Control & Pump Room
10. Sub Station (DPDC) Room
11. Security Room.

2. Observation

Observation 1: Stress in foundation above the normal design limit (Shed 1 Chemical Godown).	
	
Description: Cursory calculation indicates that stress in foundation exceeds normal design limit considering the live load of 6 kPa on the 1st floor, 1 kPa on the roof sheet, allowable soil bearing capacity 1 ksf (FoS:2.5), concrete strength 14.1 MPa minimum for brick chips and considered conservative geometric properties of foundation. The building engineer is required to carry out a Detailed Engineering Assessment (DEA) to check the foundation adequacy and prepare a remedial scheme.	
Observation 2: Lack of lateral Stability of the shed (Shed 1 Chemical Godown).	
	
Description: Lack of lateral load resistance system observed in the shed: missing compression strut, moment resisting connection in the long direction. The building engineer is required to check the lateral stability of the structure as part of DEA.	
Observation 3: Incomplete retrofitting works and as-built drawing (Shed 1 Chemical Godown).	
	
Description: Incomplete retrofitting works were observed. Lack of information observed in the as-built drawing and there was no substructural detail in the prepared drawings. The building engineer is required to survey the structure and prepare accurate as-built drawings including the retrofitting and substructural details.	

Observation 4: High stress in column and foundation that requires immediate design review (Shed 2-Row Fabric Store).



Description: Cursory calculation indicates the high stress in the column and foundation (punching) at the marked locations considering the live load of 4 kPa on the 1st floor, 1 kPa on the roof sheet, minimum steel strength (248 MPa), and minimum concrete strength (14.1 MPa).

The building engineer is required to check the column, foundation adequacy check and carry out a Detailed Engineering Assessment (DEA).

Observation 5: Lack of lateral stability (Shed 2-Row Fabric Store).



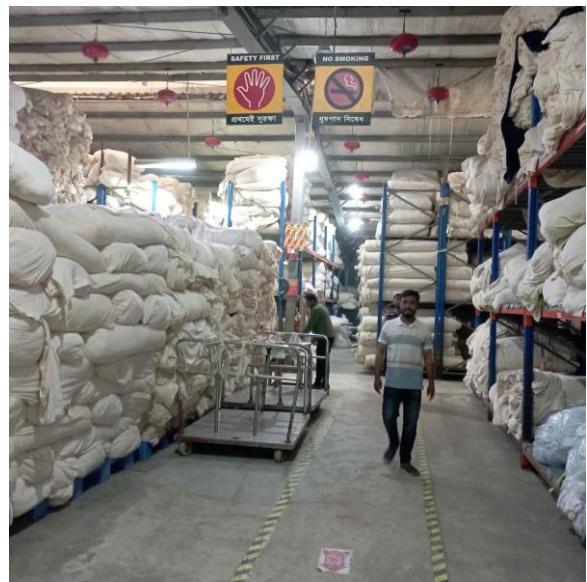
Description: Lateral load transfer media is not provided to transfer the lateral load. As part of DEA, the building engineer is required to check the lateral stability of the structure and prepare remedial scheme.

Observation 6: Column plaster damage due to trolley impact (Shed 2-Raw Fabric Store).



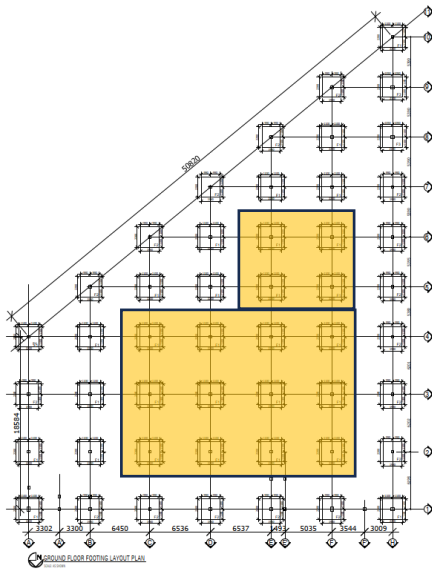
Description: Column plaster was found damaged due to trolley impact. The building engineer is required to repair the damaged plaster and provide the column guard to prevent trolley impact.

Observation 7: Non-structural elements found not anchored/braced (Shed 2-Raw Fabric Store).



Description: Nonstructural elements (storage racks) were found not anchored/braced. The building engineer is required to anchor/brace all nonstructural elements within the factory.

Observation 8: High stress in foundation that requires immediate design review (Shed 3 Yarn Godown).



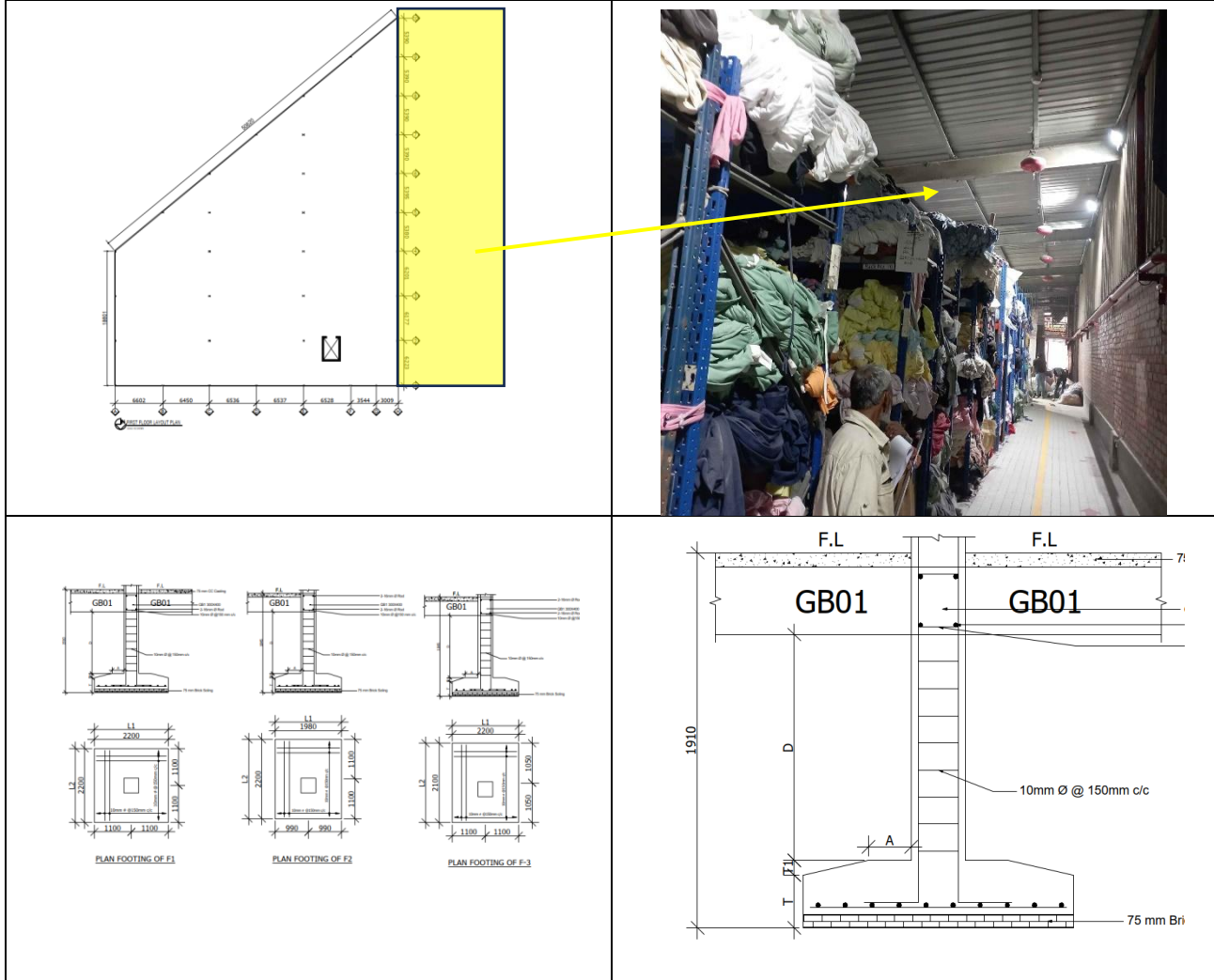
Description: cursory calculation indicates the high stress in foundation at the marked locations considering the live load of 4 kPa on the 1st floor, 1 kPa on the roof sheet, allowable soil bearing capacity 1 ksf (FoS:2.5) assuming the footing depth 1.5 m considering the onsite condition and found of adjacent structures (footing depth from EGL not shown). The building engineer is required to carry out a Detailed Engineering Assessment (DEA) to check the foundation adequacy and prepare necessary remedial scheme.

Observation 9: Lack of lateral stability (Shed 3 Yarn Godown).

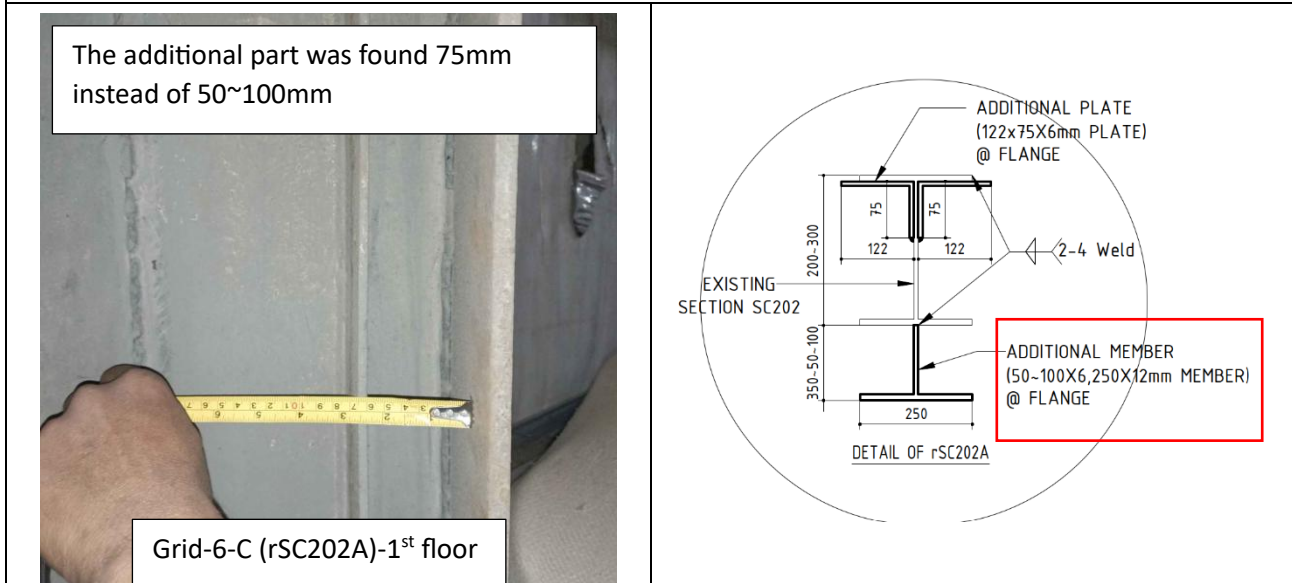


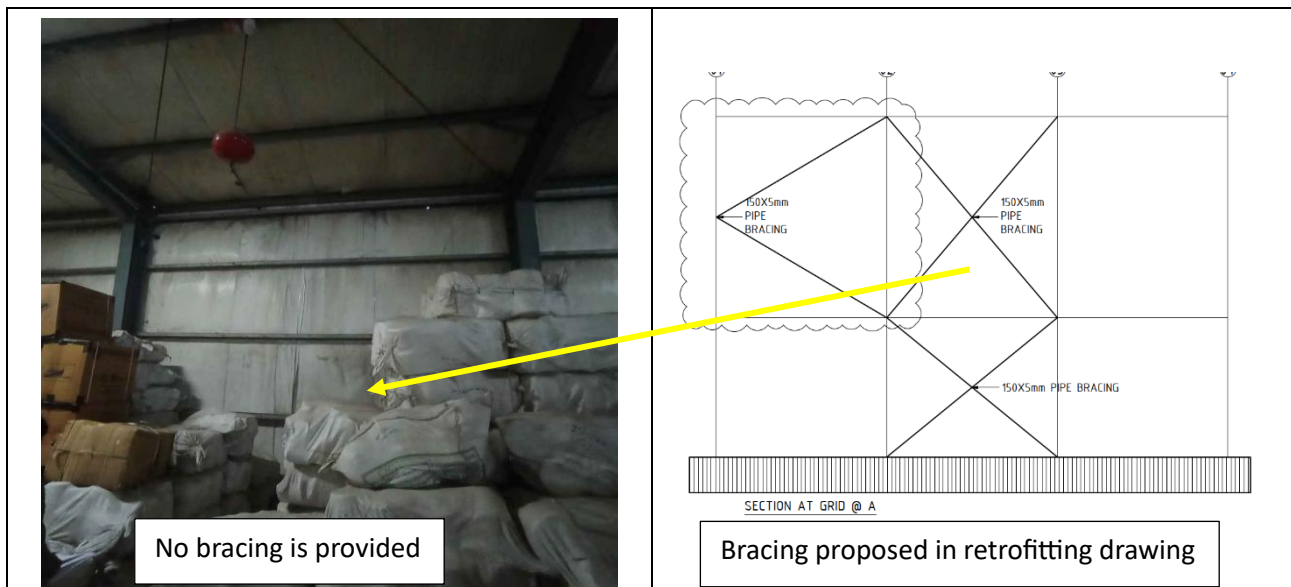
Description: Lateral load transfer media is not provided to transfer the lateral load. As part of DEA, the building engineer is required to check the lateral stability of the shed.

Observation 10: Discrepancy/missing information in as built and retrofitting drawing (Shed 3 Yarn Godown).



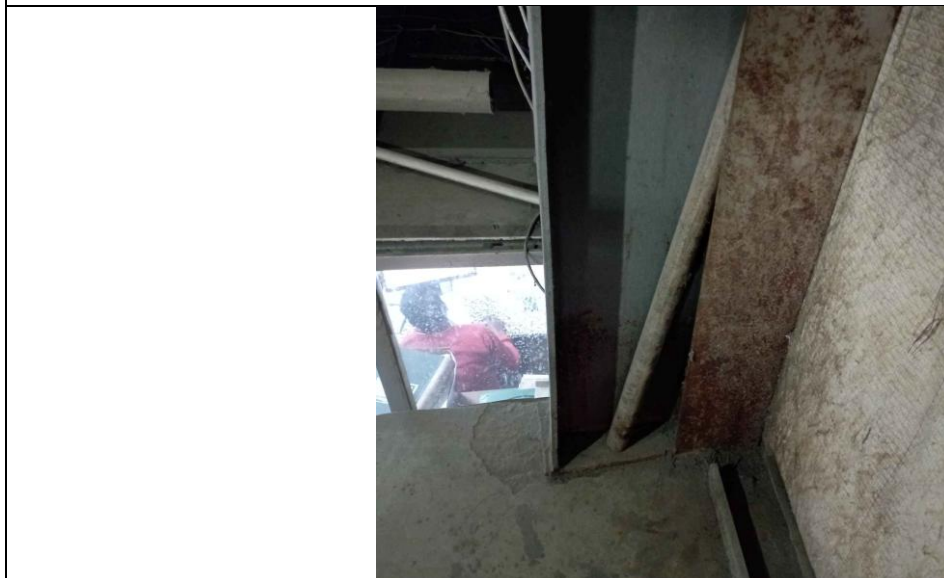
Description: An Undocumented single-storied shed was found structurally connected at the west side. The building engineer is required to update the as built drawing.





Description: Discrepancy found between retrofitting drawing and on site condition. The building engineer is required to update the retrofitting drawing.

Observation 11: Corrosion on steel members (Shed 3 Yarn Godown).



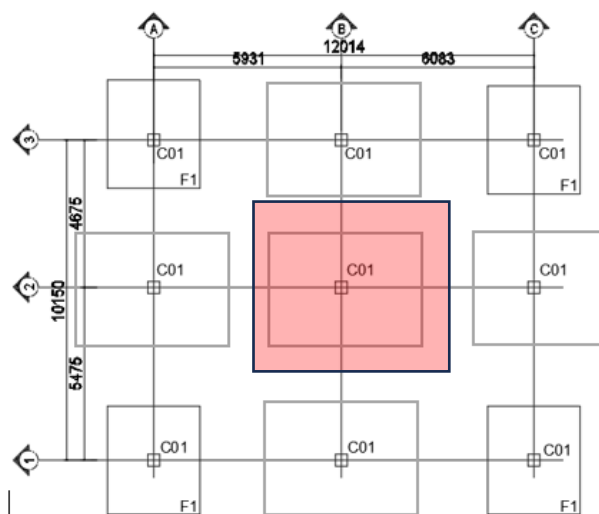
Description: Corrosion was observed on steel members at several locations. The building engineer is required to remove the corrosion and provide rust-proof paint on steel members.

Observation-12: Non-structural elements found not anchored/braced (Shed 3 Yarn Godown).



Description: Nonstructural elements (storage racks) were found not anchored/braced. The building engineer is required to anchor/brace all nonstructural elements within the factory.

Observation 13: High stress in foundation that requires immediate design review (Shed 4 Diseal Generator & Chiller Building).

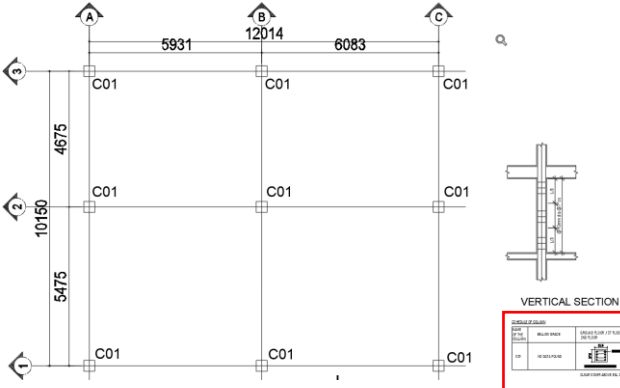
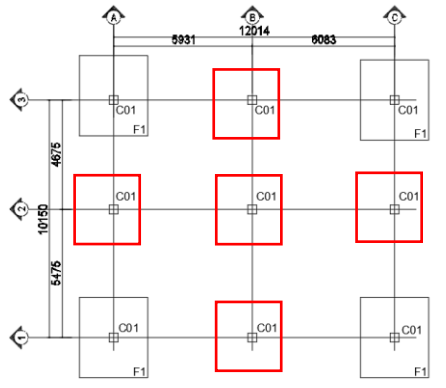


Shed 4 (Diseal Generator & Chiller Building)

Foundation layout

Description: Cursory calculation indicates the high stress in foundation at the marked locations considering the live load of 2 kPa on the 1st floor, 1 kPa on the roof sheet, allowable soil bearing capacity 1 ksf (FoS:2.5) assuming the footing depth 1.6 m considering the onsite condition and found of adjacent structures (footing depth from EGL not shown). The building engineer is required to carry out a Detailed Engineering Assessment (DEA) to check the foundation adequacy and prepare remedial scheme.

Observation 14: Incomplete as built drawing (Shed 4 Diseal Generator & Chiller Building).

	
<u>Column layout and schedule</u>	<u>Foundation layout</u>
	
PVC water tank	External steel stair
Description: During inspection a set of drawings was found on site for the structure. But pedestal column and foundation layout information were found incomplete. Also, the external steel stair and PVC water tank were not shown in the drawing. The building engineer is required to survey the full structure and prepare complete drawings also check the stability system.	
Observation 15: Lack of lateral stability (Shed 4 Diseal Generator & Chiller Building)	
	
Description: Lateral load transfer media is not provided to transfer the lateral load. The building engineer is required to carry out an Engineering Assessment (EA) to check the lateral stability of the shed and suggest necessary remedial action.	

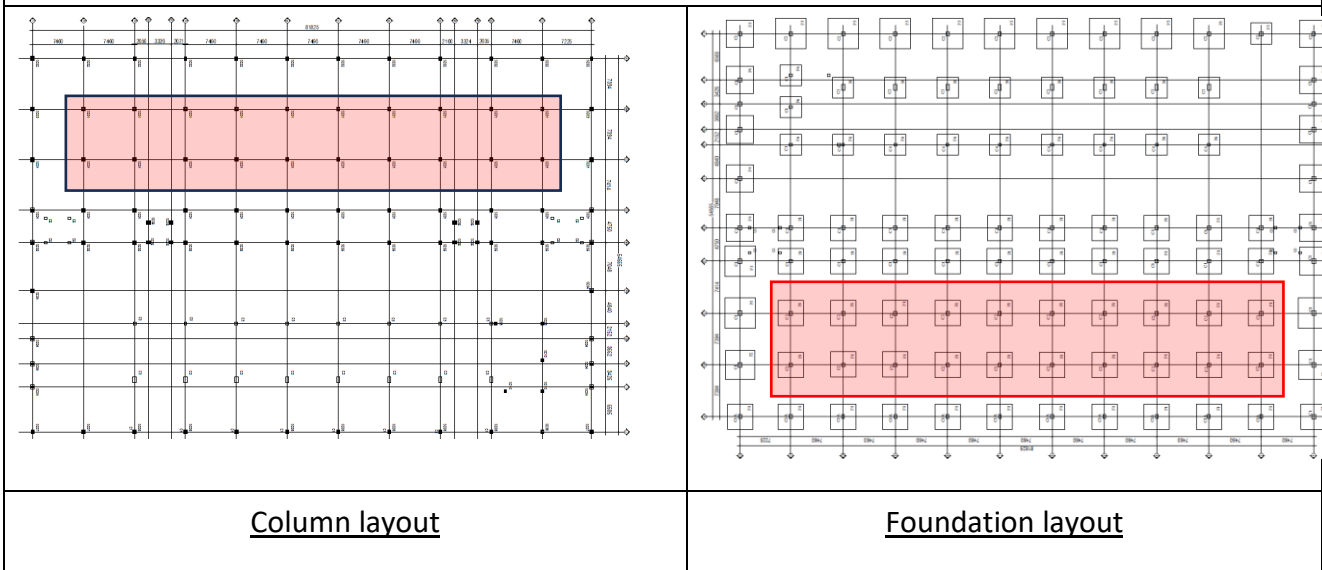
Observation 16: Severe corrosion on steel member of steel stair. (Shed 4 Diseal Generator & Chiller Building).



Corrosion on steel member of steel stair

Description: During inspection, severe corrosion has been identified on a steel member of the steel stair. The corrosion has significantly compromised the structural integrity of the affected component, posing potential safety hazards such as reduced load-bearing capacity, material deterioration, and increased risk of failure. Remove the corrosion/rust and apply anti-corrosive coating to the affected steel member, also provide adequacy of the external steel stair based on effective plate thickness.

Observation 17: High stress in column and foundation that requires immediate design review (Shed 6 Yarn Dyeing).



Description: cursory calculation indicates the high stress in Steel column and foundation at the marked locations considering the live load of 4.8 kPa on the 1st floor, 1 kPa on the roof sheet. Also, allowable soil bearing capacity 1 ksf (FoS 2.50) assuming the footing depth 1.5 m, considering the onsite condition & adjacent structures (footing depth from EGL not shown). The building engineer is required to carry out a Detailed Engineering Assessment (DEA) and check the steel column foundation adequacy.

Observation 18: Uncontrolled floor load management. (Shed 6 Yarn Dyeing).



Description: During inspection, uncontrolled floor loading placement was found on the 1st and 2nd floor. The building engineer is required to provide load restriction height marking in the storage zone as per accepted floor load plan.

Observation 19: Incomplete as built drawing (Shed 6 Yarn Dyeing).

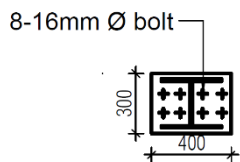


SCHEDULE OF COLUMN

NAME OF THE COLUMN	BELOW GRADE	ABOVE GRADE
C1		
C1A		
C2		
C3		
C4		
C5		

Steel column not continued as per drawing.

Rebar information missing in RC column schedule



Detail of JP03
Thickness: 12mm



FOOTING SCHEDULE

MF.NO	FOOTING SIZE (mm)	THICKNESS			C	REINFORCEMENT
		T1	T2	T(T1+T2)		
F1	3600 X 3600	300	100	400	250	26-16 mm Ø BOTHWAY
F2	4200 X 4200	300	150	450	300	35-16 mm Ø BOTHWAY
F3	4350 X 4350	300	150	450	300	39-16 mm Ø BOTHWAY
F4	3900 X 3900	300	150	450	300	31-16 mm Ø BOTHWAY
F5	4350 X 4350	300	150	450	300	30-16 mm Ø BOTHWAY
F6	3000 X 3000	250	125	375	250	17-16 mm Ø BOTHWAY

SCHEDULE OF COLUMN			
NAME	SECTION	DETAIL	REMARKS
C1			
C1A			
C2			
C3			
C4			
C5			

Connection details missing

Pedestal column Foundation details missing

Description: During inspection, a set of as built drawings were found on site, but lack of information was observed in the drawing. Also, an undocumented steel mezzanine was found which was not shown in provided drawing. The building engineer is required to survey the full structure and produce accurate as-built drawing for the structure and submit to RSC for review along with DEA report.

Observation 20: Lack of lateral stability (Shed 6 Yarn Dyeing).



Shed 6



Roof Framing system

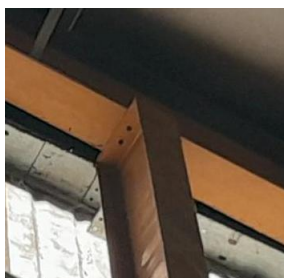
Description: During inspection, Lateral load transfer media is not provided to transfer the lateral load at roof shed. Also, no vertical bracing was found provided. The building engineer is required to check the lateral stability of the structure as part of DEA.

Observation 21: Severe corrosion on steel member of steel column. (Shed 6 Yarn Dyeing).



Corrosion on steel member

Description: Corrosion was observed on steel members at several locations. The building engineer is required to remove the corrosion and provide rust-proof paint on steel members.

Observation 22: Slab punch and exposed rebar on the mezzanine floor. (Shed 6 Yarn Dyeing).			
			
<u>Slab punch on the mezzanine floor</u>			
Description: During inspection, slab punch was observed in slab of mezzanine floor, also corroded exposed rebar was observed. The building engineer is required to check for slab adequacy around the opening and repair exposed corroded rebar of slab.			
Observation 23: Connection gap and bolt missing. (Shed 6 Yarn Dyeing).			
			
<u>Bolt missing</u>		<u>Connection gap</u>	
Description: Few bolts were missing, and connection gaps were observed in several places. The building engineer is required to identify all affected areas, provide adequate bolts, and repair all connection gaps using a suitable method.			

Observation 24: Lack of lateral stability (Shed 9 (Dyeing KCL)).	
	
<u>Absence of lateral load transfer media</u>	<u>Bracing disconnected</u>
Description: Lateral load transfer media is not provided to transfer the lateral load at roof shed. Also, few vertical bracings was found disconnected. The building engineer is required to carry out EA to check the lateral stability of the structure and suggest necessary remedial measures.	
Observation 25: Crack on ground floor slab and column. (Shed 9 (Dyeing KCL)).	
	
<u>Column crack due to demolition works</u>	<u>Ground floor crack</u>
Description: During inspection, cracks were found on columns and ground floor of Shed 9 both parts. The building engineer is required to investigate the reason & extent of cracks and produce an investigation report with a repair methodology. Submit investigation report to RSC for review.	

Observation-26: Lack of design documents (Shed 14 New Thermal Boiler).



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 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. At the time of inspection, a design report was not available. Also, no drawing was available for the substructure. The building engineer is required to prepare a full set of as-built drawings and a Detailed Engineering Assessment (DEA) for the structure.

Observation-27: Lack of design documents (Shed 17 Boiler & Generator Room (Beside Yarn Dyeing)).



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 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. At the time of inspection, a design report was not available. Also, no drawing was available for the substructure. The building engineer is required to prepare a full set of as-built drawings and a Detailed Engineering Assessment (DEA) for the structure.

Observation 28: Crack on ground floor slab and 1st floor slab. (Shed 17 Boiler & Generator Room).



Crack on 1st floor slab

Crack on Ground floor slab

Description: During inspection, cracks were found on 1st floor slab and ground floor of Shed 17 and mezzanine floor. The building engineer is required to investigate the reason & extent of cracks and produce an investigation report with a repair methodology. Submit investigation report to RSC for review.

Observation-29: Lack of design documents (Compressor, Fire Control & Pump Room).



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 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. At the time of inspection, a design report was not available. Also, no drawing was available for the substructure. The building engineer is required to prepare a full set of as-built drawings and a Detailed Engineering Assessment (DEA) for the structure.

Observation-30: Lack of as-built drawing (Security Room).



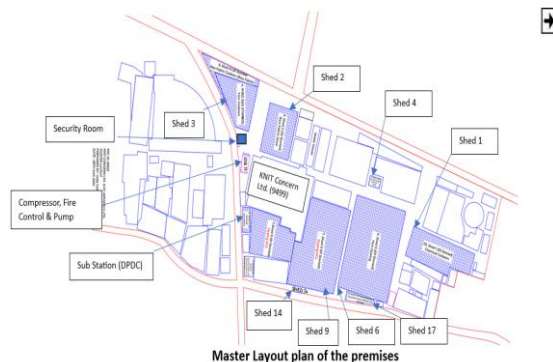
Description: No as-built drawing was available of the structure. The building engineer is required to prepare a full set of as-built drawings

Observation-31: Unclear load path (Substation Room).



Description: The structural system of the structure was observed as a mix of flat slab and beam-column. However, at one place a beam was found as cantilevered. The load path was unclear. The building engineer is required to prepare an Engineering Assessment (EA) to check the stability of the structure.

Observation 32: Structural connection of the building (Shed 6, Shed 9, Shed 17).



Description: During the inspection, the structures were found connected with the adjacent structures. The building engineers is required to investigate the structures and determine the structural connections. Analysis of the structures is required to be carried out based on the structural connections.

3. Action Plan

Item No.	Observation	Action Plan	Timeline
1.	Stress in foundation above the normal design limit (Shed 1 Chemical Godown).	The building engineer is required to carry out a Detailed Engineering Assessment (DEA).	within 6 weeks
2.		Produce and actively manage load plan	within 6 weeks
3.		Verify in-situ concrete and steel strength.	within 6 weeks
4.		Implement remediation work from DEA.	within 6 months
5.		Implement load plan.	within 6 months
6.	Lateral Stability of the shed (Shed 1 Chemical Godown).	The building engineer is required to check the lateral stability of the shed.	within 6 weeks
7.	Incomplete retrofitting works and as-built drawing (Shed 1 Chemical Godown).	The building engineer is required to survey the structure and prepare an accurate and detailed as-built drawing.	within 6 weeks
8.	High stress in column and foundation that requires immediate design review (Shed 2-Raw Fabric Store).	The building engineer is required to carry out a Detailed Engineering Assessment (DEA).	Immediate
9.		Produce and actively manage load plan	within 6 weeks
10.		Verify in-situ concrete and steel strength.	within 6 weeks
11.		Implement remediation work from DEA.	within 6 months
12.		Implement load plan.	within 6 months
13.	Lack of lateral stability (Shed 2-Raw Fabric Store).	The building engineer is required to check the lateral stability of the structure.	within 6 weeks
14.	Column plaster damage due to trolley impact (Shed 2-Raw Fabric Store).	The building engineer is required to repair the damaged plaster and provide the column guard to prevent trolley impact.	within 6 weeks
15.	Non-structural elements found not anchored/braced (Shed 2-Raw Fabric Store).	The building engineer is required to anchor/brace all nonstructural elements within the factory.	within 6 months

16.	High stress in foundation that requires immediate design review (Shed 3 Yarn Godown).	The building engineer is required to carry out a Detailed Engineering Assessment (DEA).	Immediate
17.		Produce and actively manage load plan	within 6 weeks
18.		Verify in-situ concrete and steel strength.	within 6 weeks
19.		Implement remediation work from DEA.	within 6 months
20.		Implement load plan.	within 6 months
21.	Lack of lateral stability (Shed 3 Yarn Godown).	The building engineer is required to check the lateral stability of the structure.	within 6 weeks
22.	Discrepancy in as built and retrofitting drawing (Shed 3 Yarn Godown).	The building engineer is required to update the as-built and retrofitting drawing.	within 6 weeks
23.	Corrosion on steel members (Shed 3 Yarn Godown).	The building engineer is required to remove the corrosion and provide rust-proof paint on steel members.	within 6 weeks
24.	Nonstructural elements found not anchored/braced (Shed 3 Yarn Godown).	The building engineer is required to anchor/brace all nonstructural elements within the factory.	within 6 months
25.	High stress in column and foundation that requires immediate design review (Shed 4-Diseal, Generator and Chiller).	The building engineer is required to carry out a Detailed Engineering Assessment (DEA).	Immediate
26.		Produce and actively manage load plan	within 6 weeks
27.		Verify in-situ concrete and steel strength.	within 6 weeks
28.		Implement remediation work from DEA.	within 6 months

29.	Incomplete as-built drawing (Shed 4-Diseal, Generator and Chiller).	Prepare detailed and accurate as-built drawing	within 6 weeks
30.		Check the adequacy of the stair.	within 6 weeks
31.		Implement the remedial works where necessary.	within 6 months
32.	Lack of lateral Stability of the shed (Shed 4-Diseal, Generator and Chiller).	The building engineer is required to check the lateral stability of the shed.	within 6 weeks
33.	Severe corrosion on steel member of steel stair. (Shed 4 Diseal Generator & Chiller Building).	Remove the corrosion/rust and apply anti-corrosive coating to the affected steel member.	within 6 weeks
34.	High stress in column and foundation that requires immediate design review (Shed 6-Yarn Dyeing).	The building engineer is required to carry out a Detailed Engineering Assessment (DEA).	Immediate
35.		Produce and actively manage load plan	within 6 weeks
36.		Verify in-situ concrete and steel strength.	within 6 weeks
37.		Implement remediation work from DEA.	within 6 months
38.	Uncontrolled floor load management. (Shed 6 Yarn Dyeing).	The building engineer is required to provide storage area and load restriction height marking as per accepted floor load plan.	within 6 weeks
39.	Incomplete as built drawing (Shed 6 Yarn Dyeing).	The building engineer is required to survey the full structure and produce accurate as-built drawing for the structure and submit to RSC for review along with DEA report.	within 6 weeks
40.	Lack of lateral stability (Shed 6 Yarn Dyeing).	The building engineer is required to check the lateral stability of the shed.	within 6 weeks
41.	Severe corrosion on steel member of steel column. (Shed 6 Yarn Dyeing).	The building engineer is required to remove the corrosion and provide rust-proof paint on steel members.	within 6 weeks

42.	Slab punch and exposed rebar on the mezzanine floor. (Shed 6 Yarn Dyeing).	The building engineer is required to check for slab adequacy around the opening and repair exposed corroded rebar of slab.	within 6 weeks
43.	Connection gap and bolt missing. (Shed 6 Yarn Dyeing).	The building engineer is required to identify all affected areas, provide adequate bolts, and repair all connection gaps using a suitable method.	within 6 weeks
44.	Lack of lateral stability (Shed 9 (Dyeing KCL).	The building engineer is required to check the lateral stability of the structure.	within 6 weeks
45.		Implement remediation work from DEA.	within 6 months
46.	Crack on ground floor slab and column. (Shed 9 (Dyeing KCL).	The building engineer is required to investigate the identified cracks and produce an investigation report, along with a detailed repair methodology, must be submitted to RSC.	within 6 weeks
47.	Lack of design documents (Shed 14 New Thermal Boiler).	The building engineer is required to prepare a full set of as-built drawings and a Detailed Engineering Assessment (DEA) for the structure.	within 6 weeks
48.		Implement remediation work from DEA.	within 6 months
49.	Lack of design documents (Shed 17 Boiler & Generator Room (Beside Yarn Dyeing)).	The building engineer is required to prepare a full set of as-built drawings and a Detailed Engineering Assessment (DEA) for the structure.	within 6 weeks
50.		Implement remediation work from DEA.	within 6 months
51.	Crack on ground floor slab and 1st floor slab. (Shed 17 Boiler & Generator Room).	The building engineer is required to investigate the identified cracks and produce an investigation report, along with a detailed repair methodology, must be submitted to RSC.	within 6 weeks
52.	Lack of design documents (Compressor, Fire Control & Pump Room).	The building engineer is required to carry out a Detailed Engineering Assessment (DEA).	within 6 weeks
53.		Implement remediation work from DEA.	within 6 months

54.	Lack of as-built drawing (Security Room).	The building engineer is required to update the as-built and retrofitting drawing.	within 6 weeks
55.	Unclear load path (Substation Room).	The building engineer is required to carry out a Detailed Engineering Assessment (DEA).	within 6 weeks
56.		Implement remediation work if required.	within 6 months
57.	Structural connection of the building (Shed 6, Shed 9, Shed 17).	The building engineer is required to investigate the structures and determine the structural connections. Analysis of the structures is required to be carried out based on the structural connections.	within 6 weeks