Pacific Cotton Ltd. (Extension)

Village: Amtoli, Union: Habirbari, P.O: Seed Store Bazar, P.S: Valuka, District: Mymensingh

(24.315079, 90.384629)

24 October 2024

RSC RMG SUSTAINABILITY COUNCIL

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1. Executive Summary

1) Dormitory Building
2) Building– 3
3) Maintenance office with workshop
4) Childcare
5) Wastage Store
6) Staff Dining
7) WTP Shed
8) RMS Room
9) 3-MLD ETP Building
10) Gatehouse

2. Observation:

Observation-01: Foundation found to be stressed. (Dormitory Building)

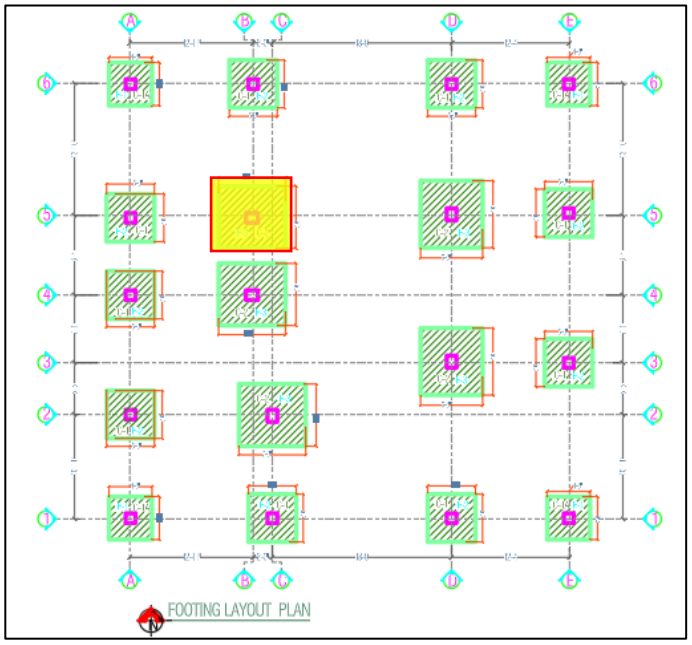


Table No. 03

MGE

ALLOWABLE BEARING CAPACITY (qa) OF SOIL FOR FOOTING IN TSF

CLIENT Cotton Group.
PROJECT Const. of Proposed Storied Dormitory Building
LOCATION Habir Bari, Amtoli, Bhaluka, Mymensingh.

Boring no	Depth in Ft	ALLOW ABLE BEARING CAPACITY IN TSF			
		C/N	Nc	Y°	qa
				t/cuf	
1	1.50	0.063	5.7	0.0256	0.208
	3.00	0.312	5.7	0.0288	0.877
	4.50	0.500	5.7	0.0304	1.395
2	1.50	0.125	5.7	0.0264	0.362
	3.00	0.250	5.7	0.0280	0.724
	4.50	0.437	5.7	0.0296	1.239
3	1.50	0.125	5.7	0.0264	0.362
	3.00	0.063	5.7	0.0256	0.261
	4.50	0.250	5.7	0.0280	0.778
4	1.50	0.125	5.7	0.0264	0.362
	3.00	0.063	5.7	0.0256	0.261
	4.50	0.312	5.7	0.0288	0.931

FACTOR OF SAFETY=3.0

TABLE NO-03.

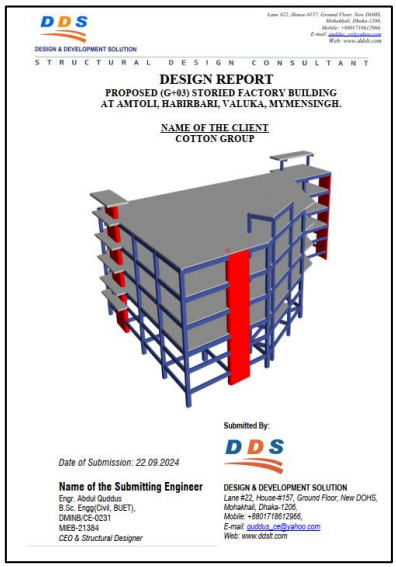
Ref. Foundation Design- Wayne C. Teng page-58
Ref. Foundation Analysis & Desigh - Josph E. Bowls Fifth Edition Page - 263.264.

Description: Cursory calculation indicates the marked footing is stressed for bearing. The loading is considered 3 kPa for a typical floor and the bearing capacity of the soil was considered 0.72 ksf as per soil test report. The building engineer is required to review the design load and foundation stresses.

Observation-02: Poor roof drainage system. (Dormitory Building)

Description: During inspection, water ponding was observed on the roof. The building engineer is required to improve the roof drainage system.

Observation-03: Inconsistencies and lack of information in the design report. (Building-3)


DDS
DESIGN & DEVELOPMENT SOLUTION
STRUCTURAL DESIGN CONSULTANT
DESIGN REPORT
PROPOSED (G+03) STORIED FACTORY BUILDING
AT AMTOLI, HABIRBARI, VALUKA, MYMENSINGH.
NAME OF THE CLIENT
COTTON GROUP
Submitted By:
DDS
Date of Submission: 22.09.2024
Name of the Submitting Engineer
Engr. Abdul Quddus
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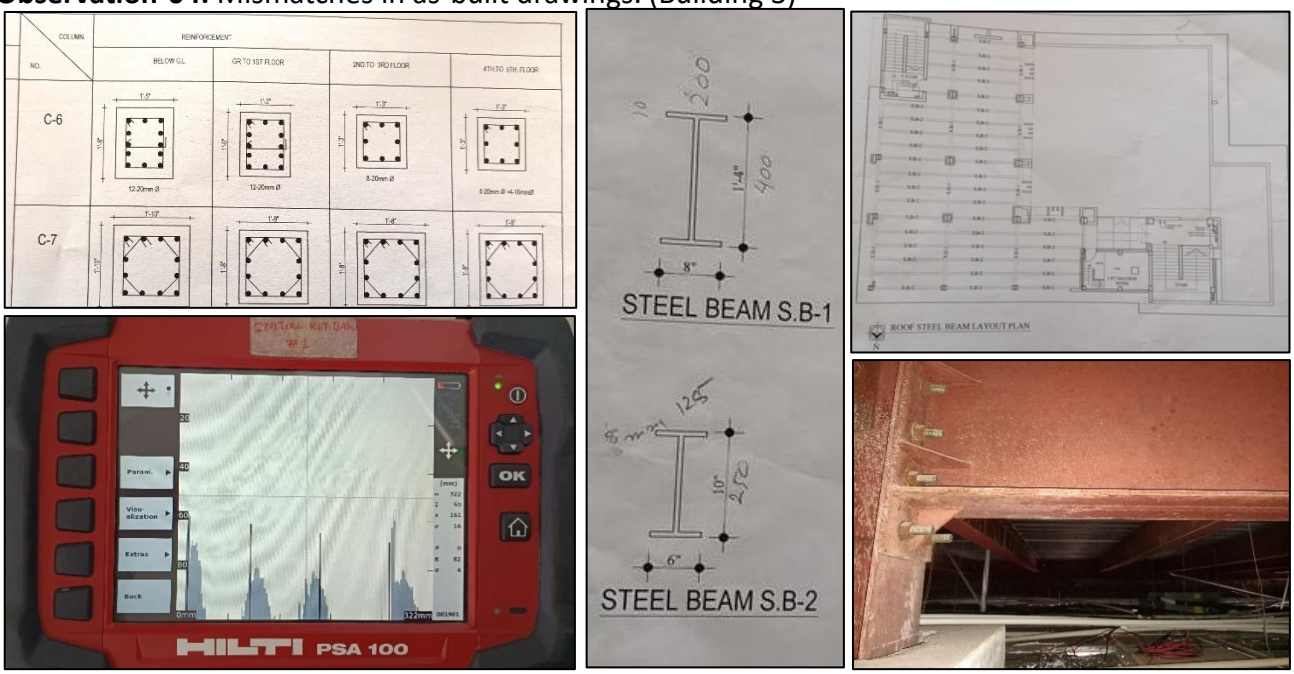
Description: Inconsistencies and lack of information observed in the design report. Absence of detail calculation of the seismic design parameters, and seismic detailing calculation of the framing system. Concrete cylinder test data calculation and confirmation are not mentioned in the design report. Slab adequacies check and eccentric footing adequacy check are not mentioned in the design report.
The building engineer is required to prepare the design report as per BNBC 1.9.

Observation-04: Mismatches in as-built drawings. (Building 3)



Description: The number of rebars in the periphery column (C-6 type) was found to be 4 nos on the long face instead of 5 nos. On the other hand, steel member thickness and connection details were not found in the provided drawings for the roof shed.

The building engineer is required to survey the whole structure and prepare a full set of as-built drawings.

Observation-05: Poor roof drainage system. (Building 3)


Description: During inspection, water ponding was observed on the roof. The building engineer is required to improve the roof drainage system.

Observation-06: Inadequate connection against uplift forces for the staircase roof structure. (Building 3)


Description: Poor connection details were observed on the staircase roof structure. The building engineer is required to check the connection adequacy against uplift forces and propose improvement plan for the connection.

Observation-07: Crack in the brick wall. (Building 3)


Description: Crack was observed on the brick wall and RC column joint. The building engineer is required to investigate the reason and repair the crack as per recommendation.

Observation-08: Lack of As-built drawing. (Maintenance Office with Workshop)

Description: The as-built drawing wasn't observed in the shed. The building engineer is required to prepare the as-built drawing.

Observation-09: Lack of lateral stability and inadequate member size. (Maintenance Office with Workshop)

Description: Lack of lateral stability system (bracing & strut) observed in the shed. The building engineer is required to prepare a safety check report according to the Accord Building Standard to address this issue.

Observation-10: Lack of As-built drawing. (Childcare)

Description: The as-built drawing wasn't observed in the shed. The building engineer is required to prepare the as-built drawing.

Observation-11: Lack of lateral stability systems (bracing & strut). (Childcare)

Description: Lack of lateral stability systems (bracing & strut) observed in the shed. The building engineer is required to prepare a safety check report according to the Accord Building Standard to address this issue.

Observation-12: Lack of As-built drawing. (Wastage Store)

Description: The as-built drawing wasn't observed in the shed. The building engineer is required to prepare the as-built drawing.

Observation-13: Lack of lateral stability systems (bracing & strut) and inadequate member size. (Wastage Store)

Description: Lack of lateral stability systems (bracing & strut) observed in the shed. The building engineer is required to prepare a safety check report according to the Accord Building Standard to address this issue.

Observation-14: Lack of As-built drawing. (Staff Dining)

Description: The as-built drawing wasn't observed in the shed. The building engineer is required to prepare the as-built drawing.

Observation-15: Lack of lateral stability systems (bracing & strut). (Staff Dining)

Description: Lack of lateral stability systems (bracing & strut) observed in the shed. The building engineer is required to prepare a safety check report according to the Accord Building Standard to address this issue.

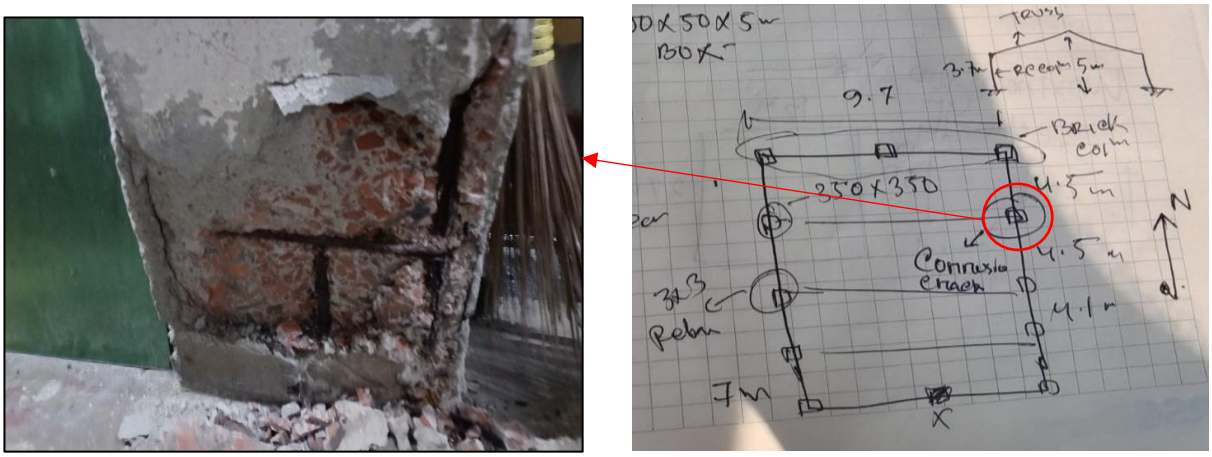
Observation-16: Lack of As-built drawing. (WTP Shed)

Description: The as-built drawing wasn't observed in the shed. The building engineer is required to prepare the as-built drawing.

Observation-17: Lack of lateral stability. (WTP Shed)

Description: Lack of lateral stability observed in the shed. The building engineer is required to prepare a safety check report according to the Accord Building Standard to address this issue.

Observation-18: Crack in RC column. (WTP Shed)



Description: Corrosion-related crack was found on the periphery column. The building engineer is required to investigate the reason for the crack and suggest proper remedial actions. The factory is required to implement remedial actions.

Observation-19: Lack of As-built drawing. (RMS Room)

Description: The as-built drawing wasn't observed in the building. The building engineer is required to prepare the as-built drawing.

Observation-20: Stress in slender columns and crane supported on beam/slab and columns. (3-MLD ETP Building)

Description: During inspection, some slender columns were found on ETP. Also, a heavy-loaded crane was supported on beam/slab and columns. However, no assessment report was available on site to confirm the capacity of columns. The building engineer is required to prepare the design report considering slender column & crane loading.

3. Action Plan

Item No	Observation	Action Plan	Timeline
1	Foundation found to be stressed. (Dormitory Building)	The building engineer is required to review the design load and foundation stresses.	within 6 weeks
2		Produce and actively manage a loading plan for all floor plates within the factory, considering floor, column, and foundation capacity.	within 6 weeks
3		verify in-situ concrete strength by taking concrete cores or existing cylinder test data that meets BNBC 5.12.	within 6 weeks
4		Carry out the suggested remedial work if required.	within 6 months
5	Poor roof drainage system. (Dormitory Building)	The building engineer is required to improve the roof drainage system.	within 6 months
6	Inconsistencies and lack of information in the design report. (Building-3)	The building engineer is required to prepare the design report as per BNBC 1.9.	within 6 weeks
7		Verify in-situ concrete strength by taking the core test from lower tier columns (100 mm diameter min 4 nos)	within 6 weeks
8		Carry out the suggested remedial work if required.	within 6 months
9	Mismatches in as-built drawings. (Building 3)	The building engineer is required to survey the whole structure and prepare a full set of as-built drawings.	within 6 weeks
10	Poor roof drainage system. (Building 3)	The building engineer is required to improve the roof drainage system.	within 6 months
11	Connection improvement of the staircase roof structure. (Building 3)	The building engineer is required to check the connection adequacy against uplift forces and propose improvement plans for the existing connections.	within 6 weeks
12		Carry out remedial work where required	within 6 months
13	Crack in the brick wall. (Building 3)	The building engineer is required to investigate the reason and repair the crack as per recommendation.	within 6 weeks

14	Lack of as-built drawing. (Maintenance Office with Workshop)	The building engineer is required to prepare the as-built drawing.	within 6 weeks
15	Lack of lateral stability. (Maintenance Office with Workshop)	The building engineer is required to prepare a safety check report according to the Accord Building Standard to address this issue.	within 6 weeks
16		Carry out remedial work where required	within 6 months
17	Lack of As-built drawing. (Childcare)	The building engineer is required to prepare the as-built drawing.	within 6 weeks
18	Lack of lateral stability. (Childcare)	The building engineer is required to prepare a safety check report according to the Accord Building Standard to address this issue.	within 6 weeks
19		Carry out remedial work where required	within 6 months
20	Lack of As-built drawing. (Wastage Store)	The building engineer is required to prepare the as-built drawing.	within 6 weeks
21	Lack of lateral stability. (Wastage Store)	The building engineer is required to prepare a safety check report according to the Accord Building Standard to address this issue.	within 6 weeks
22		Carry out remedial work where required	within 6 months
23	Lack of As-built drawing. (Staff Dining)	The building engineer is required to prepare the as-built drawing.	within 6 weeks
24	Lack of lateral stability. (Staff Dining)	The building engineer is required to prepare a safety check report according to the Accord Building Standard to address this issue.	within 6 weeks
25		Carry out remedial work where required	within 6 months
26	Lack of As-built drawing. (WTP Shed)	The building engineer is required to prepare the as-built drawing.	within 6 weeks

27	Lack of lateral stability. (WTP Shed)	The building engineer is required to prepare a safety check report according to the Accord Building Standard to address this issue.	within 6 weeks
28		Carry out remedial work where required	within 6 months
29	Crack in RC column. (WTP Shed)	The building engineer is required to investigate the cracked column and suggest proper remedial works.	Immediate
30		Carry out remedial work where required	within 6 weeks
31	Lack of As-built drawing. (RMS Room)	The building engineer is required to prepare the as-built drawing.	within 6 weeks
32	Stress in slender columns and crane supported on beam/slab and columns. (3-MLD ETP Building)	The building engineer is required to prepare the design report considering slender column & crane loading.	within 6 weeks
33		Carry out remedial work where required.	within 6 months

Survey Limitations and Assumptions

This report is for the private and confidential use of RSC for whom it was prepared together with their professional advisors as appropriate. It should not be reproduced as a whole or in part or relied upon by third parties for any use without the express written permission of RSC.

This report can be used in discussion with the supplier or factory owner to rectify or address any observations made. The report is not comprehensive and is limited to what could be observed during a visual inspection of the building.

This Report is not intended to be treated as a generalized inspection and does not cover the deterioration of structural members through dampness, fungal or insect attack, nor does it deal with problems and defects of a non-structural nature. Other non-structural aspects of the building such as fire safety have not been assessed in this survey.

Except as otherwise noted, drains and other services were not viewed or tested during our inspection and are therefore similarly excluded from this Report. We have not inspected any parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect.

External inspection of the façade walls has generally been carried out from ground level only by visual sighting. No opening up works were carried out (except as noted) and we relied on the Architects and Engineers drawings provided to us for our views on concealed parts of the structure and in particular foundations. Strengths of materials and components are untested, and we recommend that the factory owners Building Engineer carries out in situ testing over and above those suggested to satisfy themselves with the material strengths and component details.

Recommendations, given, are for the purpose of providing indicative advice only, are not exhaustive, relate solely to identifying key and obvious structural defects as identified in this presentation, and do not take the form of or constitute a specification for works. We take no responsibility for the construction. This report does not interfere with the factory owners Building Engineers responsibility for the structural performance of this building, The Building Engineer remains fully responsible for the structural adequacy of the building.

This report does not comment in detail on the future seismic performance of the building and only highlights the fact that the building may experience significant damage or collapse in a seismic event along with many others in the Dhaka region.

The observations in this report are based on the Engineering Judgement of the lead surveyor/engineer at the time of the survey. We assume in making these observations that no covering up of faults defects, filling or plastering over cracking or significant repair work has been carried out by the building owner. Any future alteration or additional work by the building owner will void this report.