Arabi Fashion Ltd (Extension)

Bokran, Monipur, Gazipur Sadar, Gazipur
(24.126219, 90.394475)
16th June 2022

RSC RMG SUSTAINABILITY COUNCIL

Buildings Information

1. Dining Building (G+3)
2. Sewing Thread Storage Shed (single storied shed)
3. Security Building (single storied)

Observations

Prepared DEA report needs to be revised

Observations: Extended Building-1

4. LOAD COMBINATIONS

R.C.C structural members have been designed as per BNBC 2006.

1. 1.4D
2. 1.4D+1.7L
3. 0.9D+1.3(W or 1.1E)
4. 0.75[1.4D+1.7(W or 1.1E)]
5. 0.75[1.4D+1.7L+1.7(W or 1.1E)]

D =Dead Load, L= Live Load, W= Wind Load, E= Earthquake Load

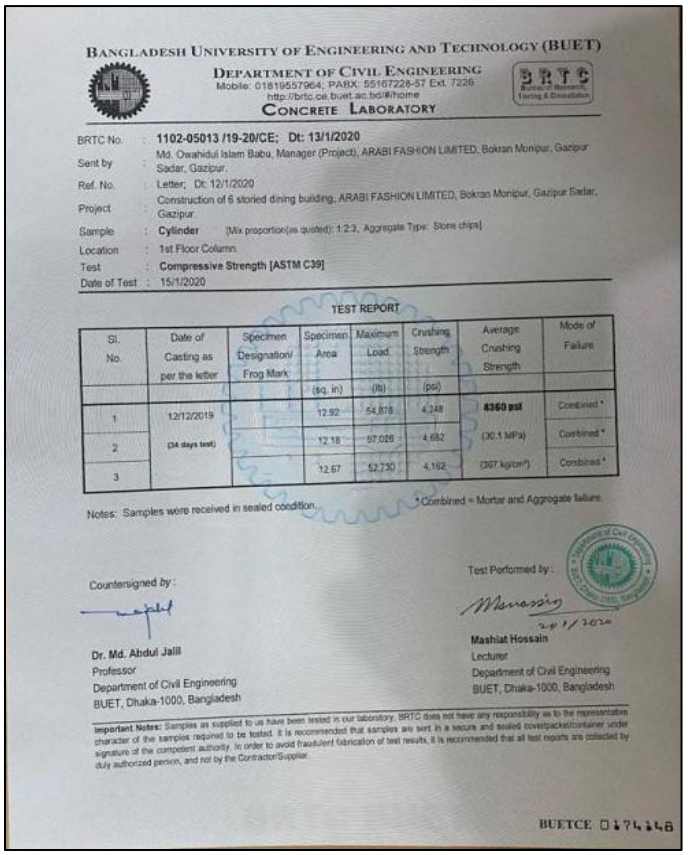
5. MATERIAL PROPERTY

The factory management has provided all the material test reports that they have done d construction of the Building. All the material test reports are attached in **Appendix-2**.

As per Structural Engineer Consideration and Provided Material Test Reports, the follo properties have been considered Analysis:

- Concrete compressive strength, f'c=3500 psi (Footing & Column) & f'c= 3000 psi (Beam, Slab & Others).
- Steel yield strength, fy= 72.5 ksi.

Material strength (3500 psi) considered in DEA report



BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET)
DEPARTMENT OF CIVIL ENGINEERING
Mobile: 01819557964; PABX: 55167228-57 Ext. 7226
http://brtc.ce.buet.ac.bd/#/home
CONCRETE LABORATORY

BRTC No. : 1102-05013 /19-20/CE; Dt: 13/1/2020
Sent by : Md. Owahidul Islam Babu, Manager (Project), ARABI FASHION LIMITED, Bokran Monipur, Gazipur Sadar, Gazipur.
Ref. No. : Letter; Dt: 12/1/2020
Project : Construction of 6 storied dining building, ARABI FASHION LIMITED, Bokran Monipur, Gazipur Sadar, Gazipur.
Sample : Cylinder [Mix proportion(as quoted): 1:2:3, Aggregate Type: Stone chips]
Location : 1st Floor Column.
Test : Compressive Strength [ASTM C39]
Date of Test : 15/1/2020

TEST REPORT

Sl. No.	Date of Casting as per the letter	Specimen Designation/ Frog Mark	Specimen Area	Maximum Load	Crushing Strength	Average Crushing Strength	Mode of Failure
			(sq. in)	(lb)	(psi)		
1	12/12/2019 (34 days test)		12.92	54,878	4,248	4360 psi (30.1 MPa)	Combined *
2			12.18	57,026	4,682		Combined *
3			12.67	52,730	4,162	(307 kg/cm²)	Combined *

Notes: Samples were received in sealed condition. * Combined = Mortar and Aggregate failure.

Countersigned by:
Dr. Md. Abdul Jalil
Professor
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

Test Performed by:
Mashiat Hossain
Lecturer
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

Important Notes: Samples as supplied to us have been tested in our laboratory. BRTC does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that samples are sent in a secure and sealed cover/packet/container under signature of the competent authority. In order to avoid fraudulent fabrication of test results, it is recommended that all test reports are collected by duly authorized person, and not by the Contractor/Supplier.

BUETCE 0174148

Cylinder test report for column

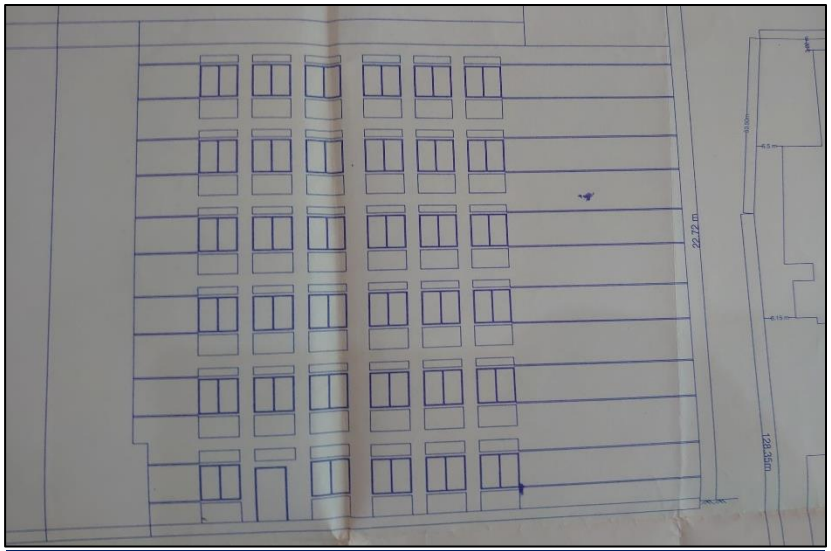
Concrete strength 3500 psi is considered in DEA report for material specification. Five sets of concrete cylinder test report for Dining building: four sets from slabs and one set from column were available. Therefore, the available sets of test reports do not meet the requirement for frequency of cylinder test report for any structural member as per BNBC.

Observations: Extended Building-1

Possible future extension

Existing 4 storied building

Exposed rebar of beam and slabs (south direction)



Permit layout for 6 storied building

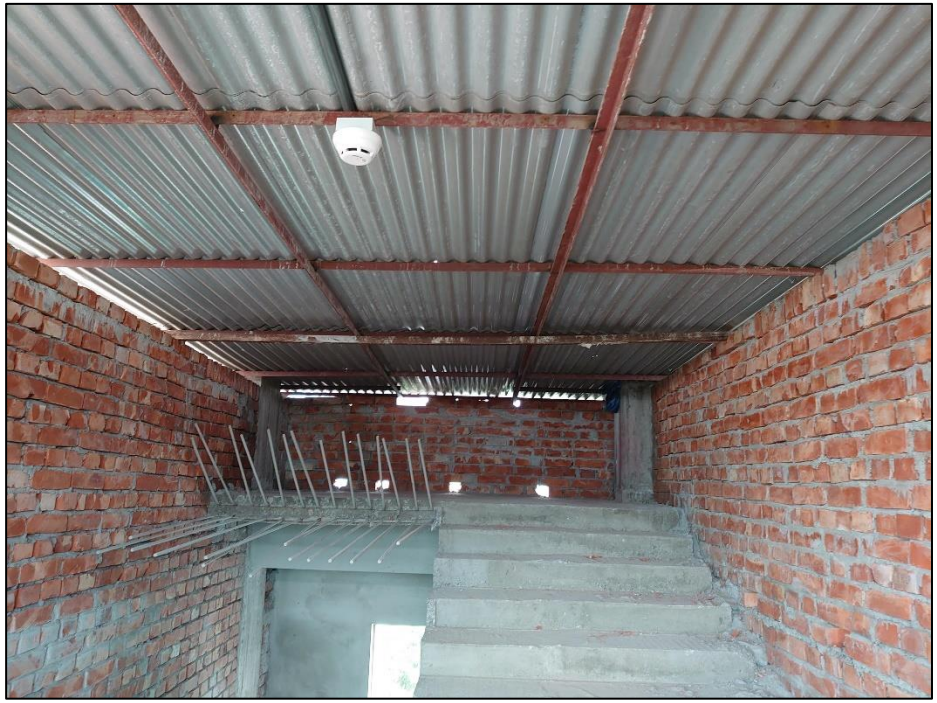
The building permit layout is for 6 storied structure. However, the building was constructed up-to four stories till the date of this inspection. Moreover, rebars of beams and slabs are extended horizontally in south direction. The building may be extended both vertically and horizontally in future. Prior to any sort of extension/expansion, factory engineer is required to produce Detailed Engineering Assessment (DEA) for the structure according to BNBC and submit to RSC for review.

Observation : Dining Building

Apparently inadequate connection

Observations: Dining Building

Poor connection details



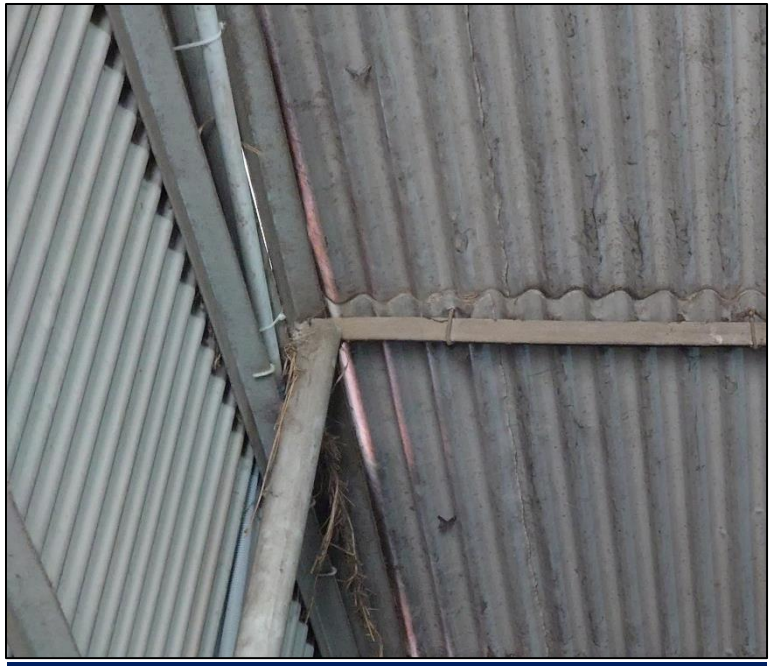
Apparently inadequate structural members

The steel roof shed is made of angle sections and supported by brick wall over the staircase. Apparently inadequate structural member, poor connection details found. Building engineer is required to check the adequacy of the steel members & connections for gravity and lateral forces and suggest necessary alternatives.

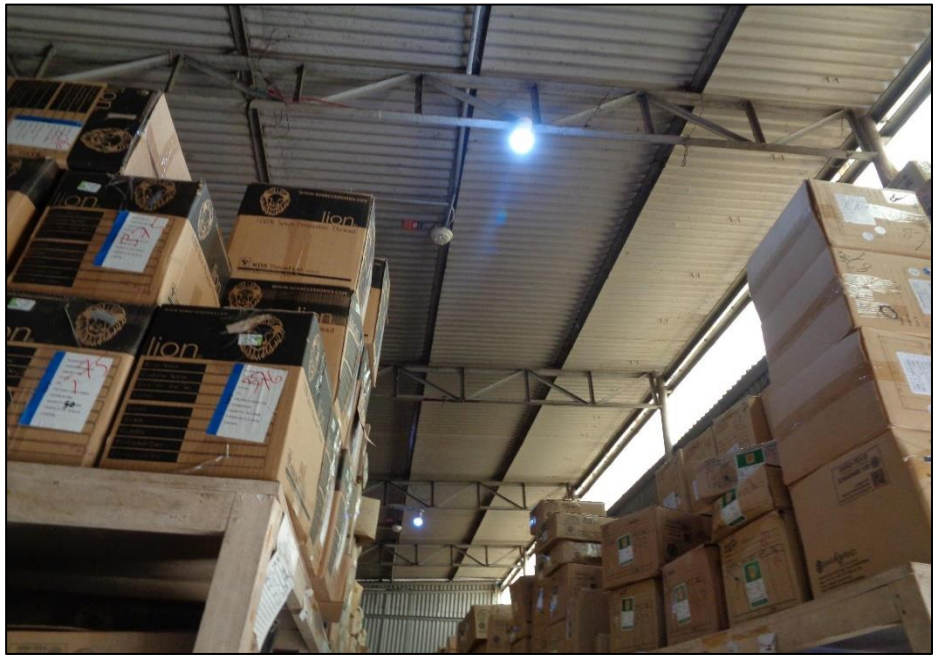
Observations: Dining Building

Apparently non-engineered shed

Observations: Sewing Thread Storage Shed



Poor connection details



Apparently inadequate structural members

No as-built drawing was provided for the utility shed. Factory engineer is required to prepare full set of as-built drawings for this structure.

Apparently Inadequate structural member, poor connection details found. Building engineer is required to check the adequacy of the steel members & connection for uplift and lateral forces and suggest proper remedial actions.

Observations: Sewing Thread Storage Shed

Problems Observed

Dinning Building

Item 1: Prepared DEA report needs to be revised

Item 2: Possible future extension

Item 3: Apparently non-engineered roof shed over staircase

Sewing Thread Storage Shed

Item 4: Apparently non-engineered shed

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Prepared DEA report needs to be revised (Dining Building)	Building engineer to update the DEA documents including a DEA report, based on verifying in-situ concrete strength in compliance with BNBC-2006.	6-weeks
02	Prepared DEA report needs to be revised (Dining Building)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
03	Possible future extension (Dining Building)	Prior to any type of extensions/expansion or modifications of the existing building, a Detail Engineering Assessment (DEA) by a structural Engineer needs to be carryout in compliance with the BNBC.	6-months
04	Possible future extension (Dining Building)	Carry out remedial works from outcome of DEA where necessary before commencement of further construction.	6-months
05	Non-engineered roof shed over staircase (Dining Building)	Building engineer is required to check the adequacy of the roof shed for gravity and lateral forces or replace with the engineered sheds.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
06	Non-engineered roof shed over staircase (Dining Building)	Carry out necessary remedial works arise from the EA report where required.	6-months
07	Apparently non-engineered shed (Sewing Thread Storage Shed)	Building engineer is required to prepare full set of as-built drawings for this structure.	6-weeks
08	Apparently non-engineered shed (Sewing Thread Storage Shed)	As part of Engineering Assessment (EA), building engineer is required to check the adequacy of the roof shed for gravity and lateral forces and suggest proper remedial actions.	6-weeks
09	Apparently non-engineered shed (Sewing Thread Storage Shed)	Carry out necessary remedial works arise from the EA.	6-months