

Eslite Garments (Bangladesh) Co., Ltd

Holding # 1125, Jamirdia, Habirbari, Bhaluka, Mymensingh.

(24.292993, 90.389189)

6 December 2023



1. Building Information

Factory Building is a six (G+5) storied RC building.

Dormitory Building is a three (G+2) storied RC building.

Utility Building is a two (G+1) storied RC building with a partial basement.

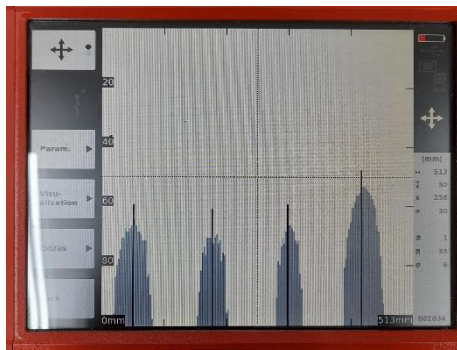
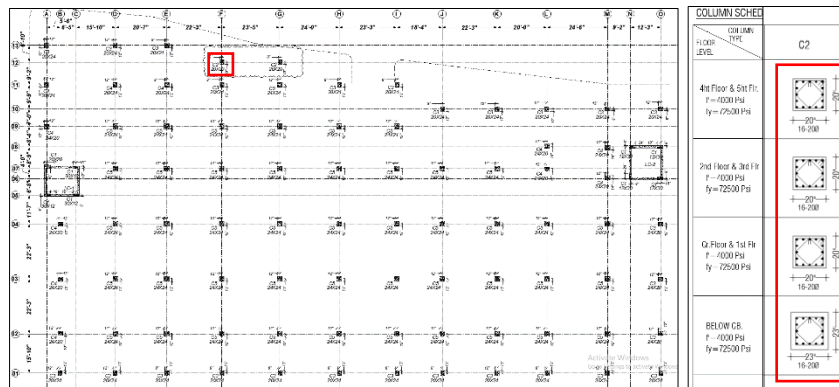
Canteen Shed is a single storied steel shed supported by RC column.

Security Building is a single storied RC building.

Disel Shed is a single storied truss roof shed supported by steel pipe column and boundary wall.

2. Observations

Observation 1: Mismatch in as-built drawing. (Factory Building)



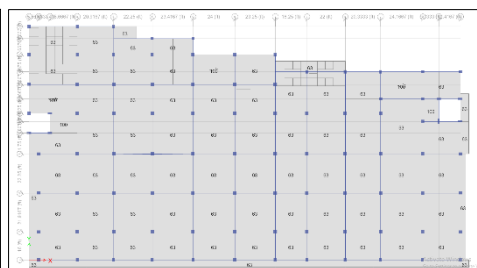
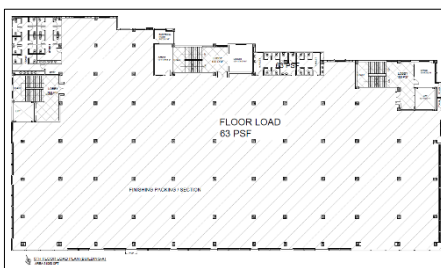
Ferro-scanning at 5th floor



Ferro-scanning at 5th floor

Description: During inspection, the re-bar of the C2 column was found to be less than the as-built drawing. As per the column schedule, the re-bar has been shown 5 numbers on each face. By the ferro-scanning, at the marked location in column layout, 4 number of re-bars were found in one face of C2 column at 5th floor and ground floor.

Observation 2: Load plan does not comply with the BNBC Requirement. (Factory Building)



Loading consideration and floor loading at 5th floor



Storage loading at 3rd floor

Description: The 5th floor has been proposed for storage. Also, storage loading was also found in some locations of the 5th floor. But load plan has been prepared considering 63 psf instead of 126 psf. At 3rd floor, storage loading was found, but floor loading has been considered 63psf. In FEA model, 63 psf has been assigned in all the floors. Building engineer is required to revise the design documents considering storage loading as per BNBC.

Observation 3: Undocumented shed at loading-unloading area (Factory Building)



Description: Undocumented shed was found at loading-unloading area of the factory building. The structure is self-supported steel roof truss supported by steel pipe column. Design documents was not available for the structure. The building engineer is required survey the whole structure and prepare the as built drawing. Also building engineer is required to prepare design document for the steel shed.

Observation 4: Non-structural elements not anchored or braced. (Factory Building)



Description: Racks on different floors are not adequately anchored or braced to resist lateral (earthquake) forces. Building is required to adequately anchor and brace all non-structural elements to resist earthquake forces to comply with the BNBC.

Observation 5: Inconsistencies in design report. (Dormitory Building)

Military Cantonment, Dhaka-1216

Centre for Advisory and Testing Services (CATS-MIST)

Military Institute of Science and Technology

TENSION TEST OF DISPERSED PLAIN CARBON STEEL BARS (ASTM A 615M-16)

TEST SERIAL- 5180-5181

SENT BY : ENGR. ANSAR ULLAH, PROJECT MANAGER, ARMO CONSULTS

PROJECT : 3 STORED ADMIN & DORMITORY BUILDING WITH 10-STORED FOUNDATION (SUITE GARMENTS BANGLADESH CO. LTD.) AT DAG NO 2651, 2652, 2666-2667, J.L. NO-32, KHATTAN-830, MOUZA-ZAMIRDA, HOBBARBAR, BHALLUKA, MYMENSINGH

CATS REF : 5180-5181 / JMA/ROD, DATE OF TEST : 20.09.2022

CLIENT REF : ARMO/TEST CORE TEST 120822, DATE: 11/09/2022

SAMPLE CONDITION : UNSEALED

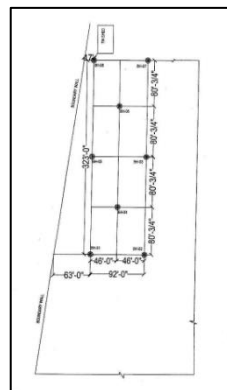
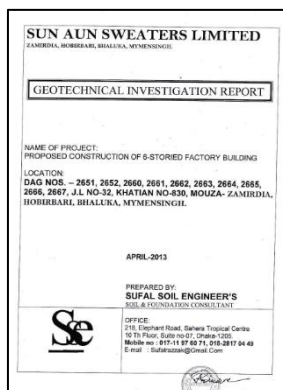
SL NO	SAMPLE IDENTIFICATION/LOCATION	PROG MARK	NOMINAL DIA	ACTUAL DIA	UNIT WEIGHT	YIELD STRENGTH	AVERAGE YIELD STRENGTH	ULTIMATE STRENGTH	ELONGATION 1% (GAUGE LENGTH = 300 MM)	REMARKS
			mm	mm	Kn/m	MPa	MPa	MPa	%	
1	COLUMN	NOT SEEN	16	15.64	1.51	378	378	555	30	
2	COLUMN	NOT SEEN	16	15.71	1.53	380	378	570	32	
3	COLUMN	NOT SEEN	16	15.76	1.53	382	378	570	32	
4	COLUMN	NOT SEEN	20	19.94	2.48	570	555	675	25	
5	COLUMN	NOT SEEN	20	19.80	2.42	570	555	675	25	
6	COLUMN	NOT SEEN	20	19.88	1.32	570	555	675	25	

MINIMUM REQUIREMENT REQUIREMENTS

BATCH IDENTIFICATION REQUIREMENTS				TESTING METHOD REQUIREMENTS			
COUNTRY	SOURCE NO.	GRADE NO.	GRADE 1	COUNTRY	TESTING METHOD	TESTING METHOD	TESTING METHOD
TEST TYPE	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD
TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD	TESTING METHOD		

Centre for Advisory and Testing Services (CATS-MIST) [CEI] Military Institute of Science and Technology									
Compressive Strength of Concrete Drilled Cores									
CATS Reference: 2376/Com/2122 12/09/2022 Date: 21.09.2022									
Client: ESU/IT, Garments (Bangladesh) Co. Ltd									
Project Name & Address: Dormitory Building with 10-Storey Foundation at DAG No: 2651, 2652, 2666-2667, B. No: 32, Khattan No: 830, Mouza: Zamirda, Hobbabari, Bhalluka, Mymensingh, Bangladesh									
Sample Brought By: ARMO Consultants Date of Receiving: 19.09.2022									
Test Method: ASTM C 42/C 42M Date of Test: 21.09.2022									
Type of Sample: Drilled Core Sample Condition: Unsealed									
Location of Sample: Core 1, Roof Beam, Grid E-G/S/B									
Construction Year: Not Mentioned Quantity of Sample: 04 nos									
No of Storey: 3 Storey Type of Aggregate: Stone Chipp									
SL No	Sample Identification Mark	Original Length (mm)	Sealed Length (mm)	Diameter (mm)	Crushing Load (kN)	Crushing Strength (MPa)	Failure Type	Fracture Type	
1	Core 1, 1st Floor	205.0	182.0	68.0	112.0	30.8	4470	Combined	Core and Shore
2	Core 1, 2nd Floor	155.0	152.0	68.0	91.1	25.1	3640	Combined	Core and Shore
3	Core 1, 3rd Floor	176.0	152.0	68.0	128.3	35.3	5120	Combined	Core

SL/No	Strength	
01	Concrete compressive strength of Column	3945 psi
02	Concrete compressive strength of Beam & Slab	3945 psi
03	Flexural strength of all Reinforcement, fy	72,500 Psi



Considering Allowable bearing capacity= 1.50 tsf= 3ksf
 $DL+LL = 134 \text{ kip}$
 Required footing area= $134/3 = 44.7 \text{ ft}^2$
 Provided footing area= $9' \times 10' = 90 \text{ ft}^2$
 $d(\text{provided}) = 12-4 = 8 \text{ in.}$
 $d(\text{required}), 27 \times 1000 = 1 \times 4 \times \sqrt{3945} \times 2 \times d(44.7 + 4 \times 2 \times)$
 $d(\text{required}) = 1.7 \text{ inch (OK)}$
 $A_s(\text{req}) = 0.35 \text{ in}^2/\text{ft}$
 $A_s(\text{prov.}) = 4.52 \text{ in}^2/\text{ft}$

Description:

A Design Report was provided for the Dormitory Building at the time of inspection which is prepared based on software analysis. In this report,

- Rebar test report found for 16mm dia rod achieving 370 MPa, 20mm dia rod achieving 555MPa; but 500MPa used for column rebar in design report.
- 3 nos concrete core rest report found for column and 1 no. for beam. In the design report, all core test results are considered for concrete strength calculation for column and beam.
- Foundation adequacy check is not provided for all footing.
- Soil test report from which bearing capacity is considered for foundation calculation in design report, is not for dormitory building as per project name and bore layout.

The building engineer is required to collect minimum 4 nos of concrete core from column and beam-slab individually, revise the design report considering concrete strength for each type of structural member individually, revise rebar strength, produce geotechnical investigation report for this structure and revise foundation adequacy check in the design report based on soil investigation report. Submit the revised design report to the RSC for review.

Observation-6: Dampness on wall. (Dormitory Building)



Description: Dampness found on wall in kitchen and toilet zone wall. The building engineer is required to identify the source of dampness and take remedial measures to repair the wall accordingly.

Observation-7: Crack on wall. (Dormitory Building)



Description: Crack found on façade wall and stair wall. The building engineer is required to identify the reason for the crack and take remedial measures to repair the wall accordingly.

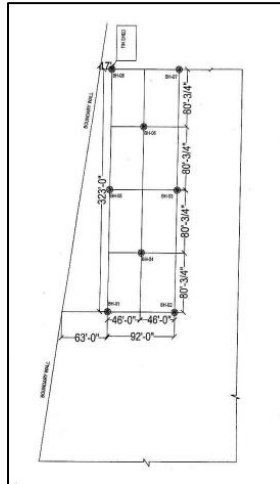
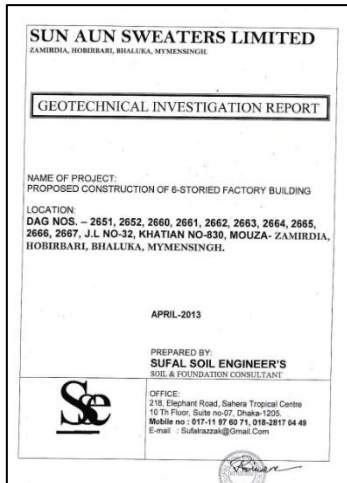
Observation-8: Unbraced nonstructural elements. (Dormitory Building)



Unbraced storage racks on floors

Description: Storage rack found within the building without braced/anchored. Building engineer is required to brace/anchor all non-structural elements.

Observation 09: Inconsistencies in design report. (Utility Building)



Considering Allowable bearing capacity= 1.50 tsf= 3ksf
DL+LL= 53kip
Required footing area= $53/3 = 17.7 \text{ ft}^2$
Provided footing area= $6' \times 6' = 36 \text{ ft}^2$
 $d(\text{provided}) = 12 - 4 = 8 \text{ in.}$
 $d(\text{required}), 27 \times 1000 = 1 \times 4 \times \sqrt{3945} \times 2 \times d(17.7 + 17.7 + 2 \times d)$
 $d(\text{required}) = 1.34 \text{ inch (OK)}$
 $A_s(\text{req}) = 0.33 \text{ in}^2/\text{ft}$
 $A_s(\text{prov.}) = 4.62 \text{ in}^2/\text{ft}$

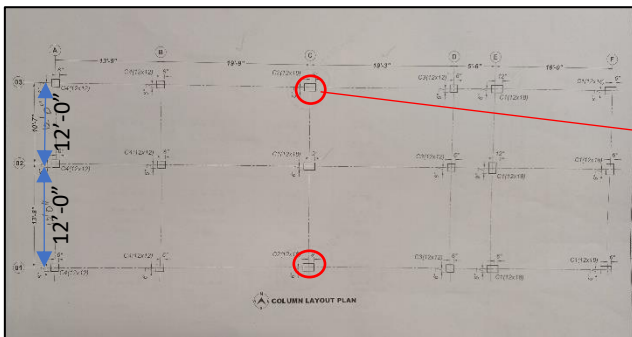
Description:

A Design Report was provided for the Utility Building at the time of inspection which is prepared based on software analysis. In this report,

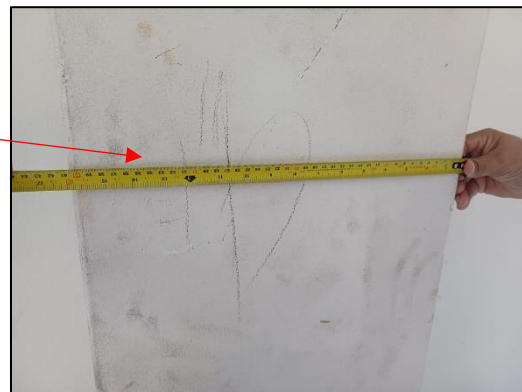
- Foundation adequacy check is not provided for all footing.
- Soil test report from which bearing capacity is considered for foundation calculation in design report, is not for dormitory building as per project name and bore layout.

The building engineer is required to produce geotechnical investigation report for this structure and revise foundation adequacy check in the design report based on soil investigation report. Submit the revised design report to the RSC for review.

Observation 10: Inconsistencies in as-built drawings. (Utility Building)



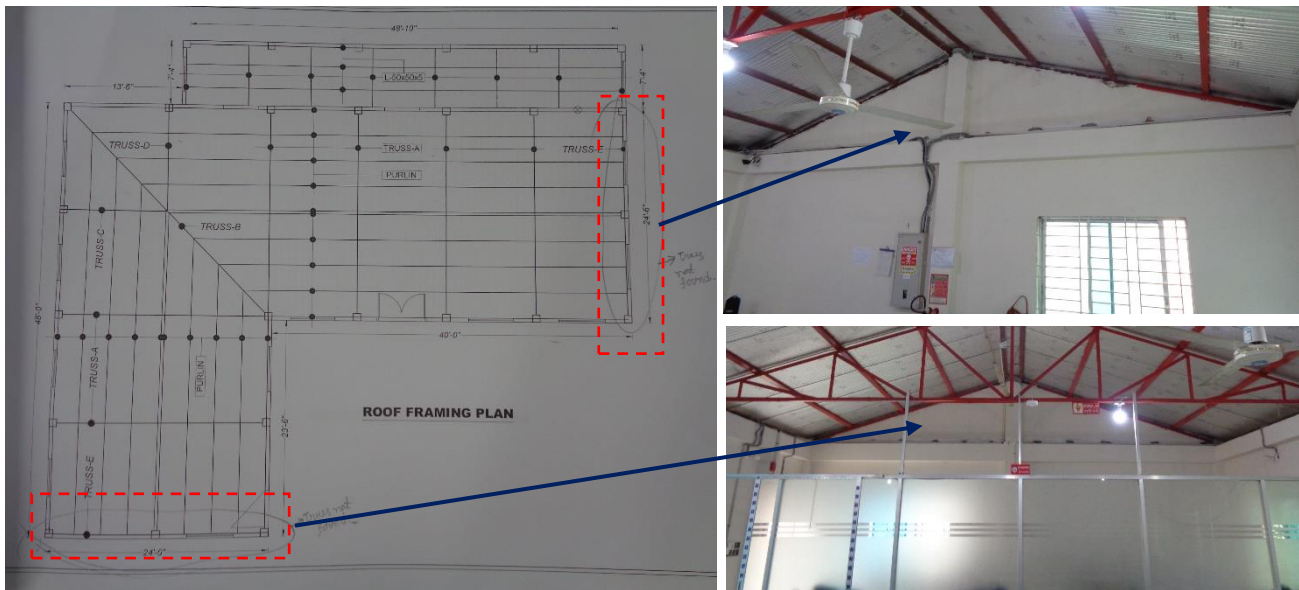
Column layout



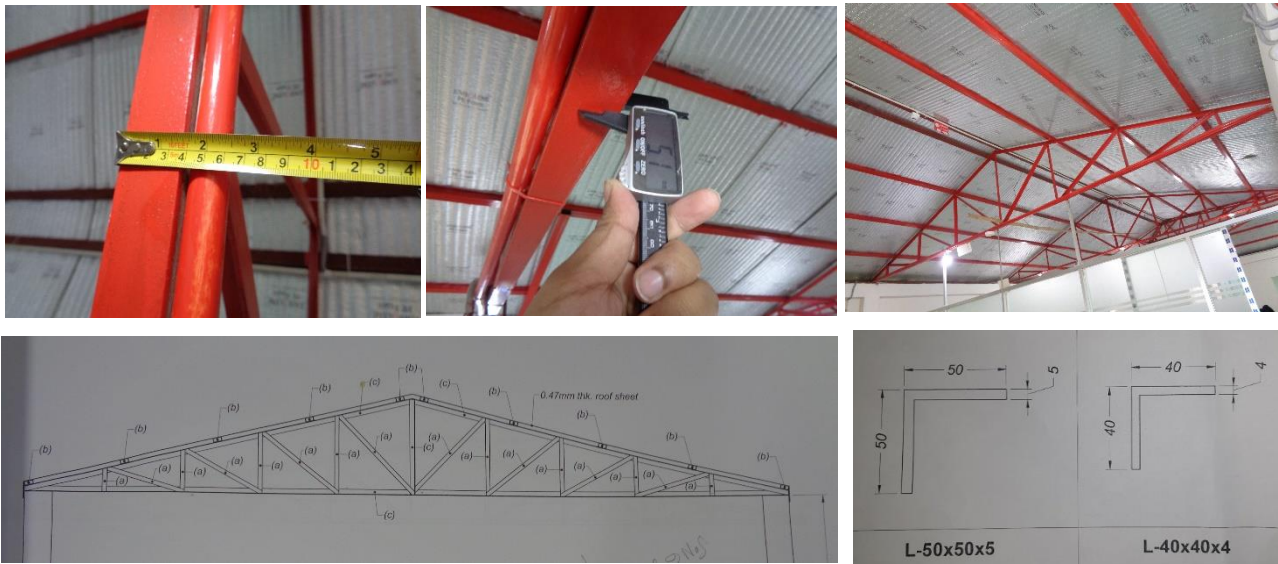
Column size found 12"x15" instead of 12"x18"

Description: In as-built drawing, marked column mentioned 12" x 18", but 12" x 15" found on site. Also grid dimension in north-south direction does not match with as-built drawing. The building engineer is required to survey the whole structure and update the as-built drawing.

Observation 11: Mismatch in provided as-built drawing. (Canteen Shed)



Truss Layout do not match



Size of the truss members and number of vertical members mismatch

Description: Mismatch was found in the as-built drawing and actual site condition. The truss layout does not match with site conditions. In the as-built drawing, truss has been shown at end gable. But the truss was not found at the end gable at site condition. All the Truss members were found 38X38X5mm. But in the provided drawing two sizes of truss members has been shown- L50X50X5mm & L40X40X5mm. Also, the size of the truss members shown in drawing does not indicate any members. The total number of the vertical members do not match between site condition and drawing. Building engineers is required to survey the whole structure and update the as-built drawing. Revise the design documents based on actual site condition.

Observation 12: Undocumented steel shed. (Diesel store)



Description: During inspection, an undocumented diesel store was found adjacent to Canteen shed. The roof of the store is made of steel truss supported by steel pipe column and boundary brick wall. No drawing and design documents were available for the shed. Building engineer is required to survey the structure and prepare accurate as-built drawing including connection details. Also check the adequacy for the connection against the up-lift force.

Observation-13: Lack of building permit drawing. (Dormitory Building, Canteen Shed, Diesel Store and Security Building).



Dormitory Building and Canteen Shed



Diesel Store and Security Building

Description: At the time of inspection, building permit drawing was only found for Factory building and Utility Building but not available for rest of the structures. Factory is required to collect the building approval drawing from local authority for Dormitory Building, Canteen Shed, Diesel Store and Security Building

3. Action Plan

Observation	Action Plan	Timeline
Mismatch in as-built drawing. (Factory Building)	Building Engineer is required to survey the whole structure and update accurate as-built architectural & structural drawing.	within 6 weeks
	Building engineer is required to update the design documents based on actual site condition and submit to RSC	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Load plan does not comply with the BNBC Requirement. (Factory Building)	Revise and actively manage a loading plan for all floor plates within the factory considering floor capacity and column capacity.	within 6 weeks
	Continue to implement load plan.	within 6 months
Undocumented shed at loading-unloading area (Factory Building)	The building engineer is required to survey the steel shed, prepare accurate as-built drawing and check the adequacy of the steel shed against lateral loading.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Non-structural elements not anchored or braced. (Factory Building)	Building engineer is required to brace/anchor all non-structural elements.	within 6 months
Inconsistencies in design report. (Dormitory Building)	The building engineer is required to revise the design report considering concrete strength for each type of structural member individually, revise rebar strength, produce geotechnical investigation report for this structure and revise foundation adequacy check in the design report based on soil investigation report. Submit the revised design report to the RSC for review.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Dampness on wall. (Dormitory Building)	The building engineer is required to identify the source of dampness and take remedial measures to repair the wall accordingly.	within 6 weeks
Crack on wall. (Dormitory Building)	The building engineer is required to identify the reason for the crack and take remedial measures to repair the wall accordingly.	within 6 weeks

Unbraced nonstructural elements. (Dormitory Building)	Building engineer is required to brace/anchor all non-structural elements.	within 6 months
Inconsistencies in design report. (Utility Building)	The building engineer is required to produce geotechnical investigation report for this structure and revise foundation adequacy check in the design report based on soil investigation report. Submit the revised design report to the RSC for review.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Inconsistencies in as-built drawings. (Utility Building)	Building engineer is required to survey the whole structure and update the as-built drawing.	within 6 weeks
Mismatch in provided as-built drawing. (Canteen Shed)	Building engineer is required to survey the whole structure and update the as-built drawing and as per actual site condition.	within 6 weeks
	Building engineer is required to revise the design documents based on actual site condition.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Undocumented steel shed. (Diesel store)	Building engineer is required to survey the whole structure and update the as-built drawing.	within 6 weeks
	Building engineer is required to check the adequacy of connection against lateral loading.	within 6 weeks
	Carry out suggested remedial works if required.	within 6 months
Lack of building permit drawing. (Dormitory Building, Canteen Shed, Diesel Store and Security Building)	Factory is required to collect the building approval drawing from local authority.	within 6 months