

Euro Knitwear Limited (Unit-2)

159, Ojarpara, Mollah Market, National University-1704, Gacha, Gazipur City Corp; Gazipur
(23.958650, 90.364458)
9 January 2025

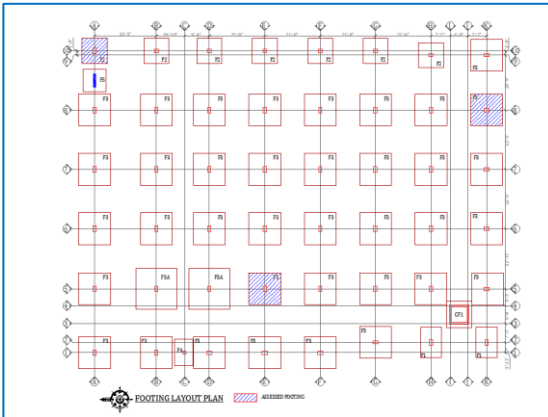


1. Building Information

1. Production Building (G+5)
2. Fabric Godown Shed
3. Grey Fabric Store Shed
4. New Knitting & Yarn Store Shed
5. Knitting Shed
6. Worker Dining Shed
7. Prayer Room & Staff Canteen Shed
8. Utility Building,
9. Security Room
10. Wastage Godown Shed

2. Observation:

Observation-01: Stress in the foundation exceeds normal design limit. (Production Building)



RECOMMENDATION:
On the basis of the condition, the following recommendations are suggested for
2 (Six Storey Industrial Building At Chharpura, National University,
Gazipur - 1704, Bangladesh).

The bearing capacity of soil Under the Bh-1, & Bh-3, Considered as isolated
Column Footing (Shallow Foundation) in the Following Way:
To be Considered 1.25 Tsf (F.S. = 2.50) at a depth 10'-0" from the E.G.L.

The bearing capacity of soil Under the Bh-2, & Bh-4, Considered as isolated
Column Footing (Shallow Foundation) in the Following Way:
To be Considered 1.25 Tsf (F.S. = 2.50) at a depth 13'-0" from the E.G.L.

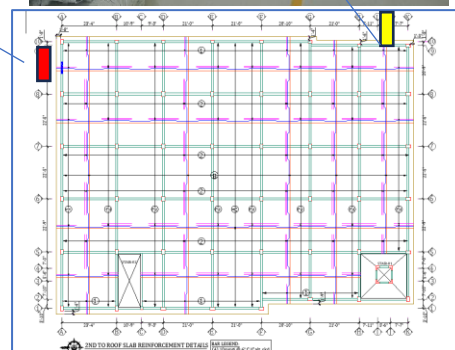
The bearing capacity of soil Under the Bh-1, to Bh-4 Considered as Pile Foundation
in the Following Way:
The Bearing Capacity of single pile is given in the Table -6 at the different
depth of 18" & 20" & 24" diameter However may accept the embedment
length up to 45'-0" from E.G.L. of each of the boring are as follows.

Length below from	18 inch dia	20 inch dia	24 inch dia
E.G.L.	44 ton	50 ton	66 ton
45'-0"	51 ton	58 ton	78 ton

Note:
a) 1Tsf = 2sf = 1.00 Kg/cm², 1Ton = 1000kg = 2000 Lbs, E.G.L. =
Existing Ground Level.
b) The theories on the ultimate bearing capacity presented in this report are
based on idealized conditions of soil profile. This is, in most field conditions,
not true. Soil profiles are not always homogeneous and isotropic, hence,
experience and judgment are always necessary in adopting proper soil
parameters to use the calculation of ultimate bearing capacity.
c) Pile load test should be confirmed by plate bearing test or other wise pile
bearing capacity consider half.
However, the design Engineer may select any other alternative type, depth as well
as the bearing capacity of the foundation in the light of information provided in this
report.

Description: Cursory calculation indicates the internal footings are stressed above the normal design limit for bearing capacity. We considered the observed live load 3 kPa for typical floor. Also, the ultimate bearing capacity of the soil was considered 2.5 ksf, as per soil test report. The building engineer is required to carry out Engineering Assessment (EA) to review the design, load and foundation stresses.

Observation-02: Discrepancy in as-built drawing. (Production Building)



Description: Floor layouts are not fully matched with the as-built condition. Cantilever portion at North-east corner not shown in the structural slab layout. Also, an external steel stair landing is resting on the 1st floor beam which is not shown in the drawings. Moreover, 4 nos of undocumented PVC tank (3000L each) were found in the stair top. The building engineer is required to update the as-built drawing which reflects the on-site condition.

Observation-03: Dampness in the slab and walls. (Production Building)



Description: Dampness was found in the floor slab and walls. Building Engineer is required to investigate the damped portion and repair accordingly

Observation-04: Non-structural elements not anchored or braced. (All structures)



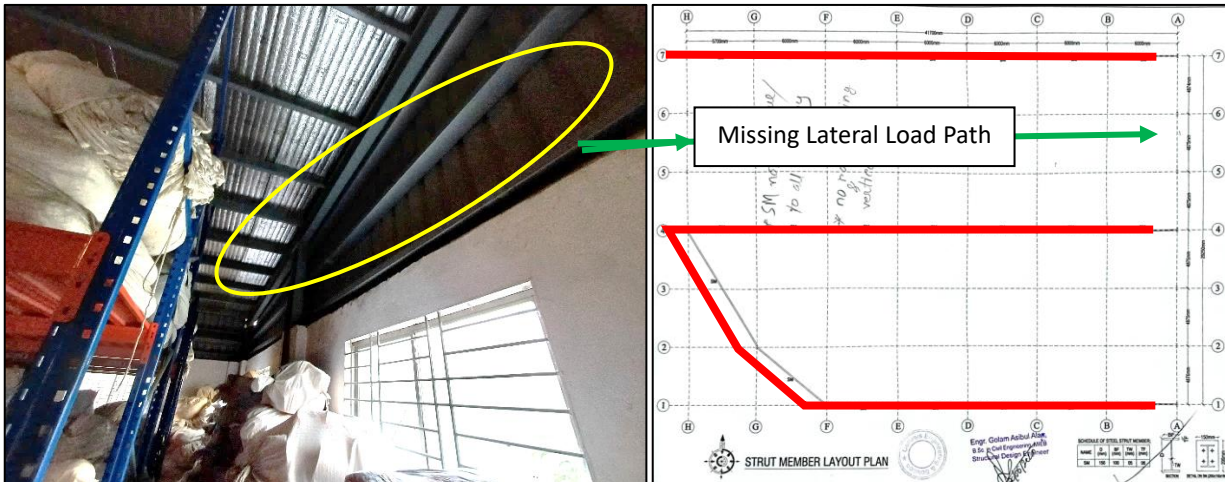
Description: Non-structural elements (PVC tank and Racks) were found on different floors of the building. Which were not properly anchored or braced. Building engineer is required to anchor or brace all non-structural elements to avoid falling hazard during earthquake or any lateral loading.

Observation-05: Inadequate connection at external steel stairs. (Production Building)



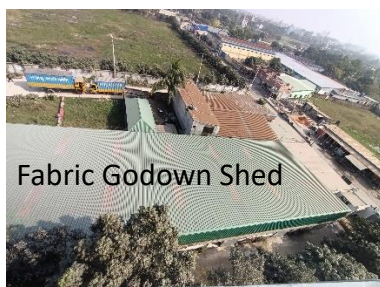
Description: An external steel stair was found in between Production Building and Fabric Godown Shed. The landing of the stair was resting on the 1st floor beam of the Production Building at East. Stair landing beam was poorly welded with anchored rebar of the Cornish of the Production Building. The building engineer is required to check the connection adequacy and provide separate support system for the external steel stair.

Observation-06: Incomplete lateral load path. (Grey Fabric Store)



Description: During inspection, the lateral load path was found missing along Grid-A and Grid-H (shown by green arrow). The building engineer is required to check the lateral stability system of the shed.

Observation-07: Incomplete as-built drawings (Fabric Godown Shed, New Knitting & Yarn Store Shed, Knitting Shed, Worker Dining Shed, Prayer Room & Staff Canteen Shed, Utility Building, Security Room)



Description: As-built structural & architectural drawings were not available for these structures. Only a layout plan was found during the inspection. The building engineer is required to prepare full set of as-built drawing with complete structural details.

Observation-08: Lack of lateral stability. (Fabric Godown Shed, Knitting Shed, Worker Dining Shed)



Description: Load transfer media (bracing & strut) along the long direction was found missing. The building engineer is required to carry out an Engineering Assessment (EA) to check the lateral stability, connection and member adequacy of these structures.

Observation 09: Absence of floor load plan (Knitting Shed & adjacent steel stair).



Description: There is no floor load plan for the suspended floor and steel stairs. The building engineer is required to prepare a floor live load plan based on floor, column and foundation capacity. Implement the floor load management program.

Observation-10: Corrosion on steel member. (Knitting Shed)



Description: Corrosion was found in the steel member. The building engineer is required to remove the corrosion and provide anti corrosive coating to the steel members.

Observation-11: Bolt missing and connection gap. (All Sheds)



Description: Bolt missing and connection gap were found in the Knitting Shed. The building engineer is required to repair the gap with a suitable method. Also, install missing bolts where necessary.

Observation-12: Vibration on floor due to operation of heavy machine. (Utility Building)



Description: Significant vibration was felt on the first floor due to the operation of heavy machinery. The building engineer is required to investigate the long-term effect of the vibration and suggest proper remediation accordingly.

Observation-13: Inadequate connection of roof truss. (Roof Shed-Utility Building)



Description: Few truss frames were poorly connected with 5 inches brick walls at the roof of the Utility Building. The building engineer is required to check the connection adequacy of the roof truss and suggest proper remedial measures.

Observation-14: Lack of lateral stability and inadequate member size. (External steel stair-Utility Building)



Description: Lack of lateral stability system and inadequate member sizes were observed in the external steel stair of the building. The building engineer is required to check the stability, connection & member adequacy of the steel stair and suggest proper remedial measures.

Observation-15: Exposed rebar on partial roof. (Utility Building)



Description: During inspection, the exposed rebar was found on the roof slab. The building engineer is required to apply anti-rust proof coating on exposed rebar.

Observation-16: Temporary bamboo structure in the factory premises. (Wastage Godown Shed)



Description: Temporary Wastage Godown was found on the factory premises. The structure was made of wood and bamboo. The factory is required to demolish the shed or replace with an engineered one.

3. Action Plan

Item No	Observation	Action Plan	Timeline
1.	Stress in the foundation exceeds normal design limit. (Production Building)	The building engineer is required to carry out Engineering Assessment (EA) to review the design, load and foundation stresses.	within 6 weeks
2.	Stress in the foundation exceeds normal design limit. (Production Building)	Produce and actively manage a loading plan for all floor plates within the factory, considering floor, column, and foundation capacity.	within 6 weeks
3.	Stress in the foundation exceeds normal design limit. (Production Building)	Carry out the suggested remedial work if required.	within 6 months
4.	Discrepancy in as-built drawing. (Production Building)	The building engineer is required to update the as-built drawing which reflects the on-site condition.	within 6 weeks
5.	Dampness in the slab and walls. (Production Building)	Building Engineer is required to investigate the damped portion and repair accordingly	within 6 weeks
6.	Non-structural elements not anchored or braced. (All structures)	Building engineer is required to anchor or brace all non-structural elements to avoid falling hazard during earthquake or any lateral loading.	within 6 weeks
7.	Inadequate connection at external steel stair. (Production Building)	The building engineer is required check the connection adequacy and also provide separate support system for the external steel stair.	within 6 weeks
8.	Incomplete lateral load path. (Grey Fabric Store)	The building engineer is required to check the lateral stability system of the shed.	within 6 weeks
9.	Incomplete lateral load path. (Grey Fabric Store)	Carry out the suggested remedial work if required.	within 6 months
10.	Incomplete as-built drawings (Fabric Godown Shed, New Knitting & Yarn Store Shed, Knitting Shed, Worker Dining Shed, Prayer Room & Staff Canteen Shed, Utility Building, Security Room)	Building engineer is required to prepare full set of as-built drawing with complete structural details.	within 6 weeks
11.	Lack of lateral stability and inadequate member size. (Fabric Godown Shed, Knitting Shed, Worker Dining Shed)	The building engineer is required to check the lateral stability, connection and member adequacy of these structures.	within 6 weeks

12.	Lack of lateral stability and inadequate member size. (Fabric Godown Shed, Knitting Shed, Worker Dining Shed)	Carry out the suggested remedial work if required.	within 6 months
13.	Absence of floor load plan (Knitting Shed & adjacent steel stair).	The building engineer is required to prepare a floor live load plan based on floor, column and foundation capacity.	within 6 weeks
14.	Absence of floor load plan (Knitting Shed & adjacent steel stair).	Implement the floor load management program.	within 6 months
15.	Corrosion on steel member. (Knitting Shed)	The building engineer is required to apply anti-rust proof coating on exposed rebar.	within 6 weeks
16.	Bolt missing and connection gap. (All Sheds)	The building engineer is required to repair the gap with a suitable method.	within 6 weeks
17.	Bolt missing and connection gap. (All Sheds)	Install missing bolts where necessary.	within 6 weeks
18.	Vibration on floor due to operation of heavy machine. (Utility Building)	The building engineer is required to investigate the long-term effect of the vibration and suggest remediation.	within 6 weeks
19.	Vibration on floor due to operation of heavy machine. (Utility Building)	Carry out the suggested remedial work if required.	within 6 months
20.	Inadequate connection of roof truss. (Roof Shed-Utility Building)	The building engineer is required to check the connection adequacy of the roof truss and suggest proper remedial measures.	within 6 weeks
21.	Inadequate connection of roof truss. (Roof Shed-Utility Building)	Carry out the suggested remedial work if required.	within 6 months
22.	Lack of lateral stability and inadequate member size. (External steel stair-Utility Building)	The building engineer is required to check the stability, connection & member adequacy of the steel stair and suggest proper remedial measures.	within 6 weeks
23.	Lack of lateral stability and inadequate member size. (External steel stair-Utility Building)	Carry out the suggested remedial work if required.	within 6 months
24.	Exposed rebar on partial roof. (Utility Building)	The building engineer is required to apply anti-rust proof coating on exposed rebar.	within 6 months
25.	Temporary bamboo structure in the factory premises. (Wastage Godown Shed)	The factory is required to replace the shed with an engineered one.	within 6 months