

GAVA Private Limited

Plot # 114-120, Dhaka Export Processing Zone (old area),
(23.948083, 90.272639)

26 August 2025



1. Building Information

SL	Name	
1	Office Building	Three-storied (G+2) concrete building
2	Main Factory Building	Two-storied (G+1+M) building with two mezzanine floors
3	Dining Building	Four-storied (G+3) concrete building
4	Utility Building (Part-1)	Single-storied concrete building
5	Utility Building (Part-2)	Single-storied concrete building
6	Guard Room- 1	Single-storied concrete building
7	Guard Room- 2	Single-storied concrete building
8	Fire Control Room	Single-storied concrete building
9	Underground Water Reservoir & Pump Room	Single-storied underground concrete building
10	Maintenance Workshop	Single-storied concrete building
11	Shed 1 (Wastage Store)	Single-storied steel shed
12	Overhead Water Tank (OHWT)	Two-storied (G+1) concrete building
13	Steel Connection Bridge	Single-storied steel structure

2. Observation

Observation-1: Lack of information in design documents. (Office Building)



2.3 MATERIAL PROPERTY

Following material properties has been used for as built condition:

- 1 Yield strength of Rebar, f_y = 40,000 lb/in²
- 2 Compressive strength of concrete, f'_c (For column) = 3,038 lb/in²
- 3 Compressive strength of concrete, f'_c (For beam) = 3,038 lb/in²
- 4 Young's modulus of concrete, E_c = 45,000√ f'_c

Sample No.	Core test result	Diameter of Core (inch)	Diameter Effect	Damage Effect	Modified Core test result	Average	kc	Number of sample	Standard deviation	coefficient of variation	Equivalent Concrete strength according to ACI 562 sec. 6.4.3
1	3280	2.717	1.0385	1.06	3610.67						
2	4060	2.717	1.0385	1.06	4469.31						
3	2910	2.717	1.0385	1.06	3203.37						
4	4520	2.717	1.0385	1.06	4975.68						
						4064.76	1.28	4	804.49	0.20	3038.04

Description: A detailed engineering assessment report was available for the office building. In the DEA report, 3038 psi (21 MPa) strength was mentioned for the concrete strength of old columns (not jacketed). But material test reports were not available to verify the strength of the old concrete of columns. Also, no adequacy check was available for the slab. No adequacy check provided for adjacent lift core.

The building construction period is unknown, possession taken in Sep 2022 & approval taken in July 2025. Therefore, the building should be assessed in accordance with BNBC 2020 unless availability of building permit before Feb 2021.

The building engineer is required to confirm the material's strength and incorporate the slab & lift core adequacy check in the design report following BNBC 2020 and submit it to the RSC for review.

Observation-2: Mismatch in prepared as-built drawings. (Office Building)



Description: Brick wall layout, toilet block details and built-up of second floor were not properly provided in the architectural drawings.

Building engineer is required to survey the structure and prepare the as-built drawing.

Observation-3: Standing water on the roof. (Office Building)



Description: Standing water was observed on the roof. Building engineer is required to improve the roof drainage system.

Observation 4: Offset in bracing to the column/rafter connection (Main Factory Building).



Description: Offset found in the bracing of the column/rafter connection. The building engineer is required to update the design report of the structure, considering the offset, and as per 1.9.1 BNBC.

山东钢铁集团日照有限公司 Shandong Iron & Steel Group Rizhao CO., LTD.		产品质量证明书 INSPECTION CERTIFICATE		山东省日照市东港区东钢路7号 No. 7, Lingang Road, Donggang Rizhao City: Shandong Province, P. R. http://www.sdsteelec.com TEL: (0633)7900061 FAX: (0633)7900061																					
客户 PURCHASER 山东钢铁集团日照有限公司		产品名称 PRODUCT 热轧 卷HOT ROLLED STEEL STRIPS																							
基本资料 TECHNICAL STANDARD GB/T3271-2007		编号 SERIAL NO. RSGRZG 11-12-03		质量证明书编号 CERTIFICATE NO. MC230122005																					
交货状态 DELIVERY CONDITION 热轧 As Rolled		合同号 CONTRACT NO. 1120002683-130		认证证书号 LICENSE NO.																					
牌号 GRADE Q355B		签发日期 DATE OF ISSUE 2023-01-22		检验证书号 INSPECTION CERTIFICATE																					
规格及重量 MATERIAL DESCRIPTION 厚度T 宽度W 长度L 件数 重量 PCS		化学成分 CHEMICAL COMPOSITION % HEAT ANALYSIS s100																							
序号 NO.	钢卷 / 钢板号 COIL / PLATE NO.	炉号 HEAT NO.	批号 LOT NO.	厚度T mm	宽度W mm	长度L m	件数 PCS	重量 KGS (x)	C	Si	Mn	P	S	SO ₄ -M	Y	Ca	Ti	Ni	Sn	Mo	Cr	CU	B	WT53	WT59
1	HC12310100685	231055400	23R-002194	5.75	1500	1	30.16	10.16	37.1	0.6	0.6	0.4	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
2	HC12310100685	231055400	23R-002194	5.75	1500	1	30.16	10.16	37.1	0.6	0.6	0.4	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
3																									
4																									
5																									
6																									
序号 NO.	屈服 Y. P. ReH MPa		抗拉强度 T.S. Rm MPa		伸长率 EL. A%		弯曲 B. T. D=2a180°																		
1	162		570		28		Y																		
2	162		570		28		Y																		
3																									
4																									
5																									
6																									
总计 TOTAL		2 PCS	60.31 M	备注 REMARKS																					
会检者 SURVEYOR: TO																									
本产品已按上述技术条件进行制造和检验, 其结果符合要求, 特此证明。 WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED AND 2. TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE MATERIAL SPECIFICATION.																									

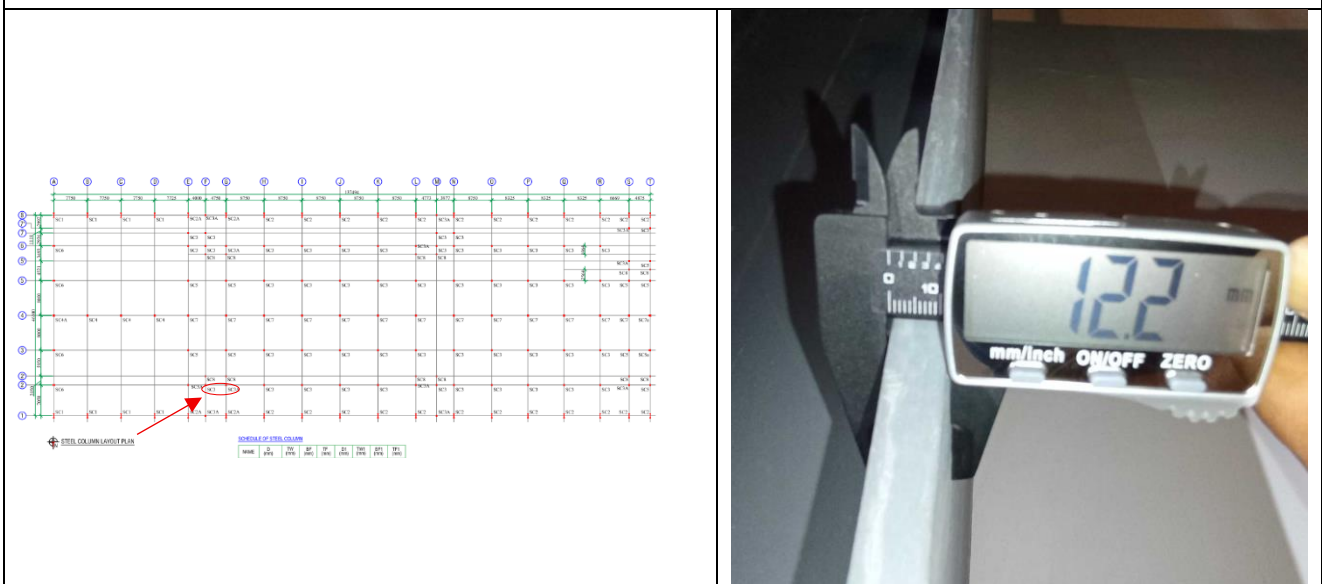
Observation 6: The load plan doesn't comply with BNBC (Main Factory Building).

LOADING FOR THIS FLOOR				
NO.	TYPE	ITEM	MAX. LOAD IN PSF	DESCRIPTION
01	LIGHT	SAMPLE AREA	63	TYPICAL MACHINE
02	LIGHT	CAD ROOM	63	TYPICAL FURNITURE
03	LIGHT	OFFICE	63	TYPICAL FURNITURE
04	LIGHT	MAINTENANCE	63	TYPICAL MAINTENANCE AREA
05	LIGHT	TOILET	42	TYPICAL TOILET
06	LIGHT	STAIR	100	TYPICAL STAIR

Occupancy or Use	Uniform kN/m ²	Concentrated kN
Hotels	See Residential	
Libraries		
Reading rooms	2.90	4.50
Stack rooms	7.20 ^d	4.50
Corridors above first floor	3.80	4.50
Manufacturing*		
Light	4.00	6.00
Medium	6.00	9.00
Heavy	12.00	13.40
Garments manufacturing floor except stacking or storage area	4.00 ^e	--
Stacking or storage area of garments manufacturing industry	6.00 ^f	10.00 ^f

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Observation 7: Discrepancy in the as-built drawing (Main Factory Building).



Description: Dimension of marked column (stair landing) was measured as F200mm (12mm) X W200mm(6mm) instead of F250mm (8mm) X W250mm(18mm). Also, a 250mm brick wall was found in the toilet area but shown as 125mm. The building engineer is required to survey the whole structure and prepare an accurate as-built drawing.

Observation 8: Absence of design check for slender storage racks (Main Factory Building).



Description: Some slender storage racks (12 m high) were found on the ground floor, but the design check was not available. The building engineer is required to prepare a design check for the slender racks and submit it to RSC for review.

Observation 9: Corrosion on steel members (Main Factory Building).



Description: Corrosion was found on steel members at several locations. The building engineer is required to provide rust-proof coating on steel members.

Observation 10: Nonstructural storage racks found unanchored/unbraced (Main Factory Building).



Description: Nonstructural storage racks were found unanchored/unbraced at a few locations on the ground floor. Anchor/brace all nonstructural storage racks.

Observation 11: Falling hazard at the roof (Utility Building-1, Connecting Bridge).



Description: Access was found on the roof of the Utility Building-1 & Connecting Bridge from, but no parapet was provided. The building engineer is required to provide a parapet/railing to avoid a falling hazard. Otherwise, seal the access.

Observation 12: Connection gap and loose bolt (Connecting Bridge).



Description: Connection gap and loose bolt were found at the Connecting Bridge. The building engineer is required to repair the gap with a suitable method, tighten the loose bolt.

Observation-13: Design report required to be reviewed by RSC for lateral loading. (Dining Building)



Description: A set of design documents was available for the dining building. A connecting bridge was found between office building and dining building. No member adequacy and connection adequacy are provided in the design report. The building engineer is required to revise the design report considering the onsite conditions and lateral forces.

Observation-14: Design report required to be reviewed by RSC for lateral loading. (UGWR & Fire Pump room)



Description: A set of design documents was available for the structure. Top slab of the UGWR used for temporary storage & vehicle movement purposes. The building engineer is required to revise the design report considering the onsite conditions and lateral forces.

Observation-15: Crack on retaining walls (UGWR & Fire Pump Room)



Description: Crack in retaining wall was observed. Most of the crack locations have been repaired. The building engineer is required to monitor the crack locations, keep crack monitoring data and take further necessary measures if required.

3. Action Plan

Item No.	Observation	Action Plan	Timeline
1.	Lack of information in design documents. (Office Building)	Verify in situ material strength (concrete compressive strength)	within 6 weeks
2.		The building should be assessed in accordance with BNBC 2020 unless availability of building permit from BEPZA dated before Feb 2021. The building engineer is required to confirm the material's strength and incorporate the slab & lift core adequacy check in the design report following BNBC 2020 and submit it to the RSC for review.	within 6 weeks
3.		Carry out the suggested remedial works.	within 6 months
4.	Mismatch in the prepared as-built drawings. (Office Building)	The building engineer is required to survey the structure and update the as-built drawing.	within 6 weeks
5.	Standing water on the roof. (Office Building)	The building engineer is required to improve the roof drainage system.	within 6 months
6.	Offset in bracing to the column/rafter connection (Main Factory Building).	The building engineer is required to update the design report of the structure, considering the offset, and as per 1.9.1 BNBC.	within 6 weeks
7.		Implement remediation work if required.	within 6 months
8.	Improper material test report (Main Factory Building).	The building engineer is required to verify the steel strength from any UGC approved university testing lab of Bangladesh.	within 6 weeks
9.	The load plan doesn't comply with BNBC (Main Factory Building).	The factory engineer is required to revise the load plan as per the BNBC requirement and check the design accordingly.	within 6 weeks
10.	Discrepancy in the as-built drawing (Main Factory Building).	The building engineer is required to survey the whole structure and prepare an accurate as-built drawing.	within 6 weeks
11.	Absence of design check for slender storage racks (Main Factory Building).	The building engineer is required to prepare a design check for the slender racks and submit it to RSC for review.	within 6 weeks
12.		Implement remediation work if required.	within 6 months

13.	Corrosion on steel members (Main Factory Building).	The building engineer is required to provide rust-proof coating on steel members.	within 6 weeks
14.	Nonstructural storage racks found unanchored/unbraced (Main Factory Building).	Anchor/brace all nonstructural storage racks.	within 6 months
15.	Falling hazard at the roof (Utility Building-1).	The building engineer is required to provide a parapet/railing to avoid a falling hazard. Otherwise, seal the access.	within 6 weeks
16.	Falling hazard at the roof (Connecting Bridge).	The building engineer is required to provide a parapet/railing to avoid a falling hazard. Otherwise, seal the access.	within 6 weeks
17.	Connection gap and loose bolt (Connecting Bridge).	The building engineer is required to repair the gap with a suitable method, tighten the loose bolt.	within 6 weeks
18.	Design report required to be reviewed by RSC for lateral loading. (Dining Building)	Verify in situ material strength (concrete compressive strength)	within 6 weeks
19.		The building engineer is required to revise the design report considering the onsite conditions and lateral forces. Submit the revised design documents to RSC for review.	within 6 weeks
20.		Carry out the suggested remedial works.	within 6 months
21.	Design report required to be reviewed by RSC for lateral loading. (UGWR & Pump Room)	The building engineer is required to revise the design report considering the onsite conditions and lateral forces. Submit the revised design documents to RSC for review.	within 6 weeks
22.		Carry out the suggested remedial works.	within 6 months
23.	Crack on retaining walls (UGWR & Fire Pump room)	The building engineer is required to monitor the crack locations, keep crack monitoring data and take further necessary measures if required	within 6 months