

INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **MHC Apparels (Pvt.) Ltd.**
Address: **Holding-297/1, Block-B Ward# 4, Vangnahati, Sreepur
Gazipur Dhaka Bangladesh**
Assessor: **EIMS**
Date: **19 Aug 2018**



Introduction to the Report

The following report contains a site profile and summary of non-conformities identified during an onsite assessment commissioned by the Alliance for Bangladesh Worker Safety (Alliance) and conducted by a third-party Qualified Assessment Firm (QAF). The assessment was conducted against the Alliance for Bangladesh Worker Safety Assessment Protocols (APs) and Fire Safety and Structural Integrity Standard, which is harmonized with the factory assessment guidelines developed by Bangladesh University of Engineering and Technology (BUET) for the Bangladesh National Tripartite Plan of Action (NTPA). The goal of the Alliance process is to provide clear and practical technical requirements by which Bangladeshi Ready Made Garment (RMG) Factories producing for Alliance members may be consistently and fairly evaluated for fire, structural, and electrical safety in a non-duplicative manner. Each assessment will prompt action plans that will be used by RMG factories to systematically and sustainably improve safety conditions for garment workers. Beyond tracking and reporting on action steps taken in a transparent manner, the Alliance organization and its members will seek to further support factory improvements through technical assistance, training, implementation support for functional Worker Committees, and in some cases financial assistance and wage support for workers if factories are closed for remediation.

The contents of the report do not constitute a guarantee of compliance with the applicable laws, the Alliance Standard or the absolute or continued safety against fire, electrical and/or structural integrity issues that may lead to injury or loss of life. The report is designed to provide a non-exhaustive summary of risk issues, based on a limited sampling and duration of time onsite by the named QAF. Neither the QAF nor the Alliance can certify or guarantee the quality, outcome, or effectiveness of actions taken in response to the report.

For more information and report feedback please go to: www.bangladeshworkersafety.org.



GENERAL INFORMATION

General Information	
Factory Name:	MHC Apparels (Pvt.) Ltd.
Address:	Holding-297/1, Block-B Ward# 4, Vangnahati, Sreepur Gazipur Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Gazipur
Zip Code:	1704
Audit Duration:	1 Days 00 Hours
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	August 28, 2018
Final Report Date :	September 19, 2018
Buildings in Complex :	There are one main building and two ancillary buildings in complex. Main building: Garments Building 01 and Ancillary Building: Energy Building 03 and Dining Building 02.
Number of Building Levels (Stories) :	Garments Building 01: 6 storied; Energy Building 03: 2 storied; Dining Building 02: designed for 6 storied, existing 4 storied & remaining 2 storied is under construction.
Approximate Building Area (SF) :	Garments Building 01: GF-33452 sft, 1F~5F-30,941 sft Total= 1,88,157 sft. Energy Building 03: GF-3,232 sft, 1F-1,310 sft; Total= 4,542 sft. Dining Building 02: GF-3,039 sft, 1F~3F-3,089 sft; Total= 12,306 sft; Total Building area covered= 2,05,005 sft
Date of Building Construction :	Garments Building 01: 2015; Energy Building 03: 2016 & Dining Building 02: 2016 (upto 4 story. designed for 6 story, remaining 2 story is under construction.)
Date of Last Building Renovation/Addition :	Dining Building 02 is designed for 6 story, lower 4 story has been constructed on 2016 and remaining 2 story is under construction.
Is the Building mixed use?:	No
Ancillary Structures in Complex :	There are two ancillary buildings in complex: Energy Building 03 and Dining Building 02.
Number of Ancillary Levels (Stories) :	Energy Building 03: 2 storied; Dining Building 02: designed for 6 storied, existing 4 storied & remaining 2 storied is under construction.
Approximate Ancillary Structures Area (SF) :	Energy Building 03: GF-3232 sft, 1F-1310 sft; Total= 4,542 sft. Dining Building 02: GF-3039 sft, 1F~3F-3089 sft; Total= 12,306 sft
Number of Occupants :	1. 6 Storied Garments Building (Building_01) approximately 1,974 Persons= GF 47 Persons + 1st Floor 160

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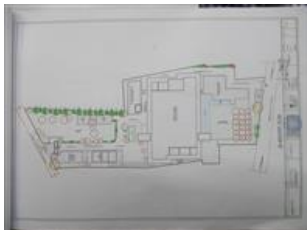
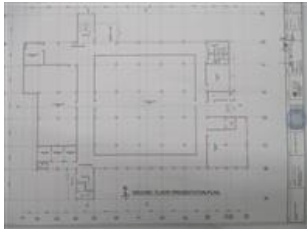
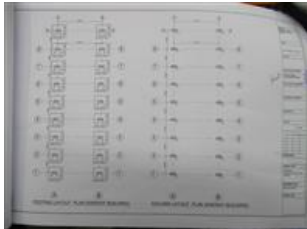
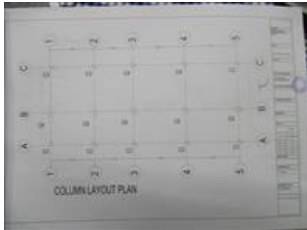
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	Persons + 2nd Floor 580 Persons + 3rd Floor 555 Persons + 4th Floor 361 Persons + 5th Floor 271 Persons. 2. 4 Storied Dining Building (Building_02) approx. 570 Persons= GF 5 Persons + 1st Floor 5 Persons + 2nd Floor 280 Persons (Floating) + 3rd Floor 280 Persons (Floating). 3. 2 Storied Energy Building (Building_03) approximately 3 Persons= GF 3 Persons + 1st Floor 0 Person.
Exterior Facade Description :	All buildings: 10 inch brick masonry wall both side non-plastered without reinforcement in facade wall, some window and some glasses in the building.
Structural System Description :	All buildings: RC frame structure (Beam-column framing). Foundation is individual column footing.
Issues were not found during the structural integrity assessment that required the Emergency Escalation Protocol (and referral to NTC Review Panel)?:	Yes



ASSESSMENT FINDINGS

Structural System Design

Question:	Are credible structural design documents available for review and kept on site?	    
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Design report was not available for Garments Building 01, Energy Building 03 and Dining Building 02. Detail Drawing of underground Pump House should be incorporated in structural drawing of Garments Building 01.	
Source of Findings:	Document Review: As-built drawing of all buildings	
Suggested Plan of Action:	Have a qualified structural engineer prepare credible as-built documents based on the requirements of Part 8 Section 8.19 of the Alliance Standard.	
Suggested Deadline Date:	15 Oct 2018	
Standard:	Alliance Standard Part 8 Section 8.19 Required Structural Documentation for New and Existing Factories	
Question:	Can credible structural documentation indicating general conformance with 2006 BNBC or other comparable applicable international model building code be produced?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Design report was not available for Garments Building 01, Energy Building 03 and Dining Building 02 to confirm with 2006 BNBC or other comparable	



	applicable international model building code.	
Source of Findings:	Document Review: Document reviewed during Site visit on 3 May, 2018	
Suggested Plan of Action:	Engage a qualified structural engineer to develop the required documents to confirm the structural integrity of the buildings. Documents must comply with Alliance Standard Part 8 Section 8.19 and 8.20	
Suggested Deadline Date:	15 Oct 2018	
Standard:	Reference Alliance Standards Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	If built after 2006, can documented compliance with the seismic and wind requirements of the 2006 BNBC be provided?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Design report was not available for Garments Building 01, Energy Building 03 and Dining Building 02 to confirm with the seismic and wind requirements of the 2006 BNBC.	
Source of Findings:	Document Review: Document reviewed during Site visit on 3 May, 2018	
Suggested Plan of Action:	Have a qualified structural engineer document compliance with the seismic and wind requirements stated in the 2006 BNBC.	
Suggested Deadline Date:	15 Oct 2018	
Standard:	Alliance Standards Part 8 Section 8.17 Design for Lateral Loads and 2006 BNBC Part 6 Section 1.5	
Question:	Can documentation be provided that the building is compliant with the requirements for wind loading and storm surge loadings as detailed in BNBC Part 6 Section 1.5.3?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Design report was not available for Garments Building 01, Energy Building 03 and Dining Building 02 to confirm with the requirements for wind loading and storm surge loadings as detailed in BNBC Part 6 Section 1.5.3.	
Source of Findings:	Document Review: Document reviewed during Site visit on 3 May, 2018	
Suggested Plan of Action:	Engage a qualified structural engineer to confirm satisfactory structural performance of the buildings under wind loading.	
Suggested Deadline Date:	15 Oct 2018	



Standard:	2006 BNBC Part 6 Section 1.5. Compliance may be waived if the Factory Owner provides satisfactory evidence of a cyclone operations plan that includes full evacuation of the factory in advance of any approaching cyclone"	
Question:	Are Certificates of Occupancy available for review?	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	No Certificate of Occupancy was available during site visit.	
Source of Findings:	Document Review: Document reviewed during Site visit on 3 May, 2018	
Suggested Plan of Action:	Provide Certificates of Occupancy for review.	
Suggested Deadline Date:	15 Oct 2018	
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment	
Structural System Construction		
Question:	Are the performance of key structural elements such as columns, slender columns, flat plates and transfer structures satisfactory?	
Priority Level:	High	
Non-Compliance Level:	2	
Description:	Slender column was found at ground floor in Energy Building 03 and Dining Building 02.	
Source of Findings:	Uploaded Document: Slenderness check of column	
Suggested Plan of Action:	Engage a qualified structural engineer to confirm structural performance of the structure.	
Suggested Deadline Date:	15 Oct 2018	
Standard:	Alliance Standard Part 8 Section 8.3.3	



Question:	Is the structural system free of distress, separations, or cracking that indicates lack of performance or overstress of the lateral load-carrying system?
Priority Level:	High
Non-Compliance Level:	2
Description:	There was a connecting path from Garments Building 01 to Dining Building 02 which should be properly designed.
Source of Findings:	Photograph: Photograph of connecting path
Suggested Plan of Action:	Engage a qualified structural engineer to provide additional investigation into the areas of distress, separations, or cracking and provide a remediation plan if required.
Suggested Deadline Date:	15 Oct 2018
Standard:	Alliance Standard Part 8 Section 8.3.3
Question:	Have all areas of needed maintenance, including areas with efflorescence, dampness, standing water on rooftops, and corrosion been addressed.
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Water logging was found on rooftop of all buildings which need to be addressed.
Source of Findings:	Photograph: Water logging in Garments Building 01, Energy Building 03 and Dining Building 02
Suggested Plan of Action:	Under guidance from a qualified structural engineer, address all areas of needed maintenance by correcting the identified issues.
Suggested Deadline Date:	15 Oct 2018
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance



Structural Safety Programs

Question:	Is a program in place to ensure that the live loads for which a floor or roof is or has been designed will not be exceeded?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	No load management program was found during site visit.



Source of Findings:	Visual Assessment: Site visit on 3 May, 2018	
Suggested Plan of Action:	Develop a program to ensure that all live loads for which a floor or roof has been designed for will not be exceeded. The designated Load Manager shall oversee this program and ensure it is enforced.	
Suggested Deadline Date:	15 Oct 2018	
Standard:	Alliance Standard Part 13 Section 13.7 and Part 8 Section 8.9.	
Question:	Have Load Plans been prepared for each floor documenting the actual maximum operational loading that is intended and/or allowable on each floor.	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	No load plan was available for any building during site visit.	
Source of Findings:	Document Review: Document reviewed during Site visit on 3 May, 2018	
Suggested Plan of Action:	Have a qualified structural engineer develop Floor Loading Plans per the requirements of Part 8 Section 8.20.5.3	
Suggested Deadline Date:	15 Oct 2018	
Standard:	Alliance Standard Part 8 Section 8.10 Floor Loading Plans (Load Plans)	
Question:	Are Floor Load Plans posted as required?	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	No load plan was posted at any floor of all buildings.	
Source of Findings:	Visual Assessment: Site visit on 3 May, 2018	
Suggested Plan of Action:	Have a qualified structural engineer prepare load plans including the information required in Section 8.20 of the Alliance Standard.	
Suggested Deadline Date:	15 Oct 2018	
Standard:	Alliance Standard Part 8 Section 8.20.5.3	
Question:	Is a designated representative (Factory Load Manager), who is onsite full time, trained regarding the structural floor capacity, and serves as an ongoing vendor resource and monitor of operational factory floor loadings?	
Priority Level:	Low	
Non-Compliance Level:	2	

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Description:	No Factory Load Manager was available during site visit.	
Source of Findings:	Visual Assessment: Site visit on 3 May, 2018	
Suggested Plan of Action:	Designate a representative as the Factory Load Manager. The Factory Owner shall ensure that at least one individual, the Factory Load Manager who is located onsite full time at the factory, is trained in calculating operational load characteristics of the specific factory. The Factory Load Manager shall serve as an ongoing resource to RMG vendors and be responsible to ensure that the factory operational loads do not at any time exceed the factory floor loading limits as described on the Floor Loading Plans.	
Suggested Deadline Date:	15 Oct 2018	
Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager	