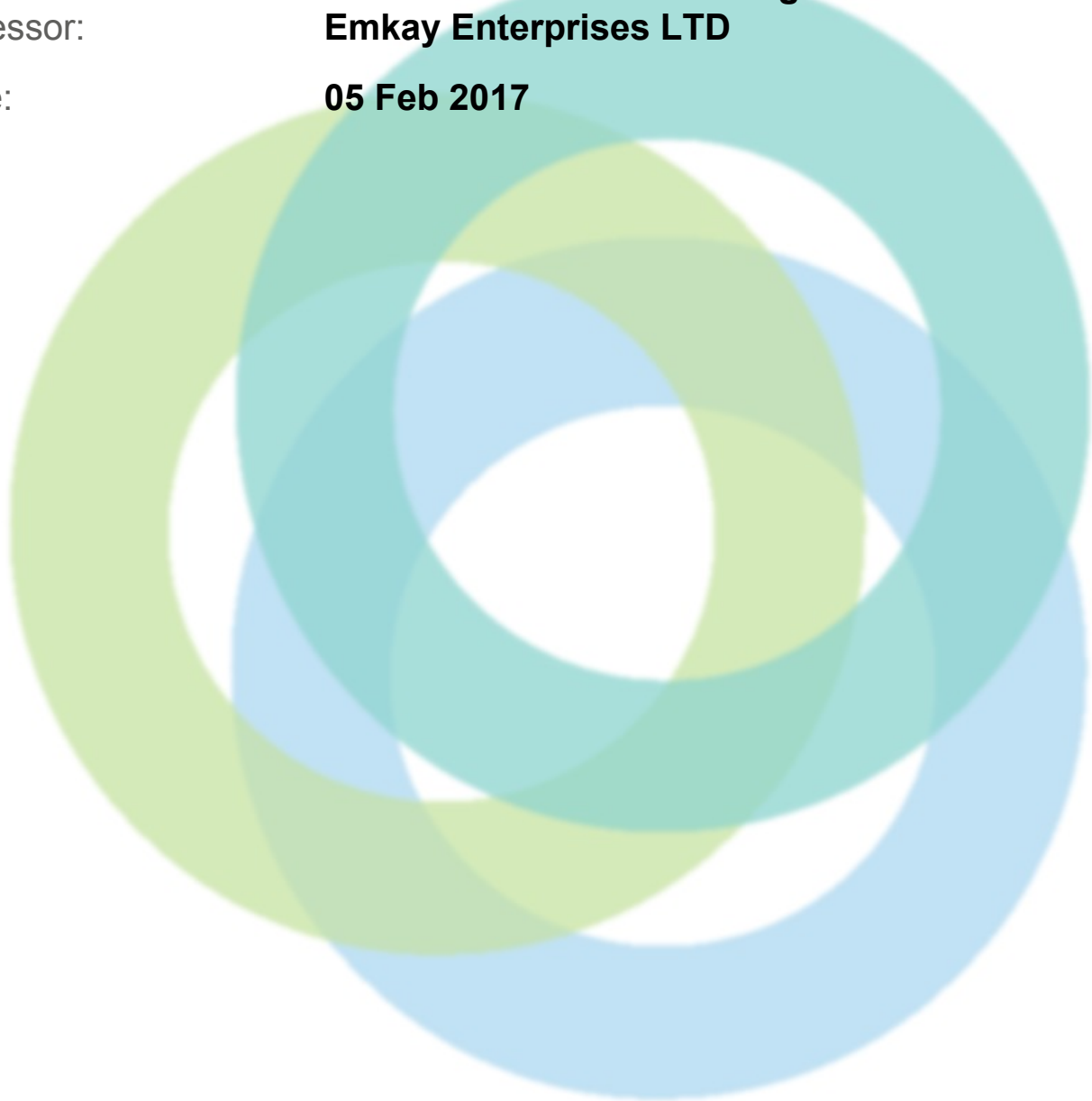


INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **Alpha Clothing Ltd. (New Location)**
Address: **TENGURI, BKSP, ASHULIA, SAVAR, DHAKA,
BANGLADESH Dhaka Bangladesh**
Assessor: **Emkay Enterprises LTD**
Date: **05 Feb 2017**





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:	Alpha Clothing Ltd. (New Location)
Address:	TENGURI, BKSP, ASHULIA, SAVAR, DHAKA, BANGLADESH Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	
Zip Code:	
Audit Duration:	1 Days 0 Hours
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	13 February 2017
Final Report Date :	20 February 2017
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex :	There are 05 buildings (01 main buildings and 04 ancillary buildings)
Number of Building Levels (Stories) :	Main building: Six stories (G+5). And 3rd, 4th & 5th floor is under construction.
Approximate Building Area (SF) :	Total: 45,000.00 SF. [Main Building: G.F: 15,000.00, 1st: 15,000.00, 2nd: 15,000.00)
Date of Building Construction :	2014-17
Date of Last Building Renovation/Addition :	Building construction running.
Is the Building mixed use?:	No
Ancillary Structures in Complex :	There are four (04) ancillary structures.
Number of Ancillary Levels (Stories) :	All are single story.
Approximate Ancillary	Total: 6,600.00 SF. [01) Dinning & Office: 3,200.00, 02) Security room: 300.00, 03) Child care & Medical:

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Structures Area (SF) :	1,975.00, 04) Utility building: 1,125.00]
Number of Occupants :	Total Occupant: 321. [01) Main Building: G.F: 25, 1st: 25, 2nd: 250, 02) Dinning & Office Shed: 05, 03) Security room: 04, 04) Child care & Medical Shed: 10, 05) Utility building: 02]
Exterior Facade Description :	The exterior facade is infilled masonry wall with plaster finished and painted and windows are frame type.
Structural System Description :	01. Main building: Beam-column moment resisting frame system; 02. Utility building : Beam-column moment resisting frame system; 03. Other Ancillary structure: Masonry structure with steel truss roofing.
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:	Has evidence of structural integrity been provided using a Preliminary Structural Assessment?	
Priority Level:	High	
Non-Compliance Level:	3	
Description:	Evidence of structural retrofication was observed during document review at site. So, retrofit design documents should be reviewed and accepted by the Alliance.	
Source of Findings:	Document Review: Execution of structural retrofication of some parts were observed during visual inspection. So, retrofit design documents should be reviewed and accepted by the Alliance., Photograph: Retrofication Column Schedule.	
Suggested Plan of Action:	Retrofit design documents should be reviewed by a qualified structural engineer on behalf of the Alliance.	
Suggested Deadline Date:	15 Apr 2017	
Standard:	Reference Alliance Standards Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	Is a clear and redundant load path to resist lateral loads provided?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	DEA report of main building reflects redundant load path but as no design report is available for ancillary structures, load path is not clear for ancillary buildings.	
Source of Findings:	Document Review: DEA report of main building reflects redundant load path but as no design report is available for ancillary structures, load path is not clear for ancillary buildings.	
Suggested Plan of Action:	Have a qualified structural engineer complete further analysis of the ancillary structures and develop a remediation plan if required.	
Suggested Deadline Date:	15 Apr 2017	
Standard:	Alliance Standards Part 8 Section 8.17 Design for Lateral Loads and 8.3.3. 2006 BNBC Part 6 Section 1.5	
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:	Structural design drawing was found during document review but consideration of BNBC 2006 were not found as general conformance. Specifically, a design report was available and indicated consideration of BNBC 2006, but no general notes were found with the structural drawings to confirm this information.
Source of Findings:	Document Review: Structural design drawing was found during document review but consideration of BNBC 2006 were not found as general conformance.
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 Apr 2017
Standard:	Reference Alliance Standards Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings
Question:	Are Certificates of Occupancy available for review?
Priority Level:	Low
Non-Compliance Level:	2
Description:	The factory has not obtained the certificate of occupancy from the authority.
Source of Findings:	Document Review: The document review shows that the factory has not obtained the certificate of occupancy from the authority.
Suggested Plan of Action:	Provide Certificates of Occupancy for review.
Suggested Deadline Date:	15 Apr 2017
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:	3
Description:	No slender columns were found and also no cracks or others distress were





	observed in columns. But evidence of column retrofitting was found during document review and visual inspection to correct structural deficiencies.
Source of Findings:	Document Review: Evidence of retrofication was found during document review and visual inspection to correct structural deficiencies., Photograph: Correction of structural deficiency.
Suggested Plan of Action:	Design drawings and reports for the column retrofitting have to be reviewed by Alliance.
Suggested Deadline Date:	15 Apr 2017
Standard:	Alliance Standard Part 8 Section 8.3.3
Question:	Are all non-structural elements suspended from, attached to, or resting atop the structure adequately anchored and braced to resist earthquake forces?
Priority Level:	Medium
Non-Compliance Level:	3
Description:	The storage racks were anchored and braced but plastic water tanks on roof top of main building were not braced.
Source of Findings:	Photograph: 01. Braced storage racks; 02. Non-braced plastic water tank.
Suggested Plan of Action:	Adequately anchor and brace all non-structural elements to resist earthquake forces to comply with the BNBC and Alliance Standard.
Suggested Deadline Date:	15 Apr 2017
Standard:	Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6
Question:	Are any structural elements constructed with MCAC exposed to rainfall or other sources of water sealed with a protective coating to prevent water intrusion?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Utility building roof is constructed with MCAC and exposed to rainfall.
Source of Findings:	Visual Assessment: Utility building roof is constructed with MCAC and exposed to rainfall.
Suggested Plan of Action:	Provide a protective coating at the structural elements constructed with MCAC exposed to rainfall or other sources of water. Have protective coating approved by the Alliance or a qualified structural engineer.
Suggested Deadline Date:	15 Apr 2017





Standard:	Alliance Standards Part 7 Building Materials Section 7.2 Masonry-chip aggregate concrete (MCAC).
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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:	There is no program that will ensure that the designated load in each floor will not be exceeded.
Source of Findings:	Document Review: Document review shows that there is no program that will ensure that the designated load in each floor will not be exceeded.
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 Apr 2017
Standard:	Alliance Standard Part 13 Section 13.7 and Part 8 Section 8.9.
Question:	Are areas used for storage of work materials and work products, clearly marked to indicate the acceptable loading limits as described in the Load Plan for that floor?
Priority Level:	Low
Non-Compliance Level:	2
Description:	Areas used for storage of work materials and work products have not been marked to indicate the acceptable loading limits.
Source of Findings:	Visual Assessment: Storage area of work materials were not marked about the acceptable loading limits.
Suggested Plan of Action:	Provide signage or the appropriate markings at all areas used for storage to indicate the acceptable loading limits detailed in the Load Plan.
Suggested Deadline Date:	15 Apr 2017
Standard:	Alliance Standard Part 8 Section 8.11 Floor Load Markings
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:	There is no 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 loading.
Source of Findings:	Visual Assessment: During visual inspection, No designated representative Factory Load Manager was found.
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 Apr 2017
Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager