

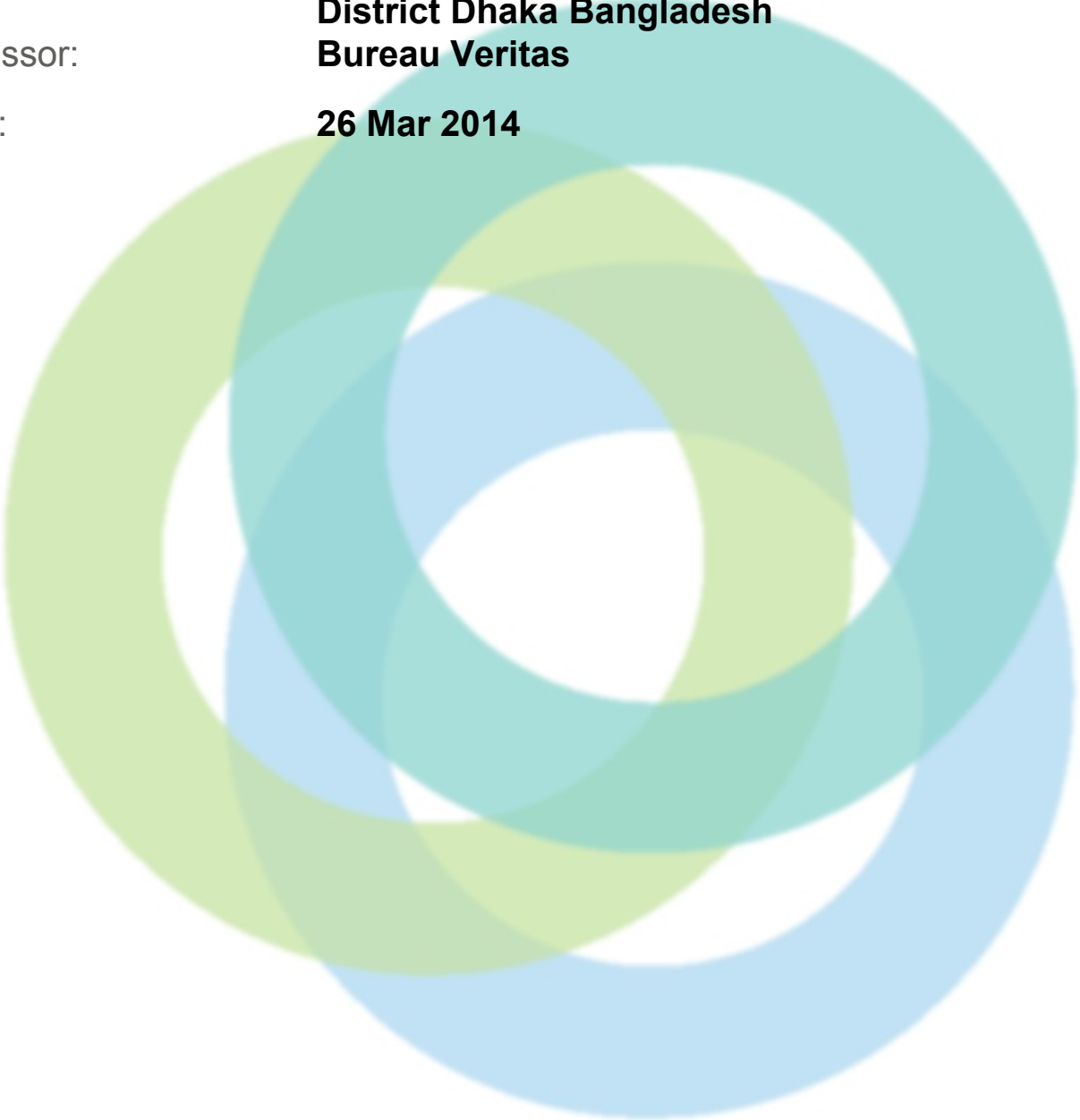
INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **Cosmopolitan Industries (Pvt) Ltd**

Address: **Khejur Bagan, Mouja: Baro Ashulia, PS. Ashulia,
District Dhaka Bangladesh**

Assessor: **Bureau Veritas**

Date: **26 Mar 2014**



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:	Cosmopolitan Industries (Pvt) Ltd
Address:	Khejur Bagan, Mouja: Baro Ashulia, PS. Ashulia, District Dhaka Bangladesh
Country:	Bangladesh
Province:	
City:	Dhaka
Zip Code:	1341
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	06-02-2014
Final Report Date :	10-27-2014
Are all Action Items From Previous Assessment Completed?:	Yes
Buildings in Complex :	There are 6 buildings in the factory premises out of which one is main production building and five are ancillary buildings. The buildings are named as: 1) Six story main production building, 2) Two story utility building, 3) Two story office building, 4) Two story medical & day care (RCC building), 5) Single story RCC building (security, RMS & drivers waiting room), 6) Three story prefab shed (warehouse);
Number of Building Levels (Stories) :	1) Six story main production building: Stories above grade: 6, Stories below grade: 0, Occupied levels: 6, 2) Two story utility building: Stories above grade: 2, Stories below grade: 0, Occupied levels: 2, 3) Two story office building: Stories above grade: 2, Stories below grade: 0, Occupied levels: 2, 4) Two story medical & day care (RCC building): Stories above grade: 2, Stories below grade: 0, Occupied levels: 2, 5) Single story RCC building (security, RMS & drivers waiting room): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 6) Three story prefab shed (warehouse): Stories above grade: 3, Stories below grade: 0, Occupied levels: 3.
Approximate Building Area (SF) :	Total area of all buildings in the factory premises: 456408 sft. Building wise breakdown as follows: 1) Six story main production building: 379066 sft (Ground floor: 59800 sft, 1st floor: 36888 sft, 2nd floor: 61300 sft, 3rd floor: 61300 sft, 4th floor: 61300 sft, 5th floor: 49239 sft Roof: 49239 sft.). 2) Two story utility building: 27554 sft (Ground floor: 11634 sft, 1st floor: 7960 sft Roof: 7960 sft). 3) Two story office building: 6396 sft (Ground floor: 2132 sft, 1st floor: 2132 sft Roof: 2132 sft). 4) Two story medical & day care (RCC building): 6208 sft (Ground floor: 2038 sft, 1st floor: 2038 sft Roof: 2132 sft). 5) Single story RCC building (security, RMS & drivers waiting room): 732 sft. 6) Three story prefab shed (warehouse): 36452 sft (Ground floor: 14092 sft, 1st floor: 11180 sft, 2nd floor: 11180 sft).
Date of Building Construction :	Factory personnel informed the date of construction as follows: 1) Six story main production building: Finished in 2005, 2) Two story utility building: Finished in 2005, 3) Two story office building: Finished in 2008, 4) Two



	story medical & day care (RCC building): Finished in 2010, 5) Single story RCC building (security, RMS & drivers waiting room): Finished in 2005, 6) Three story prefab shed (warehouse): Finished in 2010.
Date of Last Building Renovation/Addition :	No record for date of renovation or addition was found from factory personnel.
Is the Building mixed use?:	No
Ancillary Structures in Complex :	1) Two story utility building, 2) Two story office building, 3) Two story medical & day care (RCC building), 4) Single story RCC building (security, RMS & drivers waiting room), 5) Three story prefab shed (warehouse).
Number of Ancillary Levels (Stories) :	1) Two story utility building: Stories above grade: 2, Stories below grade: 0, Occupied levels: 2, 2) Two story office building: Stories above grade: 2, Stories below grade: 0, Occupied levels: 2, 3) Two story medical & day care (RCC building): Stories above grade: 2, Stories below grade: 0, Occupied levels: 2, 4) Single story RCC building (security, RMS & drivers waiting room): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 5) Three story prefab shed (warehouse): Stories above grade: 3, Stories below grade: 0, Occupied levels: 3.
Approximate Ancillary Structures Area (SF) :	1) Two story utility building: 27554 sft (Ground floor: 11634 sft, 1st floor: 7960 sft Roof: 7960 sft). 2) Two story office building: 6396 sft (Ground floor: 2132 sft, 1st floor: 2132 sft Roof: 2132 sft). 3) Two story medical & day care (RCC building): 6208 sft (Ground floor: 2038 sft, 1st floor: 2038 sft Roof: 2132 sft). 4) Single story RCC building (security, RMS & drivers waiting room): 732 sft. 5) Three story prefab shed (warehouse): 36452 sft (Ground floor: 14092 sft, 1st floor: 11180 sft, 2nd floor: 11180 sft).
Number of Occupants :	Total number of occupants: 4720. 1) Six story main production building: 4449 (Ground floor: 320, 1st floor: 454, 2nd floor: 1375, 3rd floor: 1350, 4th floor: 750, 5th floor: 200), 2) Two story utility building: 40 (Ground floor: 30, 1st floor: 10), 3) Two story office building: 34 (Ground floor: 16, 1st floor: 18), 4) Two story medical & day care (RCC building): 12 (Ground floor: 5, 1st floor: 7), 5) Single story RCC building (security, RMS & drivers waiting room): 109, 6) Three story prefab shed (warehouse): 76 (Ground floor: 56, 1st floor: 10, 2nd floor: 10).
Exterior Facade Description :	The building is a RCC moment resisting frame structure with infilled masonry and well painted. Some portion are covered by glass. Window are glassed sliding type. There is parapet along all length of the main building.
Structural System Description :	The main building is a six story RCC moment resisting frame structure.



ASSESSMENT FINDINGS

Structural System Design

Question:	Are the available FoS for the columns adequate based on Preliminary calculation?	
Priority Level:	High	
Non-Compliance Level:	2	
Description:	Based on preliminary calculations, 1) Main building(For concrete strength 2500 psi based on UPV test): FoS for central column is 2.27, for corner column is 3.32, and for edge column is 2.45. For concrete strength 2370 psi: FoS for central column is 2.19, for corner column is 3.22, and for edge column is 2.36. 2) Meidcal & Day Care: (For concrete strength 2045 psi): Central Column: 4.00, Corner Column:5.75, Edge Column:4.26, 3) Utility Building: (For concrete strength 2370 psi): Central Column: 5.10, Corner Column:11.99, Edge Column:9.18, 4) Preliminary calculation could not be done for the office building as its columns are made of Masonry brick. 5) Single-story warehouse usually has racks with two different levels that make the storage area three-story. But this doesn't have any relation with the building's structural integrity. That concludes the building as single story.	
Source of Findings:	Uploaded Document: Column Stress Calculation Sheet	
Suggested Plan of Action:	Under guidance from a qualified structural engineer arrange a detailed engineering assessment of the structure with columns made of masonry bricks.	
Suggested Deadline Date:	21 Jul 2014	
Standard:	Provide results of preliminary calculations in space provided. a) column capacity; FoS > 1.86 - Safe b) column capacity; FoS 1.5 -1.86 - Needs Evaluation c) Column capacity; FoS 1.25-1.5 - Needs Evaluation d) Column capacity; FoS <1.25 - Unsafe In case of a critically low FoS (<1.25), consider Immediate Escalation Protocol	
Question:	Are Certificates of Occupancy available for review?	
Priority Level:	Low	
Non-Compliance Level:	1	
Description:	Applied for occupancy certificate to Public Works Department, Savar. File is kept on site.	
Source of Findings:	Document Review: From the document review, occupancy certificate application is submitted to Public works department, Savar, and the application file is kept on site.	
Suggested Plan of Action:	Provide Certificates of Occupancy for review.	
Suggested Deadline Date:	21 Jul 2014	



Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment	
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:	3	
Description:	There is no program to ensure that the designated load in each floor will not be exceeded.	
Source of Findings:	Document Review: Document pertaining the relevant information unavailable.	
Suggested Plan of Action:	Develop a program to ensure that all live loads for which a floor or roof has been designed will not be exceeded. The designated Load Manager shall oversee this program and ensure it is enforced.	
Suggested Deadline Date:	07 Jul 2014	
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:	3	
Description:	There is no load plan available showing the actual maximum operational loading that is allowable.	
Source of Findings:	Document Review: Document unavailable., Visual Assessment: Visually confirmed.	
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:	21 Jul 2014	
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:	3	
Description:	There is no floor load plan available.	
Source of Findings:	Document Review: There is no floor load plan available as documented., Visual Assessment: Visual assessment of the structure shows that there is no floor load plan.	



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:	21 Jul 2014
Standard:	Alliance Standard Part 8 Section 8.20.5.3
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:	3
Description:	There is no load plan. Also, there is no marking on the floor to designate spaces and height for storage of work materials.
Source of Findings:	Visual Assessment: Visual inspection shows that there is no marking on the floor to designate spaces and height for storage of work materials.
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:	21 Jul 2014
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
Description:	There is a designated representative (Factory Load Manager), who is onsite full time, but not trained regarding the structural floor capacity plan and serving as an ongoing vendor resource and monitor of operational factory floor loading.
Source of Findings:	Document Review: Confirmed by reviewing document pertaining the relevant information., Visual Assessment: Confirmed visually.
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:	07 Jul 2014
Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager



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ALLIANCE
FOR BANGLADESH WORKER SAFETY