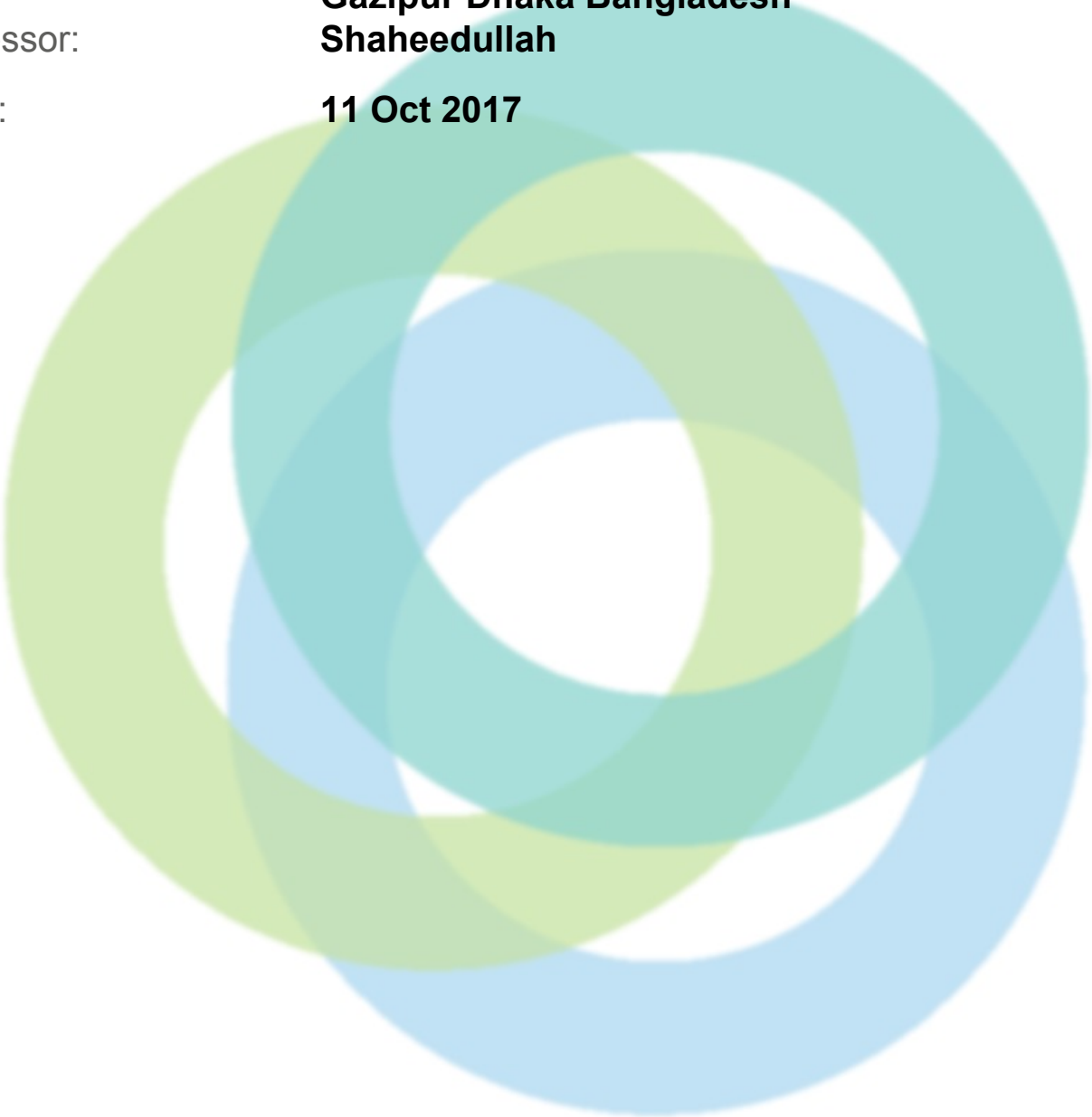


INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **Patriot Eco Apparel Ltd**
Address: **Tongi BISIC Industrial Estate Plot no. B 35 & 50
Gazipur Dhaka Bangladesh**
Assessor: **Shaheedullah**
Date: **11 Oct 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:	Patriot Eco Apparel Ltd
Address:	Tongi BISIC Industrial Estate Plot no. B 35 & 50 Gazipur Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Gazipur
Zip Code:	
Audit Duration:	2 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	20/10/2017
Final Report Date :	13/11/2017
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex :	There is 1 building in the factory complex. Name of the building is 8-storied (B+8) Rc production building.
Number of Building Levels (Stories) :	i) 8-storied (B+8) Rc production building: 1 story below grade and 8 storied above grade.
Approximate Building Area (SF) :	i) 8-storied (B+8) Rc production building: about 1,64,000 sft.
Date of Building Construction :	2016-2017.
Date of Last Building Renovation/Addition :	No renovation and addition has been noticed.
Is the Building mixed use?:	Yes
Ancillary Structures in Complex :	There is no Ancillary building.
Number of Ancillary Levels (Stories) :	N/A
Approximate Ancillary	N/A

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ALLIANCE
FOR BANGLADESH WORKER SAFETY

Structures Area (SF) :	
Number of Occupants :	Total = 2000 Persons.
Exterior Facade Description :	i) 8-storied (B+8) Rc production building: Rc frame work infill with 10" thick masonry wall, Aluminum window and Aluminum Louver.
Structural System Description :	i) 8-storied (B+8) Rc production building: Frame work of the building is composed of Rc slab, beams and columns supported by pile foundation.
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:	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:	Credible structural documentation indicating general conformance with BNBC 2006 has not been found.	
Source of Findings:	Document Review: Seen all documents	
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:	31 Dec 2017	
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:	Documentation of compliance with the seismic and wind requirements of BNBC 2006 has not been found.	
Source of Findings:	Document Review: Seen all documents	
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:	31 Dec 2017	
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:	Documentation of compliance with the requirements for wind loading and storm surge loadings as detailed in BNBC part6, section 1.5.3 has not been found.
Source of Findings:	Document Review: Seen all documents
Suggested Plan of Action:	Engage a qualified structural engineer to confirm satisfactory structural performance of the buildings under wind loading.
Suggested Deadline Date:	31 Dec 2017
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:	Have provisions been made in floors or decks for a concentrated load (such as heavy equipment, water tanks, stored materials, etc) applied at a location wherever this load acting upon an otherwise unloaded floor would produce stresses greater than those caused by a uniform load?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Multiple water tanks have been noticed over the roof.
Source of Findings:	Photograph: Water tanks picture attached
Suggested Plan of Action:	Engage a qualified structural engineer to confirm and document that provisions have been made to accommodate concentrated loads. If provisions have not been made, have a qualified structural engineer develop a remediation plan.
Suggested Deadline Date:	31 Dec 2017
Standard:	Alliance Standard Part 8 Section 8.13 and 8.14
Question:	Where density of operations, storage of materials, or equipment weights require live load capacity in excess of 2.0 kN/m2 (42 psf), do the design documents confirm that the required load capacity exists? Or has the load capacity been analytically confirmed and certified by an Alliance-qualified structural engineer?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Overloading in excess of 42 psf at 1st and 6th floor has been noticed.
Source of Findings:	Photograph: Overloading picture, Visual Assessment: Visual inspection
Suggested Plan of Action:	Have a qualified structural engineer confirm that capacity to support the load is available. Load Plans complying with Alliance Standard Part 8 Section





	8.20.4.3 should also be developed.
Suggested Deadline Date:	31 Dec 2017
Standard:	Alliance Standards Part 8 Section 8.15 Minimum Floor Design Loads
Question:	Are Certificates of Occupancy available for review?
Priority Level:	Low
Non-Compliance Level:	2
Description:	Certificate of Occupancy is not available.
Source of Findings:	Document Review: Seen all documents
Suggested Plan of Action:	Certificate of occupancy shall be obtained from appropriate authority.
Suggested Deadline Date:	31 Dec 2017
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment

Structural System Construction

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:	Sign of standing water has been noticed over roof top.
Source of Findings:	Photograph: Sign of standing water, Visual Assessment: Visual inspection
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:	31 Dec 2017
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance
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:	2





Description:	Water tanks over the roof and steel racks in 1st floor of production building have been noticed without seismic anchorage.
Source of Findings:	Photograph: Steel racks, Visual Assessment: Visual inspection
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:	31 Dec 2017
Standard:	Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6



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:	Floor load program for floors ensuring the live loads for which a floor designed has not been found.
Source of Findings:	Document Review: No documented load management plan.
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:	31 Dec 2017
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:	Floor load plans have been found but not developed following alliance standard.
Source of Findings:	Document Review: Seen all documents
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:	31 Dec 2017
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:	Floor load plans have been posted but not developed following alliance standard.	
Source of Findings:	Visual Assessment: Visual inspection	
Suggested Plan of Action:	Have a qualified structural engineer prepare load plans including the information required in Section 8.20 of the Alliance Standard. Floor load plans should be visibly posted on all levels of the building.	
Suggested Deadline Date:	31 Dec 2017	
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:	2	
Description:	Load limits have not been marked.	
Source of Findings:	Visual Assessment: Visual inspection	
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:	31 Dec 2017	
Standard:	Alliance Standard Part 8 Section 8.11 Floor Load Markings	