INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name:	**STERLING STYLES LIMITED**
Address:	**Baron, Earpur Union, Ashulia, Savar Ashulia, Savar Dhaka Bangladesh**
Assessor:	**Bureau Veritas**
Date:	**31 May 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.

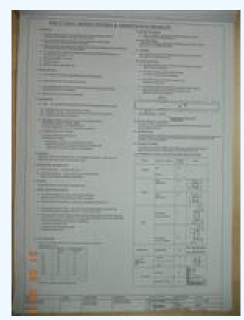
GENERAL INFORMATION

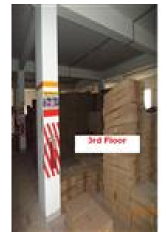
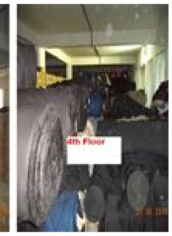
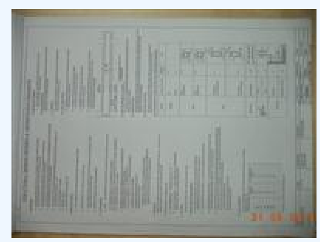
General Information	
Factory Name:	STERLING STYLES LIMITED
Address:	Baron, Earpur Union, Ashulia, Savar Ashulia, Savar Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Ashulia, Savar
Zip Code:	1349
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	06-03-2014
Final Report Date :	10-13-2014
Are all Action Items From Previous Assessment Completed?:	Yes
Buildings in Complex :	There are 2 buildings in the factory premises out of which one is main building and another one is ancillary building. The buildings are named as: 1) Seven story main building, 2) Single story security station.
Number of Building Levels (Stories) :	1) Seven story main building: Story above grade: 7, Story below grade: 0, Occupied levels: 7 (with occupied roof), 2) Single story security station: Story above grade: 1, Story below grade: 0, Occupied level: 1.
Approximate Building Area (SF) :	349990 sft.
Date of Building Construction :	1) Seven story main building: From ground floor to 3rd floor: 2007.
Date of Last Building Renovation/Addition :	1) Seven story main building: From 4th floor to 6th floor: 2014.
Is the Building mixed use?:	No
Ancillary Structures in Complex :	Single storied security station.
Number of Ancillary Levels (Stories) :	1 (Grade)

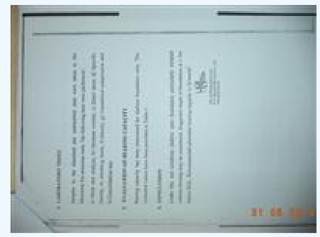
Approximate Ancillary Structures Area (SF) :	50.00 sft.
Number of Occupants :	3490
Exterior Facade Description :	Infilled brick masonry walls with barred glass windows.
Structural System Description :	Moment resisting frame with isolated footing foundation

ASSESSMENT FINDINGS

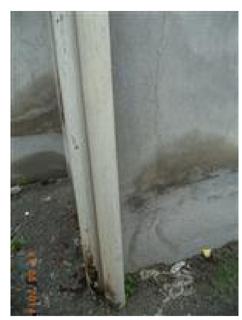
Structural System Design

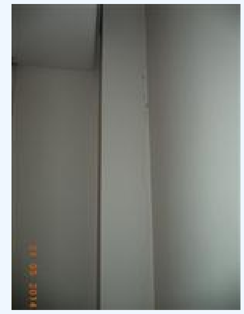
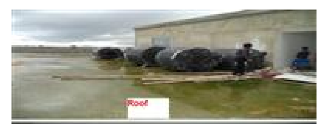
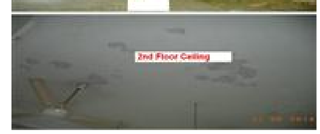
Question:	Have provisions been made in floors or decks for a concentrated load (such as heavy equipment, water tanks, stored materials, etc) applied at a location wherever this load acting upon an otherwise unloaded floor would produce stresses greater than those caused by a uniform load?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	There is one RCC water tank on the roof supported by RC columns. This water tank is undocumented.	
Source of Findings:	Visual Assessment: Visually confirmed	
Suggested Plan of Action:	Engage a qualified structural engineer to confirm and document that provisions have been made to accommodate this RCC water tank	
Suggested Deadline Date:	31 Oct 2014	
Standard:	Alliance Standard Part 8 Section 8.13 and 8.14	
Question:	Are credible structural design documents available for review and kept on site?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	A set of structural design documents are available on site for review. However, the design report is not available which is required as per BNBC 2006 clause 1.9.1.1.	
Source of Findings:	Document Review: Document review shows a set of structural design documents are available on site for review. However, the design report is not available which is required as per BNBC 2006 clause 1.9.1.1.	
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:	21 Jul 2014	
Standard:	Alliance Standard Part 8 Section 8.19 Required Structural Documentation for New and Existing Factories	

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:	The estimated floor load exceeds 42 psf at the 3rd and 4th floors.	
Source of Findings:	Visual Assessment: Shows that,the estimated floor load exceeds 42 psf at the 3rd and 4th floors.	
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:	21 Jul 2014	
Standard:	Alliance Standards Part 8 Section 8.15 Minimum Floor Design Loads	
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:	1	
Description:	The design indicates consideration of wind load, but no information regarding storm surge loading is specified.	
Source of Findings:	Document Review: Documents review shows the design indicates consideration of wind load, but no information regarding storm surge loading is specified.	
Suggested Plan of Action:	Engage a qualified structural engineer to confirm satisfactory structural performance of the buildings under surge loading.	
Suggested Deadline Date:	21 Jul 2014	
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:	1	
Description:	The factory has not obtained a Certificate of Occupancy from the authority.	

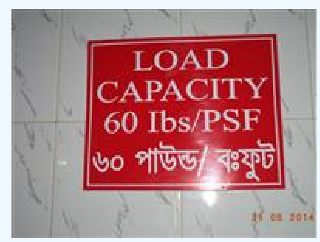
Source of Findings:	Document Review: Shows that the factory has not obtained a Certificate of Occupancy from the authority.	
Suggested Plan of Action:	Provide Certificates of Occupancy for review.	
Suggested Deadline Date:	21 Jul 2014	
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment	
Question:	Is a Geotechnical Report available for review and kept on site?	
Priority Level:	Low	
Non-Compliance Level:	1	
Description:	The Geotechnical Report is available, but lacks the MIEB no. of the geotechnical engineer.	
Source of Findings:	Document Review: The Geotechnical Report is available, but lacks the MIEB no. of the geotechnical engineer.	
Suggested Plan of Action:	Under guidance from a qualified structural engineer arrange geotechnical investigation at close vicinity of the structure and make the report available for review.	
Suggested Deadline Date:	17 Jul 2014	
Standard:	Alliance Standard Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	

Structural System Construction

Question:	Is the structural system free of settlement cracking, excessive perimeter separations, and unlevel floors attributable to foundation settlements?	
Priority Level:	High	
Non-Compliance Level:	3	
Description:	There are cracks noticed in the wall of the north east corner of the building at grid A10 (exterior grid of the building) which indicate possible settlement of the A10 column.	
Source of Findings:	Visual Assessment: There are cracks noticed in the wall of the north east corner part of the building at grid A10 (Exterior grid of the building) which indicate possible settlement of the A10 column.	
Suggested Plan of Action:	Have a qualified structural engineer provide further analysis and testing of the noted settlement and crack issues. If required, a remediation plan shall also be provided by the qualified structural engineer.	
Suggested Deadline Date:	21 Jul 2014	

Standard:	Reference Alliance Standards Part 8 Structural Design Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	Is the structural system free of distress, settlement, shifting, or cracking in columns or walls?	
Priority Level:	High	
Non-Compliance Level:	1	
Description:	There are no cracks in the columns. However, there are some masonry cracks in the walls which are not affecting the performance of the structure. Masonry cracks are located at the east side of the 2nd and 3rd floors of the building.	
Source of Findings:	Visual Assessment: There are some masonry cracks in the walls which are not affecting the performance of the structure.	
Suggested Plan of Action:	Have a qualified structural engineer provide further testing and analysis of distress, settlement, shifting, or cracking in columns or walls and provide a remediation plan to correct noted issues.	
Suggested Deadline Date:	22 Jul 2014	
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:	1	
Description:	1) Standing water has been observed on the roof. 2) Dampness has been observed at the ceiling of the 2nd floor.	
Source of Findings:	Visual Assessment: Several areas of needed maintenance were observed.	
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:	21 Jul 2014	
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:	1	
Description:	There are some fabric storage racks at the 4th floor which require bracing.	
Source of Findings:	Visual Assessment: Visually confirmed	
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:	01 Sep 2014	
Standard:	Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6	
Question:	The exterior façade is free of cracking.	
Priority Level:	Low	
Non-Compliance Level:	1	
Description:	There are minor cracks on non-load bearing walls of the façade at the east side of the building.	
Source of Findings:	Visual Assessment: Shows that there are minor cracks on the façade	
Suggested Plan of Action:	Have a qualified structural engineer provide further analysis of the identified cracks to determine the appropriate course of corrective action.	
Suggested Deadline Date:	21 Jul 2014	
Standard:	Alliance Standard Part 8 Section 8.2	
Question:	Is the building free of active signs of water intrusion or ponding due to lack of performance of the façade system?	
Priority Level:	Low	
Non-Compliance Level:	1	
Description:	There are some signs of dampness on the walls at the 6th floor due to lack of performance of the façade.	
Source of Findings:	Visual Assessment: Shows that, there are some signs of water intrusion, ponding or dampness due to lack of performance of the façade.	
Suggested Plan of Action:	Have the exterior façade repaired to ensure prevention of dampness.	
Suggested Deadline	31 Jul 2014	

Date:		
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:	3	
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:	21 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. The load capacity is posted, but without a well-prepared load plan.	
Source of Findings:	Document Review: There is no load plan available showing the actual maximum operational loading that is allowable., Visual Assessment: There is no load plan available showing the actual maximum operational loading that is allowable.	
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:	Floor load plans are not posted. (Only floor load capacity is posted without well-prepared floor load plan)
Source of Findings:	Visual Assessment: Floor load plans are not posted.
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 are no markings on the floor to designate spaces and height for storage of work materials
Source of Findings:	Visual Assessment: shows that there are no markings 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:	31 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:	3
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 loadings.
Source of Findings:	Document Review: Shows that there is no Load Manager present in the factory.
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:	21 Jul 2014	
Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager	