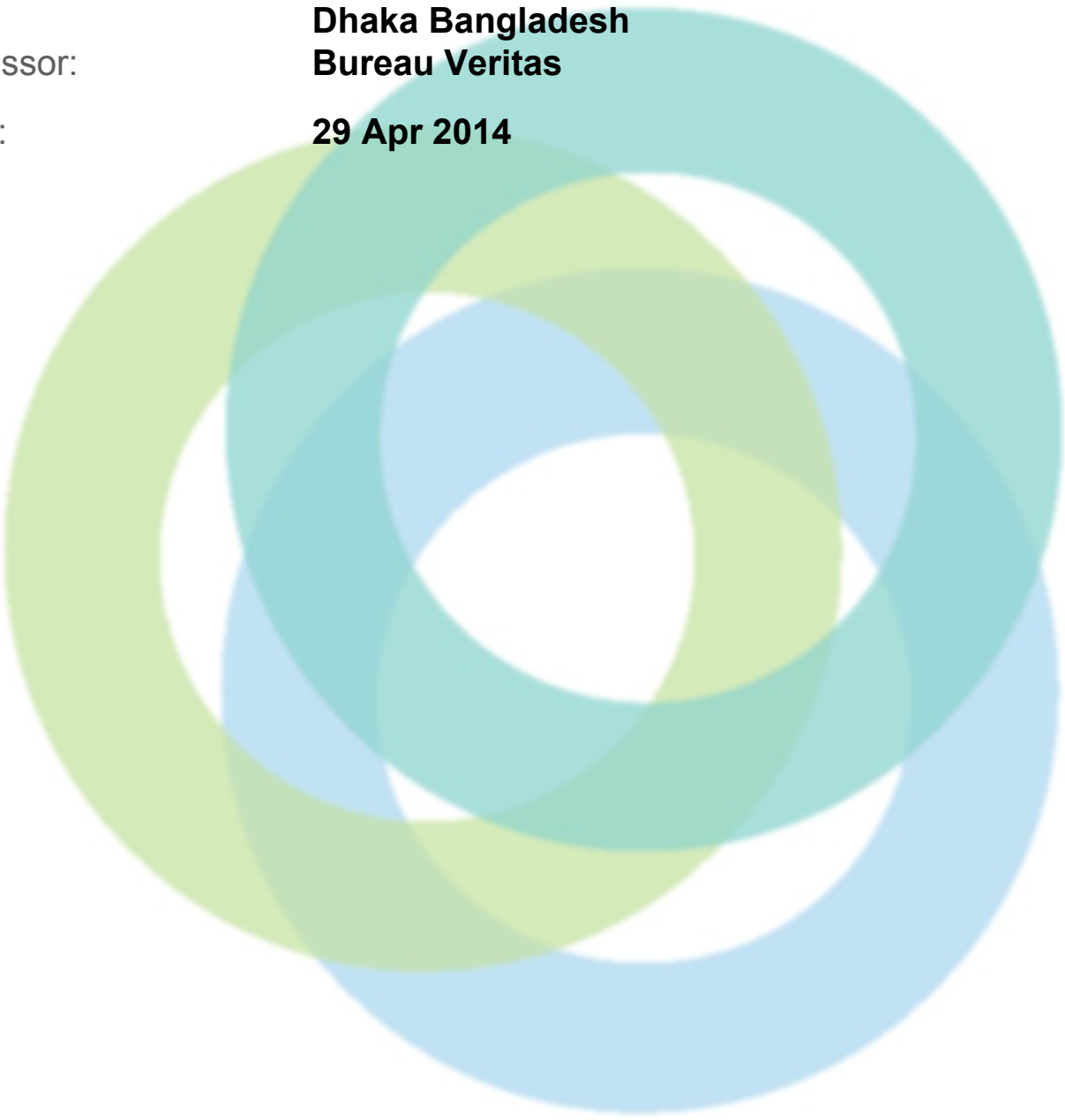


INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **Amantex Limited**
Address: **Boiragirchala Sreepur, Gazipur Sreepur, Gazipur
Dhaka Bangladesh**
Assessor: **Bureau Veritas**
Date: **29 Apr 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:	Amantex Limited
Address:	Boiragirchala Sreepur, Gazipur Sreepur, Gazipur Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Sreepur, Gazipur
Zip Code:	1740
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	05-14-2014
Final Report Date :	07-12--2014
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex :	There are 3 buildings in the factory premises out of which two are main production buildings and one is ancillary building. The buildings are named as: 1) Six story RCC main building with pre-fab shed on roof, 2) Five story RCC building (Under construction), 3) Single story security building.
Number of Building Levels (Stories) :	1)) Six story RCC main building with pre-fab shed on roof: (Stories above grade: 7, below grade: 0), 2) Five story RCC building (Under construction): (Stories above grade:5, below grade: 0), 3) Single story security building: (Stories above grade: 1, below grade: 0),
Approximate Building Area (SF) :	Total area of all buildings in the factory premises: 390075.96 sft.(Including roof square footage). Building wise breakdown as follows: 1) Six story RCC main building with pre-fab shed on roof: 318861.48 sft, (Ground floor: 73,211 sft, 1st floor: 51,669.2 sft, 2nd floor: 37,100.48 sft, 3rd floor: 39,220.2 sft, 4th floor: 39,220.2 sft, 5th floor: 39,220.2 sft, 6th floor: 29,224.16 sft, Unoccupied roof: 9996.04 sft) 2. Five story RCC building (Under construction): 70,994.48 Sft (Ground floor:38,994.24 sft, 1st floor: 32,000.24 sft, 2nd floor and above floors construction is going on) 3) Single story security building: 220 Sft.
Date of Building Construction :	Factory personnel informed the date of construction as follows: 1) Six story RCC main building with pre-fab shed on roof: Finished in 2007;
Date of Last Building Renovation/Addition :	No record of date of last building renovation/addition was found from factory personnel.
Is the Building mixed use?:	No



Ancillary Structures in Complex :	1) Single story security building.
Number of Ancillary Levels (Stories) :	1) Single story security building: (Stories above grade: 1, below grade: 0),
Approximate Ancillary Structures Area (SF) :	1) Single story security building: 220 Sft.
Number of Occupants :	Total number of occupants: 5034, 1. Six story RCC main building with pre-fab shed on roof:4530 (Ground floor: 507, 1st floor: 130, 2nd floor: 370, 3rd floor: 1094,4th floor:1056,5th floor:973,6th floor: 400), 2. Five story RCC building (Under construction):503 (Ground floor: 37,1st floor: 466), 3. Single story security building: 1.
Exterior Facade Description :	Outlook of the building is almost good. From the visual inspection, this is an isolated footing foundation frame structure where the load bearing components of the structure are RCC column, beam & slab. All the exterior & interior walls are of brick masonry in two factory buildings including the ancillary structures. The windows are swinging type with glass.
Structural System Description :	The building is a RCC moment resisting frame structure. Foundation type is isolated footing. Masonry wall is used as external & internal partition.



ASSESSMENT FINDINGS

Structural System Design

Question:	Are Certificates of Occupancy available for review?	
Priority Level:	Low	
Non-Compliance Level:	1	
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:	Apply for issuance of Certificate of Occupancy and pursue the matter to obtain the same.	
Suggested Deadline Date:	15 Sep 2014	
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment	
Question:	Structural Engineer of Record	
Priority Level:		
Non-Compliance Level:		
Description:	Md Monayem Hossain Advance Engineering Msc.Engineer(Civil),BUET FIEB/6255	
Source of Findings:	Document Review: From the submitted structural drawing it is found that the name of structural engineer is Md Monayem Hossain, B.Sc. in Civil Engineer (BUET),FIEB/6255.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Provide the name and firm of the structural engineer of record.	
Question:	Architect of Record	
Priority Level:		
Non-Compliance Level:		
Description:	M.M. Kamal,B Arch. Advance Engineering MIAB-k006	
Source of Findings:	Document Review: From the submitted document it is found that the name of	



	the architect is M.M. Kamal, B.Arch. MIAB-k006 & the firm name is Advance Engineering.
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Provide the name and firm of the architect of record.
Question:	Are credible structural design documents available for review and kept on site?
Priority Level:	Medium
Non-Compliance Level:	3
Description:	Structural design documents are available showing six stories. However, building is found seven storied; design report is available. All the submitted documents are properly signed by the engineer with MIEB no. As-built structural assessment report is submitted; but cannot be accepted due to presence of deficiencies. structural design documents for the security building were not available.
Source of Findings:	Document Review: Structural drawings are available for six storied building; design report is not available., Visual Assessment: The six storied building shown in drawing was noted as seven storied from visual observation.
Suggested Plan of Action:	Have a qualified structural engineer prepare credible as-built documents (drawings and detailed assessment) based on the requirements of Part 8 Section 8.19 of the Alliance Standard.
Suggested Deadline Date:	15 Sep 2014
Standard:	Alliance Standard Part 8 Section 8.19 Required Structural Documentation for New and Existing Factories
Question:	Is a Geotechnical Report available for review and kept on site?
Priority Level:	Low
Non-Compliance Level:	2
Description:	Geotechnical report is available and kept on site to review, but the IEB no. of the engineer is not available.
Source of Findings:	Document Review: Geotechnical report is available in the submitted document. However, the IEB no. of the engineer is not available.
Suggested Plan of Action:	The IEB no. of the engineer must be mentioned in the geotechnical report.
Suggested Deadline Date:	15 Sep 2014





Standard:	Alliance Standard Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
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:		
Description:	Documentation of the design report has provided that the building is compliant with the requirements for wind loading as per BNBC-1993, sub clause-2.4, chapter-2, part-6.	
Source of Findings:	Document Review: Documentation of the design report has provided that the building is compliant with the requirements for wind loading as per BNBC-1993, sub clause-2.4, chapter-2, part-6.	
Suggested Plan of Action:		
Suggested Deadline Date:		
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:		
Description:	Documentation of the design report has provided that the building is compliant with the requirements for seismic & wind loading as per BNBC-1993, sub clause-2.5,2.4 chapter-2, part-6.	
Source of Findings:	Document Review: Documentation of the design report has provided that the building is compliant with the requirements for seismic & wind loading as per BNBC-1993, sub clause-2.5,2.4 chapter-2, part-6.	
Suggested Plan of Action:		
Suggested Deadline Date:		
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:		
Description:	Documentation of the design report has provided that the building is compliant with the requirements for seismic & wind loading as per BNBC-1993, sub clause-2.5,2.4 chapter-2, part-6.	
Source of Findings:	Document Review: Documentation of the design report has provided that the building is compliant with the requirements for seismic & wind loading as per BNBC-1993, sub clause-2.5,2.4 chapter-2, part-6.	
Suggested Plan of Action:		
Suggested Deadline Date:		
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:	Has evidence of structural integrity been provided using a Preliminary Structural Assessment?	
Priority Level:	High	
Non-Compliance Level:		
Description:	There is no evidence that a preliminary structural assessment was conducted. One detailed assessment report is available. On the top page of this report, the building is mentioned as seven storied; however, the picture of the three dimensional model shows the building as five storied. Therefore, this assessment report is not acceptable. There is no suggested action plan mentioned in this assessment report.	
Source of Findings:	Document Review: Structural assessment report is available but unacceptable.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	



Question:	If the structure has been previously expanded, was the structural impact on the entire structure analytically evaluated and confirmed by a qualified structural engineer.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	General notes show that the factory building-1 was designed as a six storied structure. In reality, it is a seven-storied building.	
Source of Findings:	Document Review: Structural drawings show that the building is designed to have six stories., Visual Assessment: The building has seven stories.	
Suggested Plan of Action:	Have a qualified structural engineer complete a detailed structural assessment with SDT for evaluation of the structural impact of the addition.	
Suggested Deadline Date:	15 Sep 2014	
Standard:	Reference Alliance Standards Part 8 Section 8.1 Applicability of Building Code.	
Question:	Structural System Type as defined by 2006 BNBC Part 6 Chapter 1 Table 6.1.2.	
Priority Level:		
Non-Compliance Level:		
Description:	Structural type is moment resisting frame system.	
Source of Findings:	Visual Assessment: From the visual inspection it is found that the observed all buildings are moment resisting frame structures.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	2006 BNBC Part 6 Chapter 1 Table 6.1.2	
Question:	What is the Structural Configuration?	
Priority Level:		
Non-Compliance Level:		
Description:	The buildings is a regular RCC moment resisting frame structure.	
Source of Findings:	Document Review: The submitted documents show that the building is designed as a regular structure., Visual Assessment: The result of visual assessment shows that the building is a framed structure without any vertical or plan irregularity.	



Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	2006 BNBC Part 6 Chapter 1 Section 1.3.4	
Question:	Is a clear and redundant load path to resist lateral loads provided?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Since, there are multiple moment resisting frames, the lateral load path and redundancy is evident.	
Source of Findings:	Visual Assessment: Visual inspection shows that there are multiple moment resisting frames in the buildings.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standards Part 8 Section 8.17 Design for Lateral Loads and 8.3.3. 2006 BNBC Part 6 Section 1.5	
Question:	Are the available FoS for the columns adequate based on Preliminary calculation?	
Priority Level:	High	
Non-Compliance Level:		
Description:	FoS for the columns are based on Preliminary calculation. -Eight storied building: Compressive strength: 2045 psi (Min.) 1) FoS of central columns:2.05, 2) FoS of corner columns: 2.52, 3) FoS of central columns: 2.10, -Six storied building: Compressive strength: 2045 psi (Min.) 1) FoS of central columns:3.00, 2) FoS of corner columns: 3.69, 3) FoS of central columns: 3.07, Six storied building (Have a shed on roof, the shed is undocumented): Compressive strength: 2045 psi (Min.) 1) FoS of central columns:2.15, 2) FoS of corner columns: 3.38, 3) FoS of central columns: 2.19;	
Source of Findings:	Uploaded Document: FoS Calculation Spreadsheet	
Suggested Plan of Action:		
Suggested Deadline Date:		
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:	Results of ferro-scanning for confirmation of steel rebar in the columns of the lowest tier were satisfactory.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Results of ferro-scanning for confirmation of steel rebar in the columns of the lowest tier were satisfactory.	
Source of Findings:	Visual Assessment: From the visual assessment, the results of ferro-scanning for confirmation of steel rebar in the columns of the lowest tier were found satisfactory.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment	
Question:	What are the full dead and live loads of the floor slabs and decks?	
Priority Level:		
Non-Compliance Level:		
Description:	Slab thickness is measured 5 inch for building no.-1. SO, Dead load is 87.5 psf. Live load is almost 80 psf.	
Source of Findings:	Visual Assessment: Slab thickness is measured.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Provide information regarding the dead and live loads of the floor slabs and decks.	
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:	No provisions have been made for a floor with a concentrated load. This	



	makes the location of water tanks very hazardous.
Source of Findings:	Document Review: Based on the structural document, the provisions for a concentrated load, such as water tanks, have not been made., Visual Assessment: Arrangement for water tanks is not safe.
Suggested Plan of Action:	Relocate water tanks to a safe location. 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:	15 Sep 2014
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/m ² (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:	3
Description:	The live load for storage was almost 80 psf.
Source of Findings:	Document Review: Floor load capacity is not mentioned in the document., Visual Assessment: Live load exceeds 42 psf.
Suggested Plan of Action:	Have a qualified structural engineer confirm that capacity to support the load is available through detailed structural assessment with SDT. Load Plans complying with Alliance Standard Part 8 Section 8.20.4.3 should also be developed.
Suggested Deadline Date:	15 Sep 2014
Standard:	Alliance Standards Part 8 Section 8.15 Minimum Floor Design Loads

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:	1
Description:	Dampness has been found in the 1st floor of building 2.
Source of Findings:	Visual Assessment: Dampness has been found in the 1st floor of building 2.
Suggested Plan of Action:	Under guidance from a qualified structural engineer, address all areas of needed maintenance.





Suggested Deadline Date:	15 Sep 2014	
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	
Question:	The exterior façade is free of cracking.	
Priority Level:	Low	
Non-Compliance Level:		
Description:	The exterior facade is free of cracking.	
Source of Findings:	Visual Assessment: The visual assessment results shows that the exterior facade is free of cracking.	
Suggested Plan of Action:	None	
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.2	
Question:	Are expansion joints provided at appropriate intervals on the exterior façade?	
Priority Level:	Low	
Non-Compliance Level:		
Description:	Expansion joints are not found.	
Source of Findings:	Visual Assessment: In visual assessment no expansion joints are found.	
Suggested Plan of Action:	None	
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	Is expansion joint material free from cracking and other forms of deterioration?	
Priority Level:	Low	
Non-Compliance Level:		
Description:	No expansion joint available.	
Source of Findings:	Visual Assessment: visual observations	
Suggested Plan of Action:	None	



Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	
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:		
Description:	There is no sign of water intrusion, ponding or dampness due to lack of performance of the façade.	
Source of Findings:	Visual Assessment: There is no sign of water intrusion, ponding or dampness due to lack of performance of the façade.	
Suggested Plan of Action:	None	
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	
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:		
Description:	The performance of key structural elements such as columns, beams, slabs, foundation etc. are satisfactory.	
Source of Findings:	Visual Assessment: The performance of key structural elements such as columns, beams, slabs, foundation etc. are satisfactory.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.3.3	
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:		
Description:	The structural system is free of settlement cracking, excessive perimeter separations, and unlevel floors attributable to foundation settlements.	



Source of Findings:	Visual Assessment: No settlement was found in visual assessment.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 8 Structural Design Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	Is the structural system free of deflections (sagging), rotations (twisting), perceivable vibrations, or other noticeable movements of the structure?	
Priority Level:	High	
Non-Compliance Level:		
Description:	The structure is free of deflections (sagging), rotations (twisting), perceivable vibrations, or other noticeable movements of the structure.	
Source of Findings:	Visual Assessment: The results of visual assessment shows that the structure is free of deflections (sagging), rotations (twisting), perceivable vibrations, or other noticeable movements of the structure.	
Suggested Plan of Action:	None	
Suggested Deadline Date:		
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, separations, or cracking that indicates lack of performance or overstress of the lateral load-carrying system?	
Priority Level:	High	
Non-Compliance Level:	1	
Description:	Some minor cracks have been found, specifically in the joint of two beams at the 3rd, 4th & 5th floors.	
Source of Findings:	Visual Assessment: Some minor cracks have been found, especially in the joint of two beams at 3rd, 4th & 5th floor.	
Suggested Plan of Action:	Engage a qualified structural engineer to provide additional investigations of the cracking and provide a remediation plan if necessary.	
Suggested Deadline Date:	15 Sep 2014	
Standard:	Alliance Standard Part 8 Section 8.3.3	





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 is no visual sign of distress, settlement, shifting, or cracking in columns. But, some hairline cracks have been found in wall at mezzanine as well as 6th floor of seven storied building.	
Source of Findings:	Visual Assessment: In visual assessment no visual sign of distress, settlement, shifting, or cracking in columns. But, some hairline cracks have been found in wall at mezzanine as well as 6th floor of seven storied building.	
Suggested Plan of Action:	Have a qualified structural engineer provide further testing and analysis of distress, settlement, shifting, or cracking in walls and provide a remediation plan to correct noted issues.	
Suggested Deadline Date:	15 Sep 2014	
Standard:	Alliance Standard Part 8 Section 8.3.3	
Question:	Have any previous repairs to correct structural deficiencies or to reinforce the existing structure been completed?	
Priority Level:		
Non-Compliance Level:		
Description:	No previous repairs have been done to correct structural deficiencies or to reinforce the existing structure.	
Source of Findings:	Visual Assessment: The result of visual assessment shows that No previous repairs have been done to correct structural deficiencies or to reinforce the existing structure.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:		
Question:	Was masonry-chip aggregate concrete (MCAC) used in the construction of the building?	
Priority Level:		
Non-Compliance Level:		
Description:	Column, Beams and slabs are constructed of masonry-chip aggregate concrete (MCAC).	



Source of Findings:	Visual Assessment: In visual assessment it is found that column, beams and slabs are constructed of masonry-chip aggregate concrete (MCAC).	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 7 Building Materials Section 7.2 Masonry-chip aggregate concrete (MCAC)	
Question:	If yes, have the structural members constructed with MCAC been investigated by an appropriate program of in-situ testing and representative destructive testing or core samples?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	In-situ test reports are available.	
Source of Findings:	Document Review: Material test report is available.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 7 Building Materials Section 7.2 Masonry-chip aggregate concrete (MCAC)	
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:		
Description:	Roof is covered with shed.	
Source of Findings:	Visual Assessment: Steel shed is constructed on roof top.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standards Part 7 Building Materials Section 7.2 Masonry-chip aggregate concrete (MCAC).	
Question:	Are structural steel members free of corrosion, physical damage or other types of deterioration?	



Priority Level:	Medium
Non-Compliance Level:	
Description:	There is no steel member found in the building.
Source of Findings:	Visual Assessment: In visual assessment no steel member has been found in the building.
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Alliance Standard Part 8 Section 8.26
Question:	For post-tensioned reinforced concrete systems or elements, cored holes have not compromised the post-tensioned strands.
Priority Level:	High
Non-Compliance Level:	
Description:	No post-tensioned reinforced concrete systems or elements have been found.
Source of Findings:	Visual Assessment: No post-tensioned reinforced concrete systems or elements have been found in visual assessment.
Suggested Plan of Action:	None
Suggested Deadline Date:	
Standard:	Not Applicable
Question:	Is the structure free from any major/progressive distress?
Priority Level:	High
Non-Compliance Level:	
Description:	The structure is free from major/progressive distress.
Source of Findings:	Visual Assessment: No major/progressive distress have been found.
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Alliance Standards 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:	There are some unbraced, plastic, overhead water tanks on the roof.
Source of Findings:	Visual Assessment: Some unbraced plastic overhead water tanks are located on the roof.
Suggested Plan of Action:	Relocate the water tanks. Adequately anchor and brace all non-structural elements to resist earthquake forces as to comply with the BNBC and Alliance Standard.
Suggested Deadline Date:	15 Sep 2014
Standard:	Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6
Question:	If the building is currently being renovated or expanded, are the Construction Practices and Safety requirements of Section 9 being followed?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	The 8-storied factory building (building-2) is under construction but the safety arrangement (such as temporary canopy and safety net) is not sufficient as per construction Practices and Safety requirements of Alliance standard part-9. The observed steel shed constructed on the roof for building-1. This construction is approved but detailed the structural design documents is unavailable.
Source of Findings:	Visual Assessment: Observations of the factory building-2.
Suggested Plan of Action:	Provide sufficient safety arrangements (such as temporary canopy will be provided just below the construction floor surround the building and also surrounded by safety net) as per construction Practices and Safety requirements of Alliance standard part-9.
Suggested Deadline Date:	15 Sep 2014
Standard:	Alliance Standard Part 9 Construction Practices and Safety.



Structural Safety Programs

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:	No Load Plans have been prepared for each floor documenting actual maximum operational loading that is intended or allowable on each floor.	
Source of Findings:	Document Review: No Load Plan is documented.	
Suggested Plan of Action:	Have a qualified structural engineer to develop floor Load Plans through detailed structural assessment with SDT as per the requirements of Part 8 Section 8.20.5.3.	
Suggested Deadline Date:	15 Sep 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:	2	
Description:	Floor Load Plans are not posted as required.	
Source of Findings:	Visual Assessment: In visual assessment no load plans have been found.	
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 plan should be posted in each floor.	
Suggested Deadline Date:	15 Sep 2014	
Standard:	Alliance Standard Part 8 Section 8.20.5.3	
Question:	Are floor loads in compliance with posted plans?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Floor loads plan is not available in the floor.	
Source of Findings:	Visual Assessment: There is no floor load plan posted in the floor.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.10 Floor Loading Plans (Load Plans).	
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:	Storage of work materials and work products are not marked to indicate the acceptable loading limit. Also, the floor Load Plan is not available in the floor.
Source of Findings:	Visual Assessment: No Load Plan is available in the floor.
Suggested Plan of Action:	Provide appropriate markings at all areas used for storage to indicate the acceptable loading limits detailed in the Load Plan.
Suggested Deadline Date:	15 Sep 2014
Standard:	Alliance Standard Part 8 Section 8.11 Floor Load Markings
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 available to manage floor and roof live loads. Floor load plans are also not available.
Source of Findings:	Visual Assessment: Floor load plan is not available.
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:	15 Sep 2014
Standard:	Alliance Standard Part 13 Section 13.7 and Part 8 Section 8.9.
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:	Factory Load Manager or designated representative is not available.
Source of Findings:	Document Review: The HR file of Factory Load Manager or designated representative is not documented., Visual Assessment: Presence of factory load manager or designated representative has not been seen.
Suggested Plan of Action:	Designate a representative as the Factory Load Manager. The Factory Owner shall ensure that one Factory Load Manager is located onsite full time. The Factory Load Manager must be trained in calculating operational load characteristics of the 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 Sep 2014	
Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager	
Question:	For post-tensioned reinforced concrete systems or elements, is a program in place to ensure post-tensioned strands are located before core drilling begins?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	There are no post-tensioned reinforced concrete system or elements have been found.	
Source of Findings:	Document Review: No post-tensioned reinforced concrete system or elements have been documented in the structural drawing., Visual Assessment: No post-tensioned reinforced concrete system or elements have been found in the visual inspection.	
Suggested Plan of Action:	None	
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	