



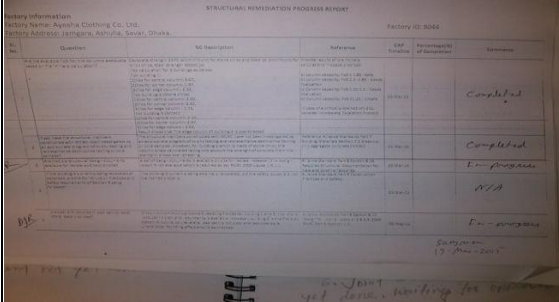
Structural Safety Inspection

Factory Name & Address		Ayesha Clothing Co. Ltd., Jangara, Gazirchot Alia Madrasha, Ashulia, Dhaka, Dhaka
Inspection Date		4-May-14
Date of Review Inspection		9-Nov-15
Inspected by		Md. Abdul Malek





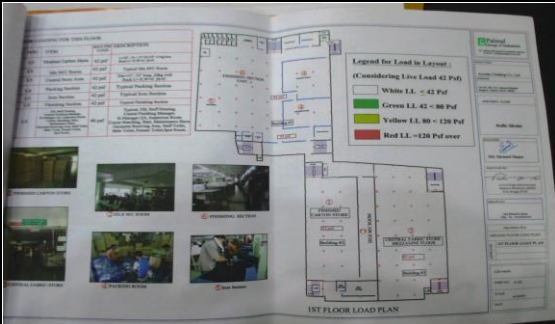
Item No	Accord Observation	Accord Recommendation	Final Action Plan	Final Timeline	Comments after Physical Inspection	Status on the date of Inspection	Pictorial Evidence
1	<p>Concrete strength 2370 psi (minimum) for stone chips and 2045 psi (minimum) for brick chips. Steel strength 60000 psi</p> <p>Fos calculation for 3 buildings as below:</p> <p>For building-1:</p> <p>1) Fos for central column: 3.07,</p> <p>2) Fos for corner column: 1.97,</p> <p>3) Fos for edge column : 2.32,</p> <p>For building-2: (Stone chips)</p> <p>1) Fos for central column: 2.00,</p> <p>2) Fos for corner column: 2.35,</p> <p>3) Fos for edge column : 1.72,</p> <p>For building-3: (MCAC)</p> <p>1) Fos for central column: 2.52,</p> <p>2) Fos for corner column: 2.97,</p> <p>3) Fos for edge column : 2.52,</p> <p>Result shows that The edge column of building-2 is overstressed.</p>	<p>Under the guidance of a qualified structural engineer, arrange a detailed engineering assessment of the structure as required within 8 weeks. Conduct destructive core testing to validate the in-situ concrete compressive strength of the structural elements of building 2.</p>	<p>*Completed.</p> <p>*Detail Engineering Assessment (DEA) was recommended by mistake as per Alliance Cap Approval Meeting held on 25/03/2015. After conducting core testing and basing on core test result the FoS values of all columns exceeded more than 1.86. FoS > 1.86, implies "Adequate safety margin exists so factory may continue" as per ALLIANCE "Assesment Protocols for Initial Fire Safety and Structural Integrety for existing Factories." PART 3.D.19 (Page 14 of 40)</p>	30/04/2015	<p>DEA has been done & submitted to Alliance for review. Core test has been done. Core test result has been shown during inspection period.</p>	In Progress	



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2	The structural members constructed with MCAC have not been investigated by an appropriate program of in-situ testing and representative destructive testing or core samples. However, for building 2 which is made of stone chips, the column stress calculated taking into account the strength of concrete from the standard, shows over-stressing.	Conduct detailed structural assessment by qualified structural engineer and carry out remedial action as necessary.	*Completed. *DEA is not required for building no 2 basing on item no. 1	30/04/2015	DEA has been done & submitted to Alliance for review.	In Progress	
3	Dampness has been found at some floor of these three buildings. Standing water also been found on the roof top of the building 2 and 3.	Under guidance from a qualified structural engineer, address all areas of needed maintenance by correcting the identified issues.	*In progress. * Dampness of all these three buildings were removed by repairing under supervision of our own civil engineering team. * Provision of proper sloping on roof top of building 2 and 3 have been under taken and work is in progress.	13/06/2015	Since it is now non-rainy season, no dampness has been found during inspection period. There are 4 building in the factory premises. Slope has been done for building 2 only. Factory management are advised to apply water proofing materials or make slope for all buildings.	In Progress	
4	The roof of the building is of MCAC aggregate, but no protective sealing is available.	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. Alternatively provide 2% slope on the exposed surface to prevent accumulation of water.	*In progress. * The works for remediation of water ponding at building no. 2 and 3 is in progress. At building no. 1, no water ponding occurs, having adequate slope on roof surface to drain out rain water with down pipes.	17/06/2015	There are 4 building in the factory premises. Slope has been done for building 2 only. Factory management are advised to apply water proofing materials or make slope for all buildings.	In Progress	

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5	The building is currently being externally renovated, but the safety issues are not maintained properly.	Immediate safety issues should be applied. The management should ensure that the construction and safety practices are being adhered to as per BNBC 2006 and as per section 9 of Alliance Standard.	* Completed * The Alliance Team during their 1st Remediation Verification Visit on 13/05/2015 at ACCL declared the issue at Item no 5 as "Not Applicable"	30/04/2015	This item is N/A now as per Alliance.	Corrected	
6	Since there are multiple moment resisting frames for building 1 and 3, the lateral load path is clear and redundancy is available. However, building 2 is the flat slab system structure, so the lateral load path is not clear and redundancy is unavailable. Pounding effect should be checked.	Have a qualified structural engineer complete further analysis of the structure and develop a remediation plan if required. Pounding effect for different structural system should be checked.	* In progress. * The building owners (Tenant) of the building were requested to submit & collect the design report as per ALLIANCE standard and BNBC from the building engineers who designed these three buildings.	13/07/2015	This portion will be covered in DEA. DEA has been submitted to Alliance for review.	In Progress	
7	A set of design documents is available on site for review. However, the design report is not available which is required as per BNBC 2006 clause 1.9.1.1.	Have a qualified Structural Engineer to prepare the design report and provide the full credential of the architect of record on architectural documents..	*in progress * The building owners (Tenant) of the building were requested to submit & collect the design report as per ALLIANCE standard and BNBC from the building engineers who designed these three buildings.	13/07/2015	factory management have been submitted to Alliance this document as part of DEA.	In Progress	
8	Credible structural documents do not indicate general conformance with BNBC 2006.	Under guidance from a qualified structural engineer, arrange a geotechnical investigation at close vicinity of the structure and make the report available for review.	Completed	30/04/2015	Factory management have ensured that they have submitted the soil test report along with DEA. Soil test report were not available during inspection period.	In Progress	

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9	In building -3 a mezzanine floor was previously added at the ground floor, which is not directly connected with the main structure. It is constructed with a steel frame and supported from ground level. The structural impact for this construction on the entire structure has not been analytically evaluated and confirmed by a qualified structural engineer.	Have a qualified structural engineer complete an analytical evaluation of the structural impact of the addition.	* In progress. * The building owners were asked to collect & submit analytical report for adding mezzanine at ground floor from the building engineers following ALLIANCE standard & BNBC.	17/06/2015	This portion will be covered in DEA. DEA has been submitted to Alliance for review.	In Progress	
10	No provisions have been made in the floor for a concentrated load (such as heavy equipment, water tank. Stored materials.) In building 1, there are 7 plastic tanks (capacity 17000 lt.) on the roof top & on building 2 there is a RCC water reservoir (28000 lt.) on the roof top beside a staircase & on the top of the staircase is a plastic tank (capacity 3000 lt.) & also 2 plastic tanks (capacity 6000lt) are found.	Engage a qualified structural engineer to confirm and document that provisions have been made to accommodate these water tanks. If provisions have not been made, have a qualified structural engineer develop a remediation plan.	* In progress. * The building owners were asked to collect & submit analytical report for provisions of placing of plastic water tanks on roof and as well as the construction of RCC water tanks (28000 liter)	17/06/2015	This portion will be covered in DEA. DEA has been submitted to Alliance for review.	In Progress	
11	Documentation cannot be provided that the building is compliant with the requirements for wind loading as detailed in BNBC Part 6 Section 1.5.3.	Engage a qualified structural engineer to confirm satisfactory structural performance of the buildings under wind loading.	* In progress. * Related with design report, as asked from the building owner to collect from the building engineer.	17/06/2015	This portion will be covered in DEA. DEA has been submitted to Alliance for review.	In Progress	

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12	All non-structural elements were found non-braced. Some plastic tanks resting on the roof top and also some racks in different floors are not adequately anchored or braced to resist earthquake forces.	Adequately anchor and brace all non-structural elements to resist earthquake forces to comply with the BNBC and Alliance Standard	* In progress. * The works of anchoring and bracing is going on under supervision of our own civil engineering team and factory management.	17/06/2015	Anchoring has been done.	Corrected	
13	There is no program that will ensure that the designated load in each floor will not be exceeded	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.	Completed	30/04/2015	Not yet done properly. Factory management have shown a program that was not proper.	In Progress	

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14	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.	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. 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.	Completed	30/04/2015	Load manager has been assigned to oversee the load as per the load plan. Load plan is not approved yet.	Corrected	
15	Floor Load Plans are available, but not as per standard.	Have a qualified structural engineer develop Floor Loading Plans per the requirements of Part 8 Section 8.20.5.3	* In progress and is related with submission of design report to be prepared by building engineers.	13/06/2015	Load plan has been prepared as part of DEA. Load plan were shown during inspection period & submitted to Alliance for review.	In Progress	

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16	Floor Load Plans are not posted as required.	To have a qualified structural engineer prepare load plans including the information required in Section 8.205.3 of the Alliance Standard & also posting in each panel of all floors.	Completed	30/04/2015	Load plan has been prepared as part of DEA. Load plan were shown during inspection period & submitted to Alliance for review.	In Progress	
17	Storage of work materials and work products are not marked to indicate the acceptable loading limit as well as Floor loads plan is not available in the floor.	Have a qualified structural engineer prepare a load plan for each floor and have the floors marked for designating storage area as per the developed load plan.	* In progress. * Storage at floors will be marked and will be in corporate in floor load plans as suggested by ALLIANCE team during 1st Remediation Verification Visit on 13/05/2015 at ACCL.	13/06/2015	Temporary markings have been done as their load plan is under review in Alliance.	In Progress	
18	An expansion joint has been provided in between building 2 & 3 in the exterior facade; this expansion joint is blocked.	Joint between building-2 and 3 must be free from blockage.	* In progress. * Expansion joint will be made free as suggested by the ALLIANCE team during the 1st remediation verification visit on 13/05/2015 at ACCL.	13/07/2015	Not yet done.	In Progress	
19	The factory has not obtained the Certificate of Occupancy from the authority.	Apply for issuance of Certificate of Occupancy and pursue the matter to obtain the same.	Completed	30/04/2015	Factory management has collected a occupancy certificate from Cantonment Executive Office. As per Alliance it is completed.	Corrected	