

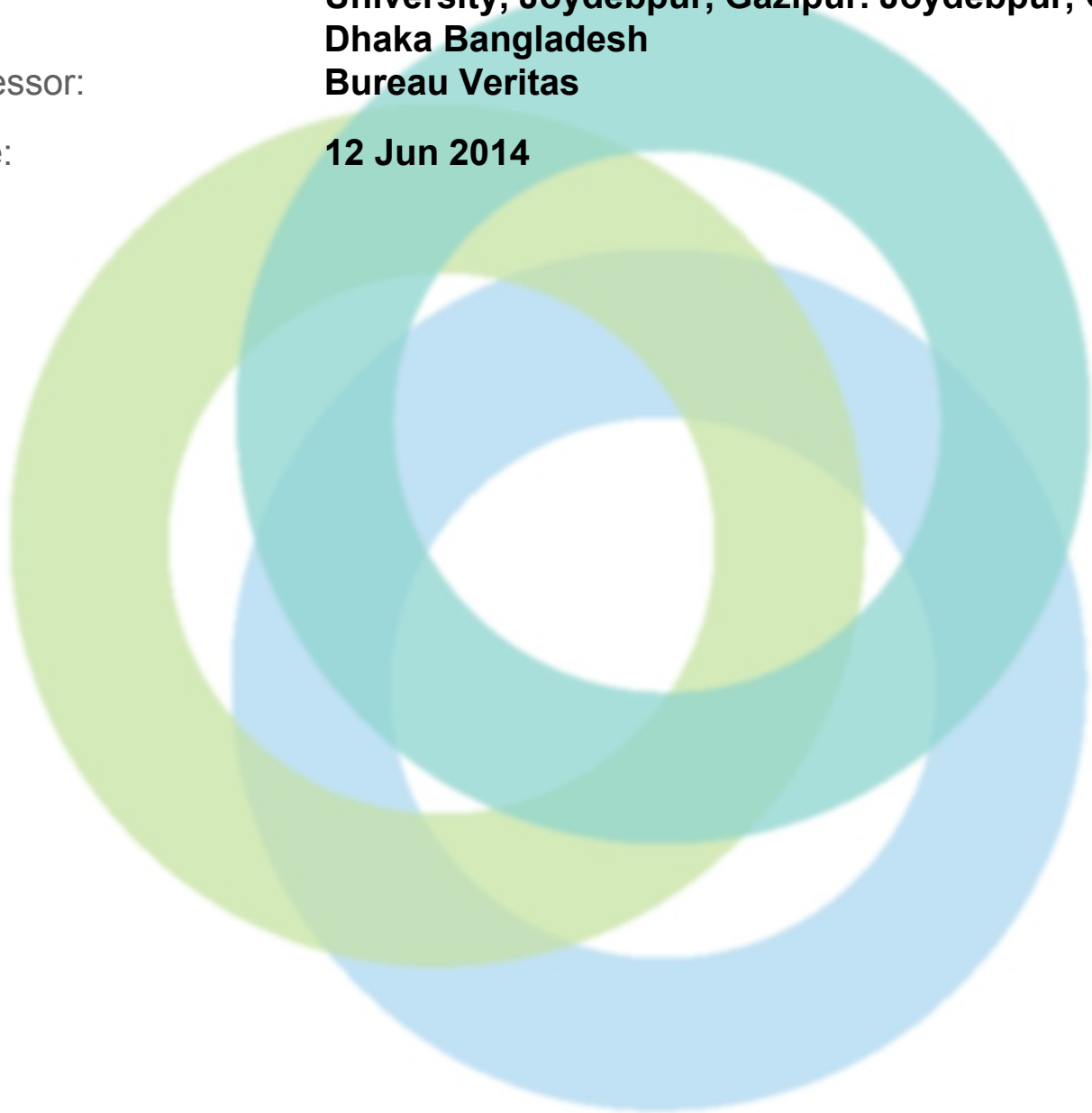
INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **Needle Drop Ltd.**

Address: **50, Chandapara, Chanpara, Bason Road, National University, Joydebpur, Gazipur. Joydebpur, Gazipur Dhaka Bangladesh**

Assessor: **Bureau Veritas**

Date: **12 Jun 2014**



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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.



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GENERAL INFORMATION

General Information

Factory Name:	Needle Drop Ltd.
Address:	50, Chandapara, Chanpara, Bason Road, National University, Joydebpur, Gazipur. Joydebpur, Gazipur Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Joydebpur, Gazipur
Zip Code:	1704
Audit Duration:	01 Days 0 Hours
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	06-14-2014
Final Report Date :	11-7-2014
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex :	There are 5 buildings in the factory premises out of which one is main production building and four are ancillary buildings. The buildings are named as: 1) Three story RCC main building, 2) Single story generator & substation shed, 3) Single story compressor shed, 4) Single story prefab shed (Child care, Boiler, Canteen), 5) Single story leftover store shed.
Number of Building Levels (Stories) :	1) Three story RCC main building: Stories above grade: 3, Stories below grade: 0, Occupied levels: 3, 2) Single story generator & substation shed: Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 3) Single story compressor shed: Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 4) Single story prefab shed (Child care, Boiler, Canteen): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 5) Single story leftover store shed: Stories above grade: 1, Stories below grade: 0, Occupied levels: 1.
Approximate Building Area (SF) :	Total area of all buildings in the factory premises: 63345 sft. Building wise breakdown as follows: 1) Three story RCC main building: 59420 sft (Ground Floor: 14855 sft, 1st floor: 14855 sft, 2nd floor: 14855 sft Roof : 14855 sft) 2) Single story generator & substation shed: 700 sft, 3) Single story compressor shed: 1600 sft, 4) Single story prefab shed (Child care, Boiler, Canteen): 1575 sft, 5) Single story leftover store shed: 50 sft.
Date of Building Construction :	Construction has been started from 2007.
Date of Last Building Renovation/Addition :	No record for date of renovation or addition was found from factory personnel.

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Is the Building mixed use?:	No
Ancillary Structures in Complex :	1) Single story generator & substation shed, 2) Single story compressor shed, 3) Single story prefab shed (Child care, Boiler, Canteen), 4) Single story leftover store shed.
Number of Ancillary Levels (Stories) :	1) Single story generator & substation shed: Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 2) Single story compressor shed: Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 3) Single story prefab shed (Child care, Boiler, Canteen): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 4) Single story leftover store shed: Stories above grade: 1, Stories below grade: 0, Occupied levels: 1.
Approximate Ancillary Structures Area (SF) :	1) Single story generator & substation shed: 700 sft, 2) Single story compressor shed: 1600 sft, 3) Single story prefab shed (Child care, Boiler, Canteen): 1575 sft, 4) Single story leftover store shed: 50 sft.
Number of Occupants :	Total number of occupants: 890. 1) Three story RCC main building: 860 (Ground Floor: 255, 1st floor: 487, 2nd floor: 118), 2) Single story generator & substation shed: 2, 3) Single story compressor shed: 28, 4) Single story prefab shed (Child care, Boiler, Canteen): 0, 5) Single story leftover store shed: 0.
Exterior Facade Description :	The building is RCC frame structure with infilled masonry wall. The doors of the building are metal sliding door and the windows are of sliding glass type within aluminium frame. One side of a staircase is covered by fixed glass panel.
Structural System Description :	This building is a Moment Resisting Frame with monolithic beam slab. Foundation type is shallow foundation (spread footing & combined footing). Framing system is regular.



ASSESSMENT FINDINGS

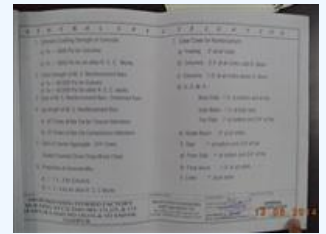
Structural System Design

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:	3
Description:	No analytical confirmation indicating general conformance with any code is available.
Source of Findings:	Document Review: Confirmed by reviewing 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:	02 Aug 2014
Standard:	Reference Alliance Standards Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings
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 are 3 water tanks, out of which two have water storage capacity 2000L and the other has 1000L. There is no analytical information on the provision of these tanks in the design.
Source of Findings:	Document Review: Document pertaining to the relevant information unavailable., Visual Assessment: Confirmed visually.
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:	02 Aug 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 and architectural document is available on site for review but the drawing does not fully comply with the as built condition of the building. 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 unavailable.
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:	02 Aug 2014
Standard:	Alliance Standard Part 8 Section 8.19 Required Structural Documentation for New and Existing Factories
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:	No analytical confirmation regarding the consideration of the requirement of seismic and wind loading in the design of the building is available.
Source of Findings:	Document Review: Document pertaining to the relevant information unavailable.
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:	02 Aug 2014
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:	There is no clear information available on the design document to understand the consideration of storm surge and wind loading in the design of the building.
Source of Findings:	Document Review: Document pertaining to the relevant information unavailable.





Suggested Plan of Action:	Engage a qualified structural engineer to confirm satisfactory structural performance of the buildings under wind loading and storm surge.
Suggested Deadline Date:	02 Aug 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 the Certificate of Occupancy from the authority.
Source of Findings:	Document Review: Document unavailable.
Suggested Plan of Action:	Provide Certificates of Occupancy for review.
Suggested Deadline Date:	02 Aug 2014
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:	There is dampness at the ceiling of 2nd floor and efflorescence at ancillary dining room. There is no maintenance program for all areas including areas with efflorescence, dampness, standing water on rooftops, and corrosion.
Source of Findings:	Document Review: Confirmed by reviewing documents., Visual Assessment: Confirmed visually.
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:	02 Aug 2014
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance
Question:	Are structural steel members free of corrosion, physical damage or other types of deterioration?
Priority Level:	Medium





Non-Compliance Level:	1
Description:	There are signs of corrosion in the steel members of the ancillary structure.
Source of Findings:	Visual Assessment: Confirmed visually.
Suggested Plan of Action:	Complete further testing on areas of deterioration and have a qualified structural engineer develop a remediation plan.
Suggested Deadline Date:	02 Aug 2014
Standard:	Alliance Standard Part 8 Section 8.26
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:	In the storage room on the ground floor, there are racks which are not braced against earthquake forces. Also, there are three plastic water tanks which are not braced or anchored adequately to resist earthquake force.
Source of Findings:	Visual Assessment: Confirmed visually.
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:	13 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:	Cracks have been identified at front side of the second level and at north side of ground level.
Source of Findings:	Visual Assessment: Confirmed visually.





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:	02 Aug 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:	Dampness has been observed almost every side of the main building, especially on the main entrance side of the 2nd and 3rd level.
Source of Findings:	Visual Assessment: Confirmed visually.
Suggested Plan of Action:	Repair the exterior façade system to prevent water intrusion.
Suggested Deadline Date:	13 Sep 2014
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 unavailable.
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:	19 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:	Load plans have been prepared on existing loading condition, but there is no evidence regarding consideration of design loads for which the slab is capable of.	
Source of Findings:	Document Review: Confirmed by reviewing 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:	02 Aug 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:	No standard Floor load plan are posted as per Alliance standard Part 8 Section 8.20.5.3.	
Source of Findings:	Visual Assessment: Confirmed visually.	
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 all buildings.	
Suggested Deadline Date:	02 Aug 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 standard 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: Confirmed visually.	

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Suggested Plan of Action:	Have a qualified structural engineer prepare the Load Plan for each floor and 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:	02 Aug 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 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: Document pertaining to the relevant information unavailable.
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:	19 Jul 2014
Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager