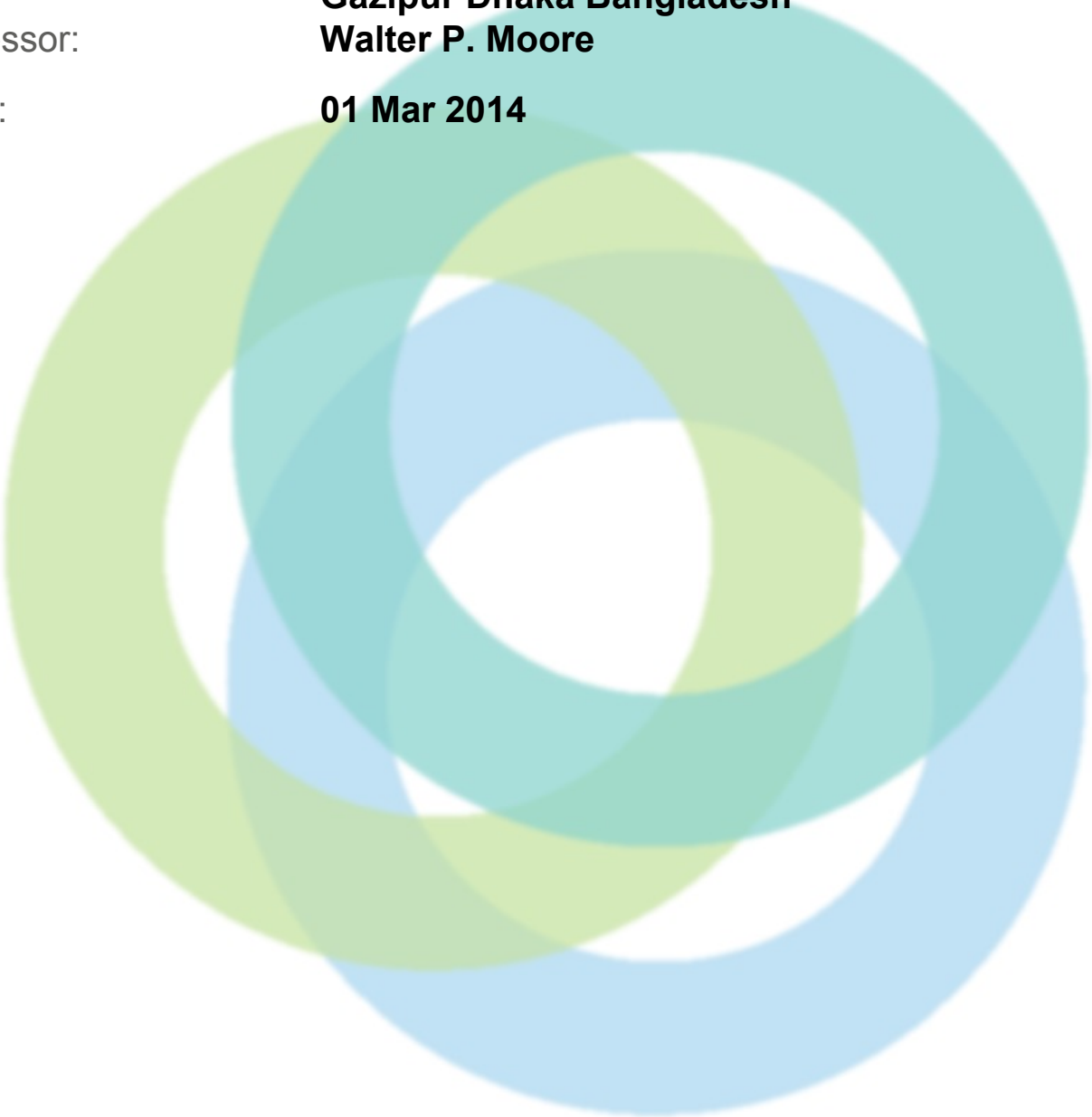


# INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **Creative Collection Ltd**  
Address: **Plot# 69 & 70, Nishat Nagor Tongi, Gazipur Tongi,  
Gazipur Dhaka Bangladesh**  
Assessor: **Walter P. Moore**  
Date: **01 Mar 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](http://www.bangladeshworkersafety.org).





## GENERAL INFORMATION

| General Information                                       |                                                                            |
|-----------------------------------------------------------|----------------------------------------------------------------------------|
| Factory Name:                                             | Creative Collection Ltd                                                    |
| Address:                                                  | Plot# 69 & 70, Nishat Nagor Tongi, Gazipur Tongi, Gazipur Dhaka Bangladesh |
| Country:                                                  | Bangladesh                                                                 |
| Province:                                                 | Dhaka                                                                      |
| City:                                                     | Tongi, Gazipur                                                             |
| Zip Code:                                                 | 1711                                                                       |
| Audit Duration:                                           | 1 Days                                                                     |
| Re-Audit:                                                 | Re-Audit After 0 Months                                                    |
| Draft Report Date :                                       | 6/12/2014                                                                  |
| Final Report Date :                                       | 6/16/2014                                                                  |
| Are all Action Items From Previous Assessment Completed?: | N/A                                                                        |
| Buildings in Complex :                                    | Two                                                                        |
| Number of Building Levels (Stories) :                     | 6-storied, under construction                                              |
| Approximate Building Area (SF) :                          | 341000 sft                                                                 |
| Date of Building Construction :                           | Under construction                                                         |
| Date of Last Building Renovation/Addition :               | Under construction                                                         |
| Is the Building mixed use?:                               | No                                                                         |
| Ancillary Structures in Complex :                         | 1 Utility Building                                                         |
| Number of Ancillary Levels (Stories) :                    | 2-storied RC building.                                                     |
| Approximate Ancillary                                     | 4000 sft                                                                   |

Factory Name: **Creative Collection Ltd**  
Address: **Plot# 69 & 70, Nishat Nagor Tongi, Gazipur Tongi, Gazipur Dhaka Bangladesh**

Assessor: **Walter P. Moore**

Date: **01 Mar 2014**



**ALLIANCE**  
FOR BANGLADESH WORKER SAFETY

|                                 |                                                                                                                                                                                                          |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Structures Area (SF) :          |                                                                                                                                                                                                          |
| Number of Occupants :           | No Finding                                                                                                                                                                                               |
| Exterior Facade Description :   | 10 inch brick wall with plaster.                                                                                                                                                                         |
| Structural System Description : | Post-tensioned concrete flat slab with drop panels at interior portion of building, conventionally reinforced concrete beam and slab system at perimeter of building. See sketch at end of ASP Form 5.0. |



## ASSESSMENT FINDINGS

### Structural System Design

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Question:                 | Are the available FoS for the columns adequate based on Preliminary calculation?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Priority Level:           | High                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| Non-Compliance Level:     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| Description:              | Column FoS calculations were conducted by Shaheedullah following the site visit by Walter P Moore. FoS results are listed below considering both the current 6-story configuration as well as the as-designed 10-story configuration. For each of these cases, two sets of calculations were performed: one considering in-situ compressive strength determined via NDT (3500 psi) and one considering the Alliance Standard minimum compressive strength for stone chip aggregate concrete (2370 psi). For present 6-story configuration: f'c= 3500 psi (NDT), fy= 60 ksi Central Column: 4.07 Corner Column: 5.01 Edge Column: 3.39 f'c= 2370 psi (Alliance Standard minimum), fy= 60 ksi Central Column: 3.50 Corner Column: 4.22 Edge Column: 2.77 For future 10-story configuration: f'c= 3500 psi (NDT), fy= 60 ksi Central Column: 2.44 Corner Column: 3.01 Edge Column: 2.04 f'c= 2370 psi (Alliance Standard minimum), fy= 60 ksi Central Column: 2.10 Corner Column: 2.53 Edge Column: 1.66 The results of these calculations were determined to be unsatisfactory (edge columns, considering the as-designed 10-story configuration, using the Alliance Standard minimum compressive strength). |  |
| Source of Findings:       | Uploaded Document: Column FoS calculation spreadsheet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Suggested Plan of Action: | Under guidance from a qualified structural engineer arrange Detail Engineering Assessment of the structure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| 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:                 | Are Certificates of Occupancy available for review?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Priority Level:           | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Non-Compliance Level:     | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Description:              | There are no available Certificates of Occupancy for review.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Source of Findings:       | Document Review: Seen all documents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Suggested Plan of Action: | Certificate of Occupancy shall be obtained from appropriate authority.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |



|                                |                                                                                                                                                                                                                                                                                                                           |                                                                                       |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Suggested Deadline Date:       | 04 Dec 2014                                                                                                                                                                                                                                                                                                               |                                                                                       |
| Standard:                      | Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment                                                                                                                                                                                                                                                    |                                                                                       |
| Structural System Construction |                                                                                                                                                                                                                                                                                                                           |                                                                                       |
| 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:          | 2                                                                                                                                                                                                                                                                                                                         |                                                                                       |
| Description:                   | Following our site visit, a preliminary structural assessment was subsequently conducted by Shaheedullah. As part of that assessment, it was determined via limited structural analysis that select grade and floor beam elements for the building's structural system were designed with inadequate structural capacity. |                                                                                       |
| Source of Findings:            | Visual Assessment: Limited structural analysis during subsequent assessment.                                                                                                                                                                                                                                              |                                                                                       |
| Suggested Plan of Action:      | Engage a qualified structural engineer to confirm structural performance of all structural elements within the building and provide a remediation plan if required.                                                                                                                                                       |                                                                                       |
| Suggested Deadline Date:       | 30 Nov 2014                                                                                                                                                                                                                                                                                                               |                                                                                       |
| Standard:                      | Alliance Standard 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:          | 2                                                                                                                                                                                                                                                                                                                         |                                                                                       |
| Description:                   | Seismic bracing for storage racks were not observed at the time of our visit. Steel frame supporting roof top equipment at utility building appears to lack adequate bracing.                                                                                                                                             |                                                                                       |
| Source of Findings:            | Visual Assessment: Based on our observations at the time of our visit.                                                                                                                                                                                                                                                    |                                                                                       |
| 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:       | 04 Dec 2014                                                                                                                                                                                                                                                                                                               |                                                                                       |
| Standard:                      | Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6                                                                                                                                                                                                                |                                                                                       |
| Structural Safety Programs     |                                                                                                                                                                                                                                                                                                                           |                                                                                       |





|                           |                                                                                                                                                                                                         |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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:     | 2                                                                                                                                                                                                       |
| Description:              | No program was in place to ensure post-tensioned strands are located before core drilling begins.                                                                                                       |
| Source of Findings:       | Visual Assessment: No post-tensioning management program in place during visual assessment.                                                                                                             |
| Suggested Plan of Action: | Develop a program to ensure that the post-tension strands are identified before any work involving the penetration or drilling of the floor slab is completed.                                          |
| Suggested Deadline Date:  | 30 Nov 2014                                                                                                                                                                                             |
| Standard:                 | Alliance Standard Part 8 Section 8.26 Durability and Maintenance                                                                                                                                        |
| 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:     |                                                                                                                                                                                                         |
| Description:              |                                                                                                                                                                                                         |
| Source of Findings:       |                                                                                                                                                                                                         |
| 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:  |                                                                                                                                                                                                         |
| 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 not been prepared for each floor.                                                                                                                                                 |
| Source of Findings:       | Document Review: Seen all documents                                                                                                                                                                     |
| Suggested Plan of Action: | A qualified structural engineer develop Floor Loading Plans per the requirements of Part 8 Section 8.20.5.3                                                                                             |



|                           |                                                                                                                                                                        |  |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Suggested Deadline Date:  | 05 Dec 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 were not posted at the time of our visit.                                                                                                             |  |
| Source of Findings:       | Document Review: Seen all documents                                                                                                                                    |  |
| Suggested Plan of Action: | A qualified structural engineer prepare load plans including the information required in Section 8.20 of the Alliance Standard.                                        |  |
| Suggested Deadline Date:  | 30 Nov 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:     | 2                                                                                                                                                                      |  |
| Description:              | Areas used for storage of work materials and work products have not been marked indicating the acceptable loading limits.                                              |  |
| 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:  | 05 Dec 2014                                                                                                                                                            |  |
| Standard:                 | Alliance Standard Part 8 Section 8.11 Floor Load Markings                                                                                                              |  |