

AMC Knit Composite Ltd.

Baniar Chala, Member Bari, Gazipur.

(24.159025N, 90.412416E)

24th February 2021 & 25th May 2021



Buildings Information

1. Old Building (G+5)
2. New Building (G+6)
3. Dyeing Shed-1 (Single storied)
4. Dyeing Shed-2 (Single storied)
5. Chemical Shed-1 (Single storied)
6. Chemical Shed-2 (Single storied)
7. Boiler Shed (Single storied)
8. Gas Generator Room (Single storied)
9. Security Room (G+1)
10. REB Substation (Single storied)
11. RMS Building (Single storied)
12. Dining Shed (Single storied)
13. Diesel Generator Shed (Single storied)
14. Fire Pump Shed (Single storied)

Observations

No design report was available



Interior of the building

As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. During the inspection, design report was not available which is required to be prepared in compliance with section 1.9.1 (part-6, BNBC).



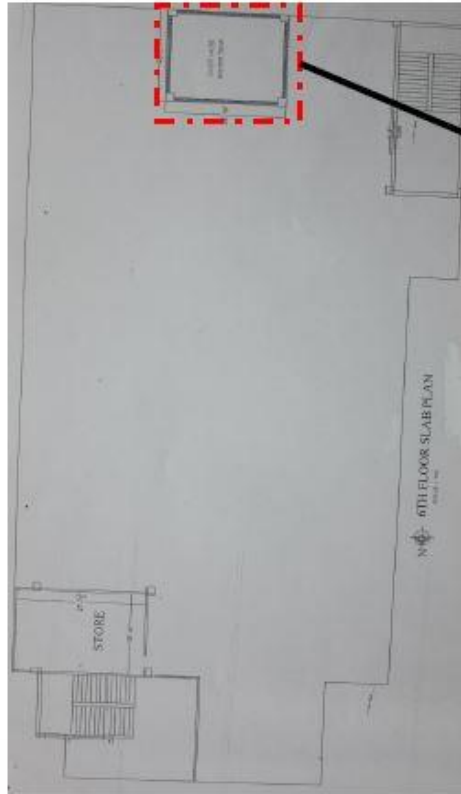
Isometric view

During inspection a set of as-built structural & architectural drawings was available. A soft copy of design report was provided however no FEA model, original soil test report, original material test report or any other document was not available.

Issue highlighted on ARUP report

Item 1: Excessive storage loading on floors

Loading on Roof



R.C.C Water Tank supported on 4 columns:
Length=7.9m
Width= 6.1m
Height= 1.64m(including top & bottom slab. Water level approx 1.2m)

Observation

9

ACCORD ARUP
an Eco and Building Society in Bangladesh

Item 1: Excessive storage loading on floors

Loading on 6th Floor



Finished Goods stored throughout floor area. Average the loading on that floor was 2.5Kpa



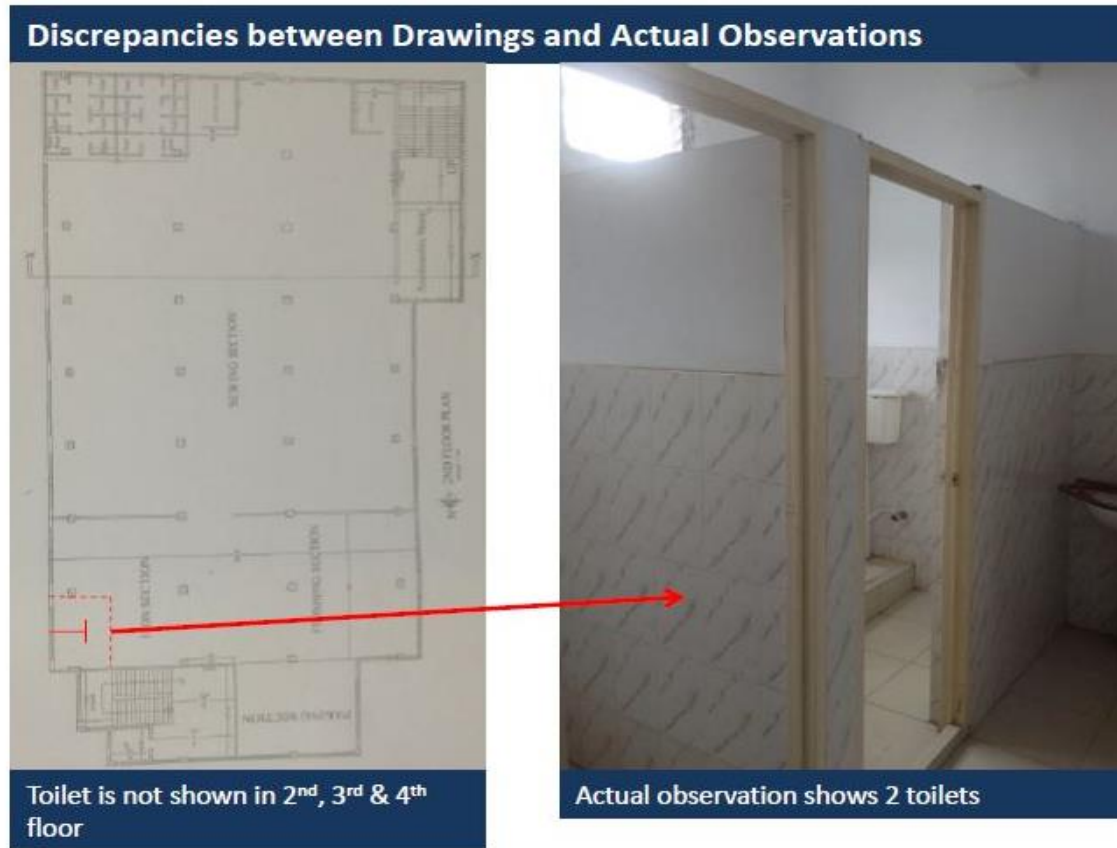
Random storage on other suspended floors

10

ACCORD  ARUP
on the road Building Safety in Bangladesh

Factory engineer has carried out Detailed Engineering Assessment (DEA) based on the observation of ARUP report. Overstressed columns and footings observed in output of analysis file. Factory engineer suggested retrofitting to the over stressed members which is still under review.

Item 2: Discrepancies between Drawings and Actual Observations on 2nd, 3rd & 4th floors



12 Observation

ACCORD ARUP

Factory engineer has carried out Detailed Engineering Assessment (DEA) based on the observation of ARUP report. Overstressed columns and footings observed in output of analysis file. Factory engineer suggested retrofitting to the over stressed members which is still under review.

New Findings from the follow up inspection: Unprotected column at Ground Floor

Structural Safety Inspection Report

Factory Name	S P FASHIONS LTD.
Factory ID	11268
Factory Address	BARNIARCHALA, MEMBER BARI, GAZIPUR.
Date of Initial Inspection	01-Apr-2015
Date of Review Inspection	11-Oct-2020
Inspected by	Sadi Md. Zulker Nine



Item No	Inspection Observation	Action Plan from Inspection (Recommendation)	Timeline from Inspection	Final Action Plan from Factory	Final Timeline (dd-mm-yyyy)	Comments after Physical Inspection	Progress Status	Pictorial Evidence
3	New Finding-1: Unprotected column at Ground Floor	Provide barrier to protect the column from trolley/vehicle impact.	within 6-weeks		11-Dec-2020	On 11-Oct-2020: Several damaged columns were found in the ground floor due to the impact of moving trolley. The factory is required to repair the column & provide adequate barrier surrounding the column to protect from the impact.	In Progress	

Several damaged columns were found in the ground floor due to the impact of moving trolley. The factory is required to repair the columns & provide adequate barrier surrounding the column to protect from impact.

Connection bridge between Old & New Buildings

Connecting bridges were found between Old & New Buildings at 2nd, 3rd & 4th floor levels. No drawings were found for this bridge. There is no clear load path for the bridge. Building is required to verify the connection between the bridge and structures and prepare engineering assessment accordingly. Moreover, factory engineer is required to check the lateral stability of the structure and prepare as-built drawings.



Connection with Building



Connecting bridges at 2nd, 3rd & 4th floor levels

No design reports were available



Isometric view



Interior of the shed

During inspection, load plan for the mezzanine floor and design reports were not available for the shed. As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC.

Factory Engineer is required to prepare Engineering Assessment report in compliance with section 1.9.1 (part-6, BNBC). Also include the load plan of the mezzanine portion.

Observations: Dyeing Shed-1

No design reports were available



Isometric view



Interior of the shed

During inspection, as-built drawings and design report were not available. As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. Factory Engineer is required to prepare as-built drawings and design report in compliance with section 1.9.1 (part-6, BNBC).

Poor connection & lack of lateral stability



Poor connection details



Lack of lateral bracing

The steel roof shed made of angle truss which is supported over RC column. Poor connections were found. Building engineer is required to survey the whole structure and prepare accurate as-built drawings. Also check the adequacy of the members and lateral stability of the shed and prepare design document in compliance with section 1.9.1 (part-6, BNBC 2006).

Poor connection & lack of lateral stability



Poor connection details



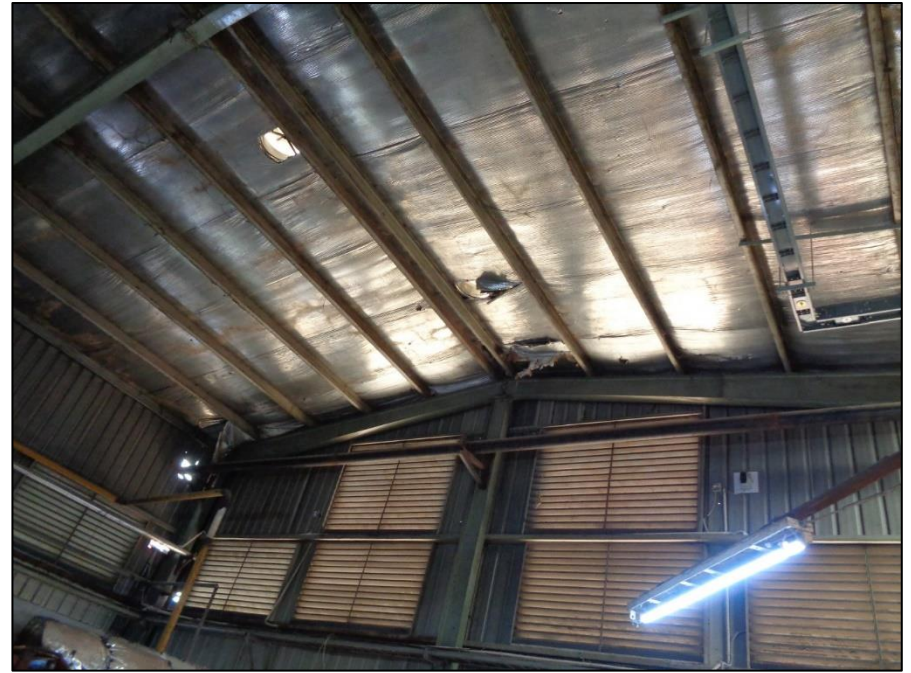
Lack of lateral bracing

The steel roof shed made of angle truss which is supported over RC column. Poor connections were found. Building engineer is required to survey the whole structure and prepare accurate as-built drawings. Also check the adequacy of the members and lateral stability of the shed and prepare design document in compliance with section 1.9.1 (part-6, BNBC 2006).

No design reports were available



Isometric view



Interior of the shed

During inspection, as-built drawings and design report were not available. As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. Factory Engineer is required to prepare as-built drawings and design report in compliance with section 1.9.1 (part-6, BNBC).

No design reports were available



Toilet on the cantilever area



Interior of the building



Isometric view

During inspection, design report was not available and there was a toilet zone on the 1st floor. As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. Factory Engineer is required to prepare design report in compliance with section 1.9.1 (part-6, BNBC). Also check the adequacy of the cantilever area.

No design report available



Isometric view



Interior of the building

As-built drawings and design report were not available. As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. Factory Engineer is required to prepare as-built drawings and Engineering Assessment report in compliance with section 1.9.1 (part-6, BNBC). And check the adequacy of the connection.

Observations: RMS Building

Apparently non-engineered connection at roof shed



Interior of the shed

Poor connections were observed at roof. Moreover, as-built drawings and design report were not available. As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC.

Factory Engineer is required to prepare as-built drawings and Engineering Assessment report in compliance with section 1.9.1 (part-6, BNBC). And check the adequacy of the connections.



Isometric view



Non engineered connection

Observations: Dining Shed

Apparently non-engineered connection at roof shed



Interior of the shed



Non engineered connection

Poor connections were observed at roof. Moreover, design report was not available. As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. Factory Engineer is required to prepare Engineering Assessment report in compliance with section 1.9.1 (part-6, BNBC). And check the adequacy of the connection.

Apparently non-engineered connection at roof shed



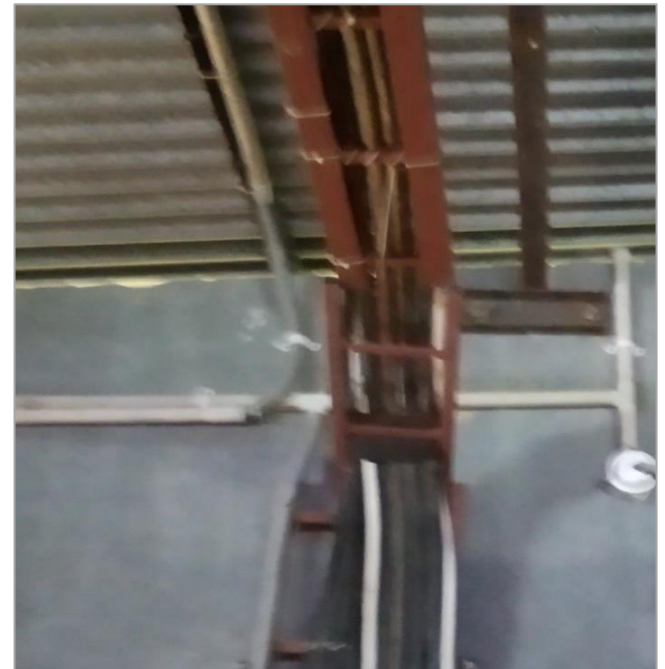
Isometric view

Poor connections were observed at roof. Moreover, as-built drawings and design report were not available. As per BNBC every building or structure designed shall have its design documents prepared in accordance with provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 & section 1.9.1.2 as per BNBC. Factory Engineer is required to prepare as-built drawings and Engineering Assessment report in compliance with section 1.9.1 (part-6, BNBC). And check the adequacy of the connection.

Observations: Fire Pump Room



Interior of the shed



Non engineered connection

Priority Actions

Problems Observed

Old Building:

Item-01: No design report was available.

New Building:

Item-02: Excessive storage loading on floors. (Issue highlighted on ARUP report)

Item-03: Discrepancies between Drawings and Actual Observations on 2nd, 3rd & 4th floors. (Issue highlighted on ARUP report)

Item-04: Unprotected column at Ground Floor. (New Findings from the follow up inspection).

Old Building & New Building:

Item-05: Connection bridge between Old & New Buildings.

Dyeing Shed-1:

Item-06: No design report was available.

Dyeing Shed-2:

Item-07: No design report was available.

Chemical Shed-1:

Item-08: Poor connection & lack of lateral stability.

Problems Observed (Continued)

Chemical Shed-2:

Item-09: Poor connection & lack of lateral stability.

Boiler Shed:

Item-10: No design report was available.

Security Room:

Item-11: No design report was available.

RMS Building:

Item-12: No design report was available.

Dining Shed:

Item-13: Apparently non-engineered connection at roof shed.

Diesel Generator Shed:

Item-14: Apparently non-engineered connection at roof shed.

Fire Pump Shed:

Item-15: Apparently non-engineered connection at roof shed.

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	No design reports were available. (Old Building)	Building engineer to prepare the Design Report for the full structure, in compliance with section 1.9.1.1 as per BNBC.	6-weeks
02	No design reports were available. (Old Building)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
03	Excessive storage loading on floors (Issue highlighted on ARUP report : New Building)	Factory to remove excessive storage on suspended floors other than 6th (designed for storage).	6-weeks
04	Discrepancies between drawings and actual observations on 2nd, 3rd & 4th floors (Issue highlighted on ARUP report : New Building)	Factory engineer to check existing structure for toilets on Levels 2, 3 and 4 and, provided design is satisfactory, amend drawings to reflect as-built arrangement.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
05	Unprotected column at Ground Floor (New Findings from the follow up inspection: New Building)	Provide barrier to protect the column from trolley/vehicle impact.	6-weeks
06	Connection bridge between Old & New Buildings.	Building Engineer to check the connection between the bridge and the Old & New Buildings to clarify the load path.	6-weeks
07	Connection bridge between Old & New Buildings.	Include the adequacy check of the bridge in the Design report along with the building it is connected.	6-weeks
08	No design reports were available. (Dyeing Shed-1)	Building engineer to prepare the Design Report for the full structure, in compliance with section 1.9.1.1 as per BNBC.	6-weeks
09	No design reports were available. (Dyeing Shed-1)	Building engineer is required to prepare the load plan for the mezzanine floor.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
10	No design reports were available. (Dyeing Shed-1)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
11	No design reports were available. (Dyeing Shed-2)	Building engineer to prepare the Design Report for the full structure, in compliance with section 1.9.1.1 as per BNBC.	6-weeks
12	No design reports were available. (Dyeing Shed-2)	Building engineer is required to prepare the load plan for the mezzanine floor.	6-weeks
13	No design reports were available. (Dyeing Shed-2)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
14	Poor connection & lack of lateral stability. (Chemical Shed-1)	<ul style="list-style-type: none"> Building Engineer to survey the whole structure and prepare accurate as-built drawings in compliance with section 1.9.1.2 as per BNBC. 	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
15	Poor connection & lack of lateral stability. (Chemical Shed-1)	Building engineer is required to check the lateral stability and prepare Engineering Assessment Report in compliance with section 1.9.1 as per BNBC.	6-months
16	Poor connection & lack of lateral stability. (Chemical Shed-1)	Building engineer is required to check the connection adequacy as part of Engineering Assessment (EA) Report in compliance with section 1.9.1 as per BNBC.	6-weeks
17	Poor connection & lack of lateral stability. (Chemical Shed-1)	Implement the remedial works deemed necessary by the Engineering Assessment (EA).	6-months
18	Poor connection & lack of lateral stability. (Chemical Shed-2)	<ul style="list-style-type: none"> Building Engineer to survey the whole structure and prepare accurate as-built drawings in compliance with section 1.9.1.2 as per BNBC. 	6-weeks
19	Poor connection & lack of lateral stability. (Chemical Shed-2)	Building engineer is required to check the lateral stability and prepare Engineering Assessment Report in compliance with section 1.9.1 as per BNBC.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
20	Poor connection & lack of lateral stability. (Chemical Shed-2)	Building engineer is required to check the connection adequacy as part of Engineering Assessment (EA) Report in compliance with section 1.9.1 as per BNBC.	6-weeks
21	Poor connection & lack of lateral stability. (Chemical Shed-2)	Implement the remedial works deemed necessary by the Engineering Assessment (EA).	6-months
22	No design reports were available. (Boiler Shed)	Building engineer to prepare the Design Report for the full structure, in compliance with section 1.9.1.1 as per BNBC.	6-weeks
23	No design reports were available. (Boiler Shed)	Building engineer is required to prepare the load plan for the mezzanine floor.	6-weeks
24	No design reports were available. (Boiler Shed)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
25	No design reports were available. (Security Room)	Building engineer to prepare the Design Report for the full structure, in compliance with section 1.9.1.1 as per BNBC.	6-weeks
26	No design reports were available. (Security Room)	Building engineer is required to check the adequacy of the cantilever area as part of Design Report in compliance with section 1.9.1 as per BNBC.	6-weeks
27	No design reports were available. (Security Room)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
28	No design reports were available. (RMS Building)	Building engineer to prepare the Design Report for the full structure, in compliance with section 1.9.1.1 as per BNBC.	6-weeks
29	No design reports were available. (RMS Building)	Building engineer is required to prepare the load plan for the mezzanine floor.	6-weeks
30	No design reports were available. (RMS Building)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
31	Apparently non-engineered connection at roof shed. (Dining Shed)	Building Engineer to survey the whole structure and prepare accurate as-built drawings in compliance with section 1.9.1.2 as per BNBC.	6-weeks
32	Apparently non-engineered connection at roof shed. (Dining Shed)	Building engineer to prepare the Engineering Assessment including a design report for the full structure, in compliance with section 1.9.1.1 as per BNBC.	6-weeks
33	Apparently non-engineered connection at roof shed. (Dining Shed)	Building engineer is required to check the connection adequacy of the steel roof shed against the up-lift pressure of wind.	6-weeks
34	Apparently non-engineered connection at roof shed. (Dining Shed)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
35	Apparently non-engineered connection at roof shed. (Diesel Generator Shed)	Building engineer to prepare the Engineering Assessment including a design report for the full structure, in compliance with section 1.9.1.1 as per BNBC.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
36	Apparently non-engineered connection at roof shed. (Diesel Generator Shed)	Building engineer is required to check the connection adequacy of the steel roof shed against the up-lift pressure of wind.	6-weeks
37	Apparently non-engineered connection at roof shed. (Diesel Generator Shed)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
38	Apparently non-engineered connection at roof shed. (Fire Pump Shed)	Building Engineer to survey the whole structure and prepare accurate as-built drawings in compliance with section 1.9.1.2 as per BNBC.	6-weeks
39	Apparently non-engineered connection at roof shed. (Fire Pump Shed)	Building engineer to prepare the Engineering Assessment including a design report for the full structure, in compliance with section 1.9.1.1 as per BNBC.	6-weeks
40	Apparently non-engineered connection at roof shed. (Fire Pump Shed)	Building engineer is required to check the connection adequacy of the steel roof shed against the up-lift pressure of wind.	6-weeks
41	Apparently non-engineered connection at roof shed. (Fire Pump Shed)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months