Logos Apparels Ltd.-Unit-2

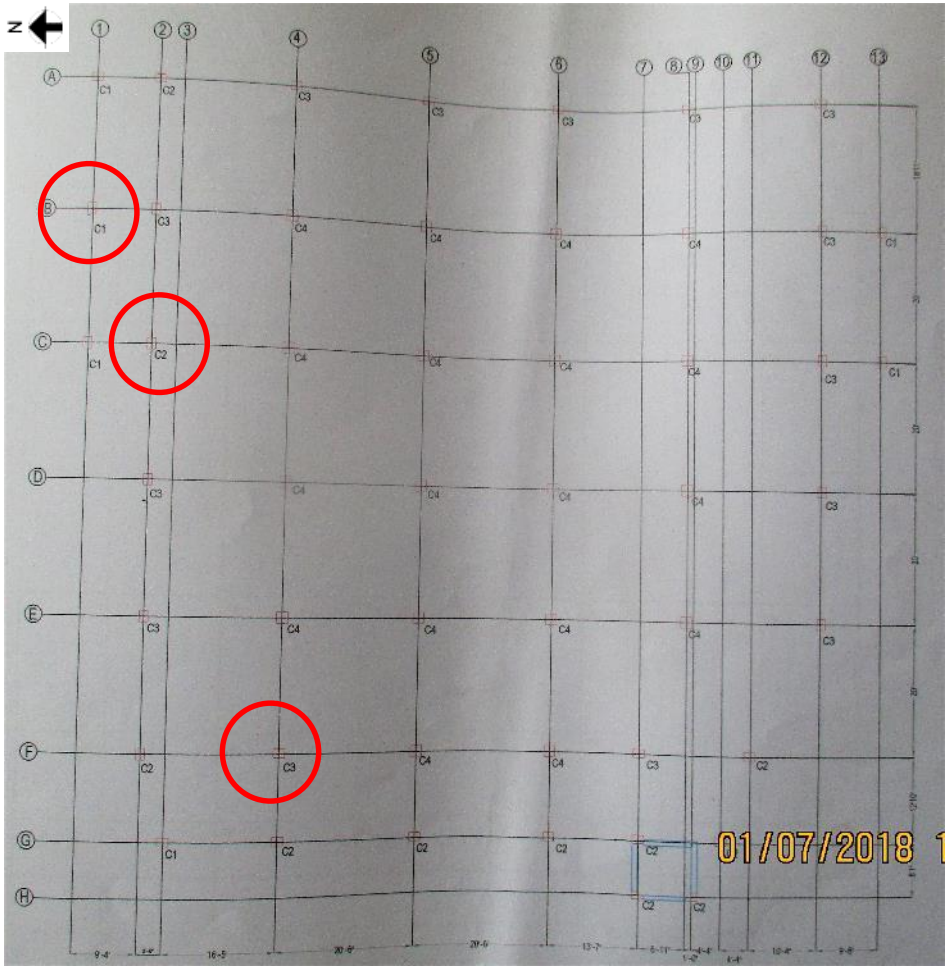
Telerchala, Mouchak, Kaliakoir, Gazipur
(24.015675N, 90.303210E)
01st July 2018

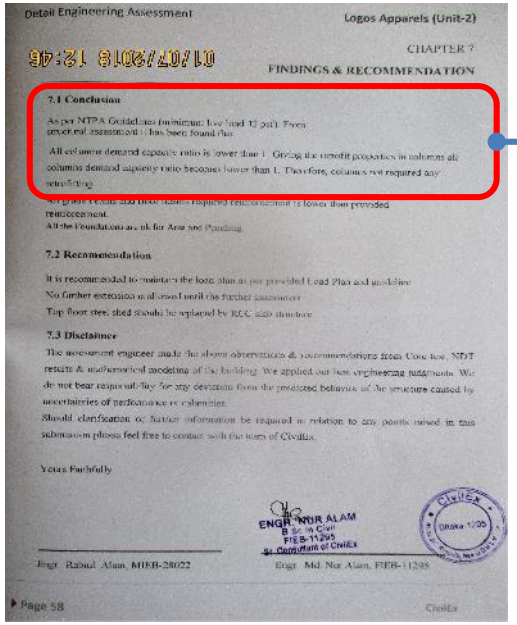
ACCORD
on Fire and Building Safety in Bangladesh

Observations

DEA Report required to be reviewed by Accord

Observation: Production building




Detail Engineering Assessment
Logos Apparels (Unit-2)
CHAPTER 7
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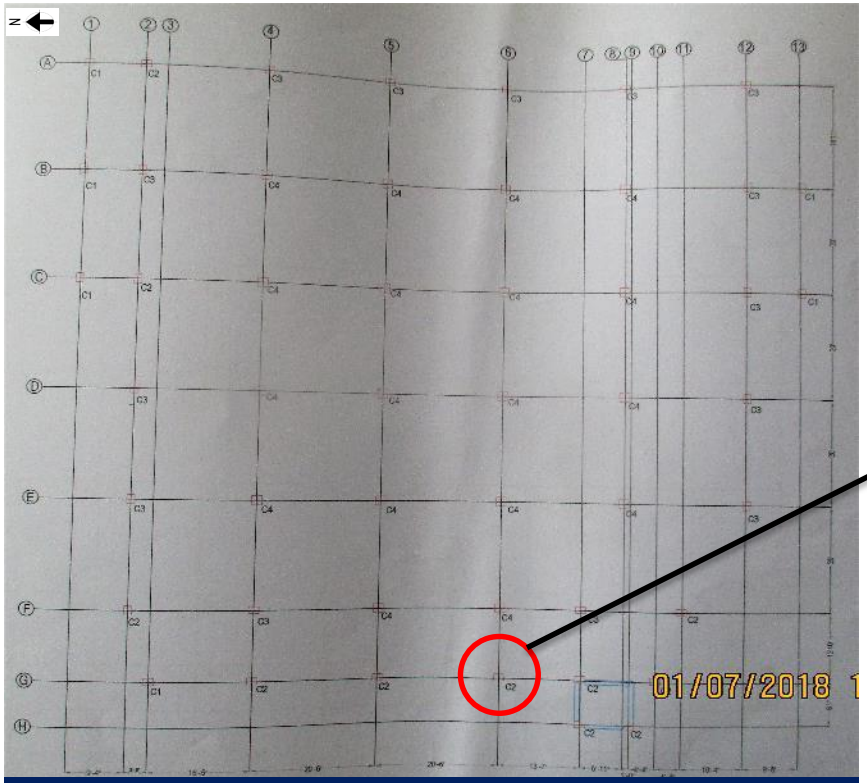
7.1 Conclusion

As per NTPA Guidelines (minimum live load 42 psf): From structural assessment it has been found that

All columns demand capacity ratio is lower than 1. Giving the retrofit properties in columns all columns demand capacity ratio becomes lower than 1. Therefore, columns not required any retrofitting.

Cursory calculation (considering 63 psf live load and core test report provided by the factory) indicates that highlighted columns appear to be stressed above normal design limits due to over head water tank and brick wall & build-up of toilet area. Whereas all columns were declared as safe for carrying 42 psf live load in the conclusion of the provided DEA report. Factory is required to revise the DEA report according to BNBC provision and submit to ACCORD for further review.

Observation: Production building



Column layout

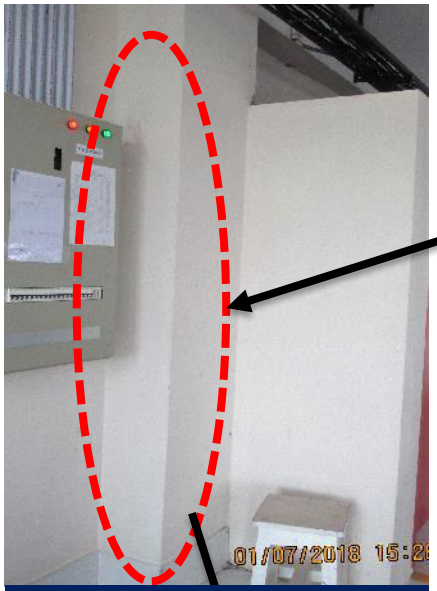
Mixture of stone & brick aggregate was found in the marked column

Combination of stone aggregate & brick aggregate was found in the above marked column. Factory is require to verify the concrete strength of the marked column and incorporate it in the DEA report.

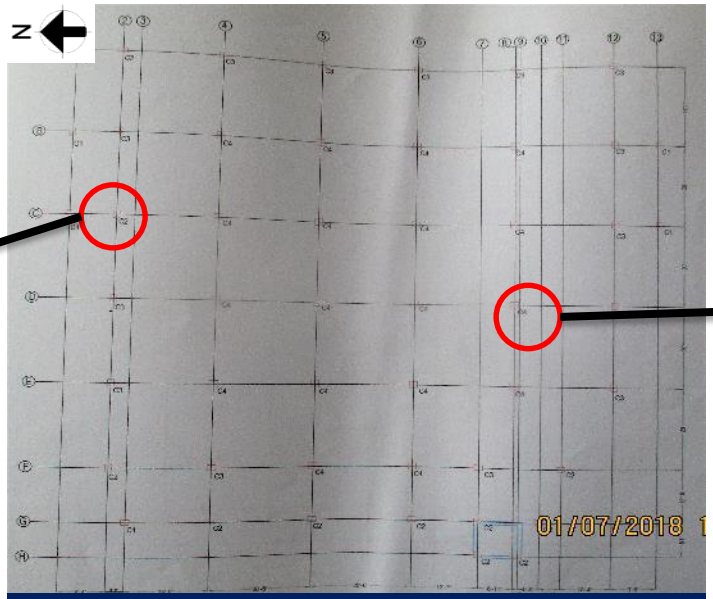
Observation: Production building

Discrepancy between provided drawing and as built condition

Observation: Production building

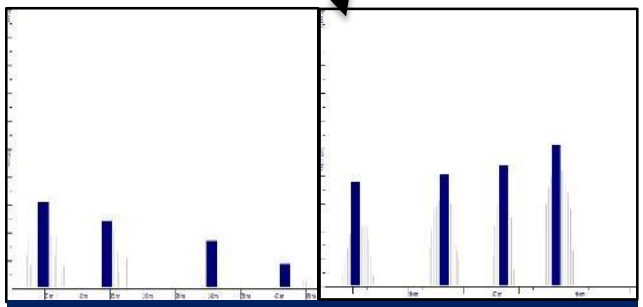


C-3 type column



Column Layout Plan

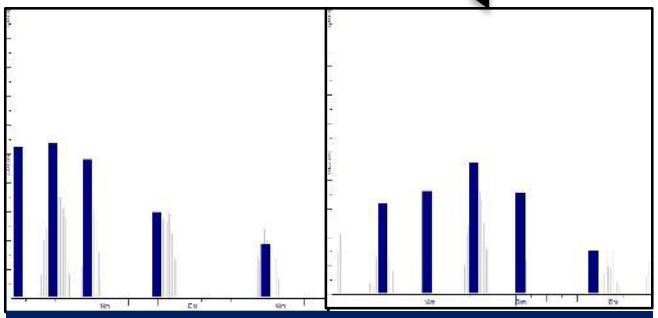
C-4 type column



12 nos. rebar found by ferro scanning in C-3 type columns instead of 16 nos.

C-3 | C-4

Column Schedule



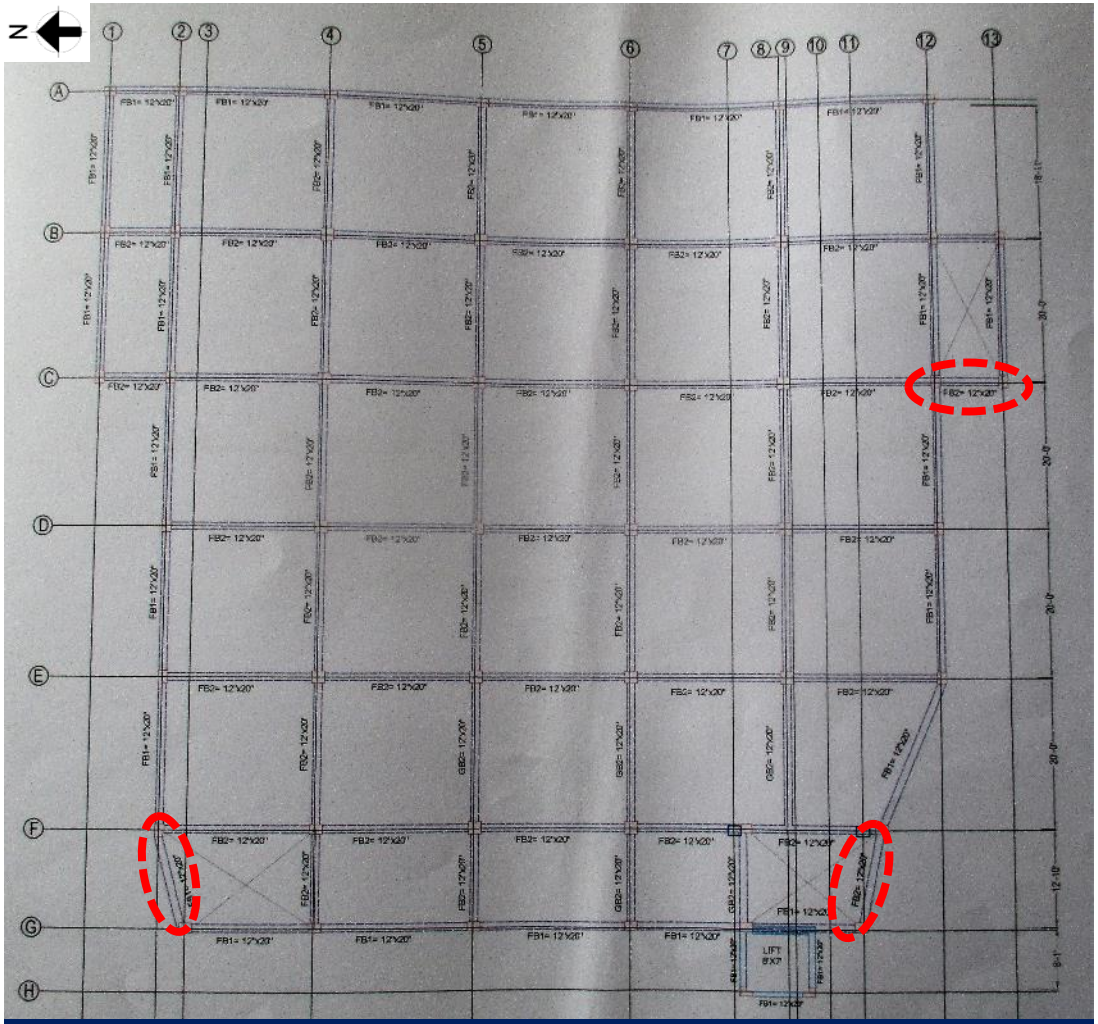
16 nos. rebar found by ferro scanning in C-4 type columns instead of 20 nos.

Number of rebars in C-3 & C-4 type columns were found less than that of shown in column schedule of as-built structural drawing.

Observation: Production building

No floor beam was found at stair case on marked location.

Three beams were not found at the marked location on each floor. Whereas, floor beams were shown in provided as-built drawing.



Beam Layout Plan

Observation: Production building

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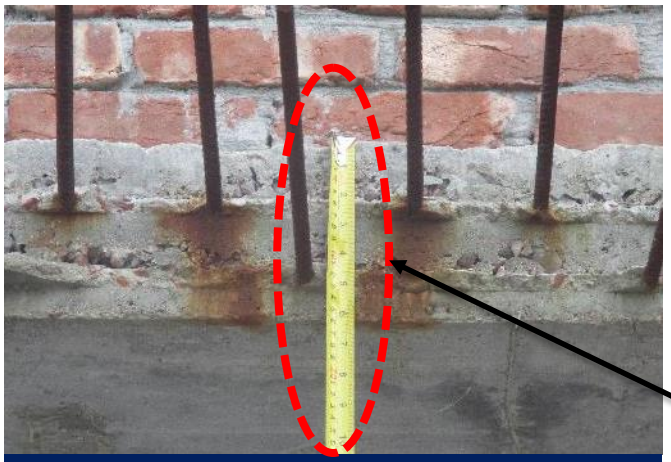
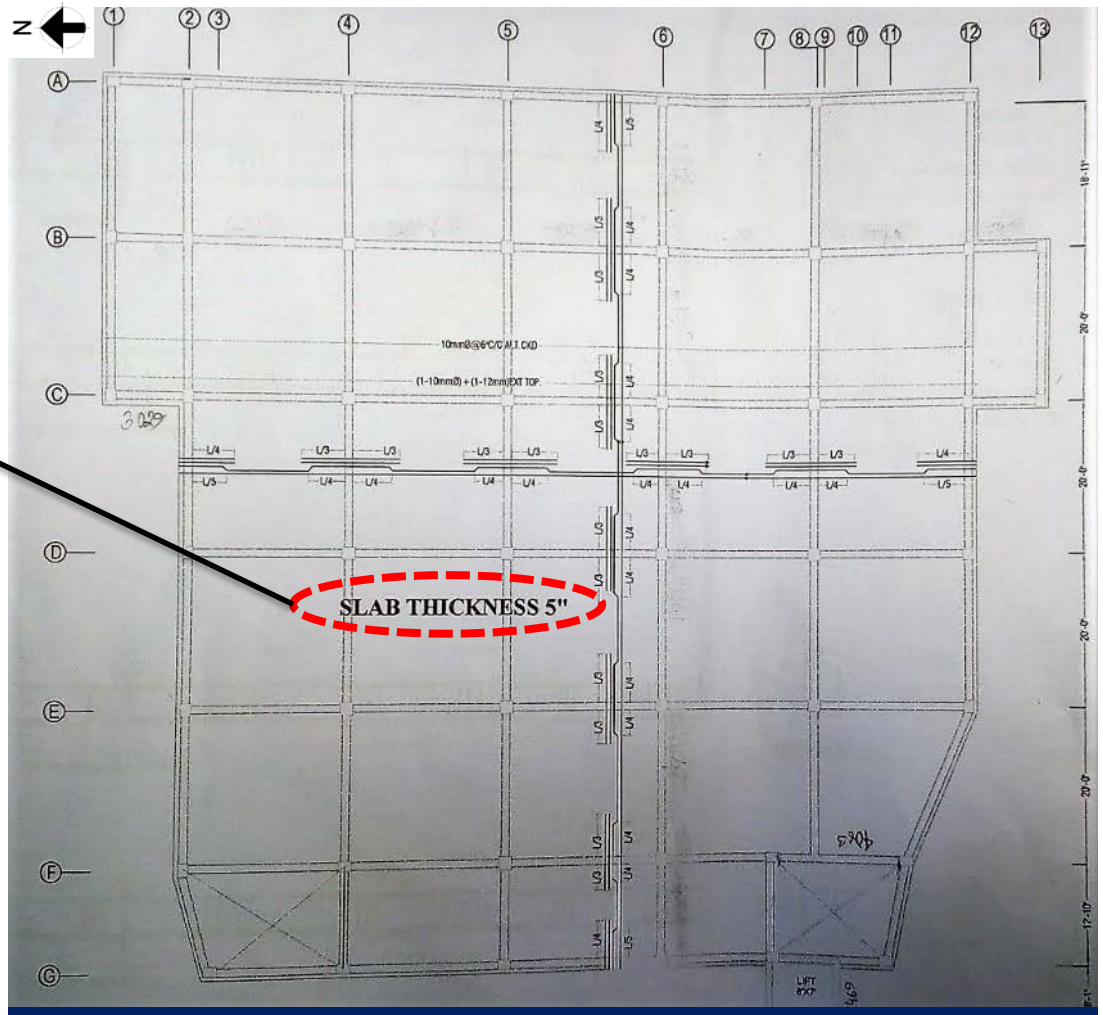


Slab thickness was found 6 inches on site

In provided drawing, slab thickness was shown as 5 inches. Whereas, slab thickness was found 6 inches on site.



Slab layout Plan

Factory is required to update the as-built drawing which reflect the actual condition.

Observation: Production building

Lack of Lateral Stability of roof top canteen shed

Observation: Production building

Internal portal frame without any bracing system

Bolted connection between Steel short column and RC column

During inspection, no roof bracing or compression strut between rafter was observed to provide lateral stability of roof shed on long direction. Factory is required to check lateral stability of roof shed against lateral loads.

Bolted connection between rafter and RC column

Observation: Production building

Lightweight Roof shed of chemical store appeared to be non engineered

Observation: Production building

Roof top Chemical shed

The support condition of the steel shed was very weak and non engineered due to poor detailing of connection of members. Factory is required to replace the shed with an engineered shed

Angles are resting on peripheral brick wall

Support system of ‘C’ channel

Internal frame of shed

Observation: Production building

Dampness on masonry walls and slabs

Observation: Production building

Extensive dampness was observed on masonry walls of toilet area on different floors

Dampness was observed on roof slab of top floor

Dampness on masonry walls of toilet areas on different floors and top slab were found in several locations. Factory engineer is required to take proper remediation of dampness.

Observation: Production building

Corrosion on roof top exposed reinforcement

Observation: Production building

Corrosion was observed on all exposed reinforcement on roof top

Corrosion was observed on all exposed reinforcement on roof top. Factory is required to take proper remedial measures for preventing the corrosion.

Observation: Production building

Lack of as-built documentation

Observation: Office & Childcare building

No As-Built drawings were available on site for the Office & Childcare building .
Factory engineer is required to produce as-built drawings reflecting on-site condition.

Observation: Office & Childcare building

Lack of as-built documentation

Observation: Sub-station room

No As-Built drawings were available on site for the Sub-station room. Factory engineer is required to produce as-built drawings reflecting on-site condition.

Observation: Sub-station room

Lightweight Roof shed appeared to be non engineered

Observation: Generator shed

Generator shed

'C' channel was supported on brick wall

The support condition of the steel roof was very weak and non engineered due to poor detailing of connection of members. Factory is required to replace the shed with an engineered shed.

Internal frame system

'C' channel was bolted with Beam of adjacent production building

Observation: Generator shed

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Problems Observed

Production building

Item 1: DEA Report required to be reviewed by Accord.
Item 2: Discrepancy between provided drawing and on site condition.
Item 3: Lack of Lateral Stability of roof top canteen shed.
Item 4: Lightweight Roof shed of chemical store appeared to be non engineered.
Item 5: Dampness on masonry walls and slabs.
Item 6: Corrosion on roof top exposed reinforcement.

Office & Childcare building

Item 7: Lack of as-built documentation.

Sub-station room

Item 8: Lack of as-built documentation.

Generator shed

Item 9: Lightweight Roof shed appeared to be non engineered .

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Production building DEA Report required to be reviewed by Accord	Complete review of DEA report by Accord.	**6-weeks**
2	Production building DEA Report required to be reviewed by Accord	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	**6-weeks**
3	Production building DEA Report required to be reviewed by Accord	Complete remedial works coming from detail engineering assessment after reviewing by Accord.	**6-months**
4	Production building DEA Report required to be reviewed by Accord	Continue to implement load plan.	**6-months**
5	Production building Discrepancy between provided drawing and on site condition	Factory engineer to survey the building and produce as-built documentation reflecting the as constructed condition.	**6-weeks**
6	Production building Lack of Lateral Stability of roof top canteen shed	Factory is required to check lateral stability of roof shed against lateral loads.	**6-weeks**
7	Production building Lack of Lateral Stability of roof top canteen shed	Carry out remedial action as per engineering assessment where required.	**6-months**

Item No.	Observation	Recommended Action Plan	Recommended Timeline
8	Production building Lightweight Roof shed of chemical store appeared to be non engineered	Factory engineer to check the adequacy of the lightweight roof shed under horizontal and vertical loading.	**6-weeks**
9	Production building Lightweight Roof shed of chemical store appeared to be non engineered	Carry out remedial works resulting from engineering assessment if necessary.	**6-months**
10	Production building Dampness on masonry walls and slabs	Factory engineer investigate the reasons and provide necessary repair method.	**6-weeks**
11	Production building Corrosion on roof top exposed reinforcement	Factory Engineer to suggest and implement proper remedial measures to protect reinforcement from corrosion.	**6-weeks**

Item No.	Observation	Recommended Action Plan	Recommended Timeline
12	Office & Childcare building Lack of as-built documentation	Factory engineer to survey the building and produce as-built documentation reflecting the as constructed condition.	**6-weeks**
13	Sub-station room Lack of as-built documentation	Factory engineer to survey the building and produce as-built documentation reflecting the as constructed condition.	**6-weeks**
14	Generator shed Lightweight Roof shed appeared to be non engineered	Factory engineer to check the adequacy of the lightweight roof shed under horizontal and vertical loading.	**6-weeks**
15	Generator shed Lightweight Roof shed appeared to be non engineered	Carry out remedial works resulting from engineering assessment if necessary.	**6-months**