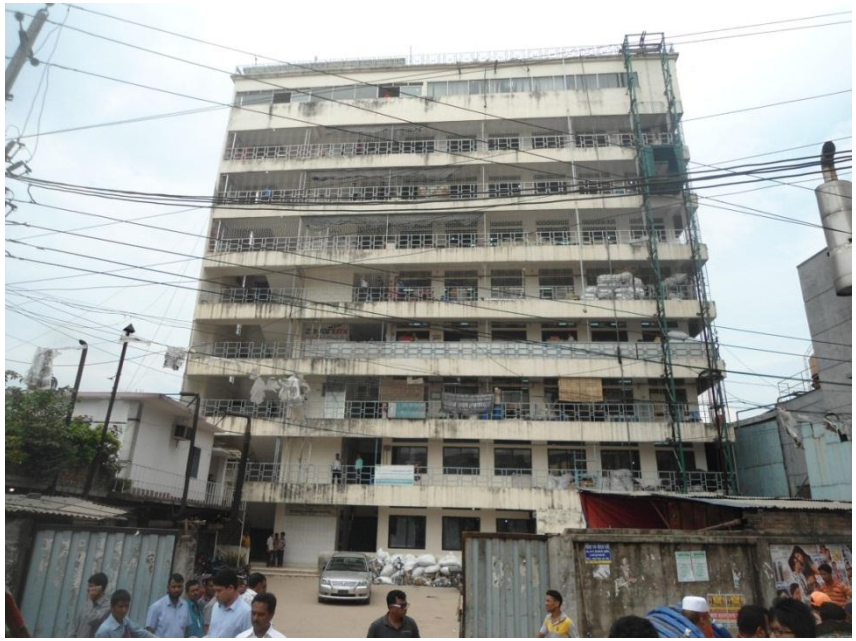
Tanaz Fashions Ltd. & Zayantex Ltd.
L Usine Fashion Ltd (Unit 1)

216 , Sataish Road, Gazipura, Tongi, Gazipur, Bangladesh
(23.921458N,90.386581E)

22 September 2013



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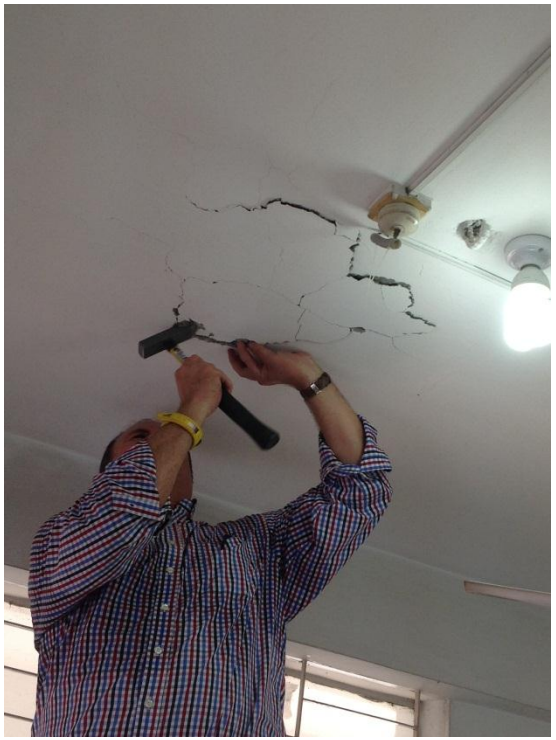
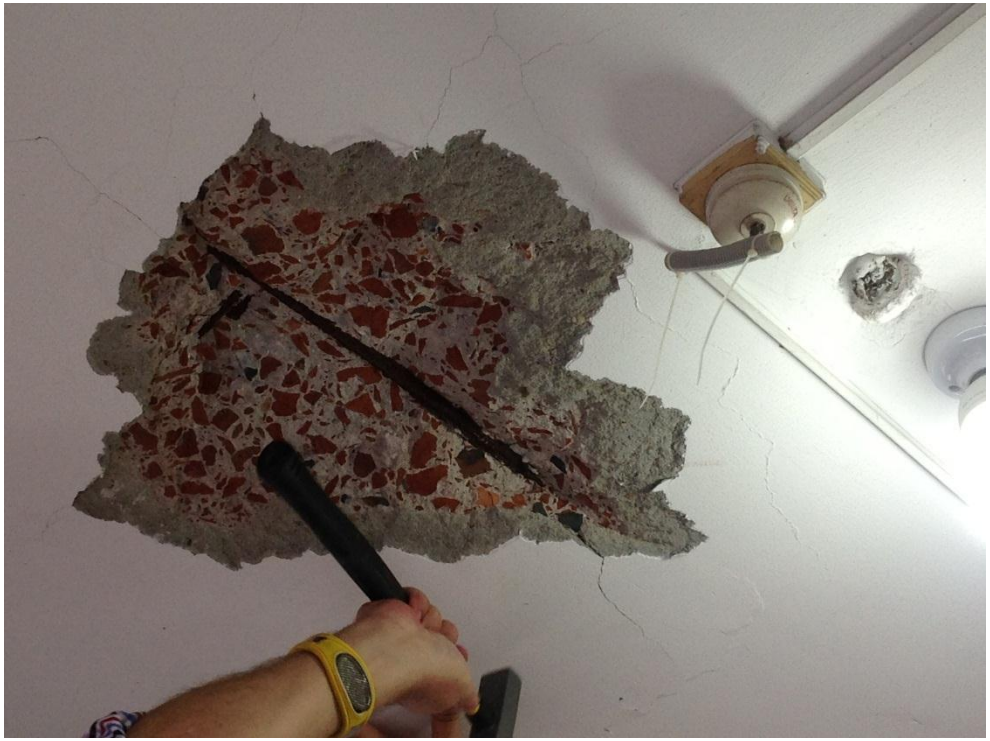
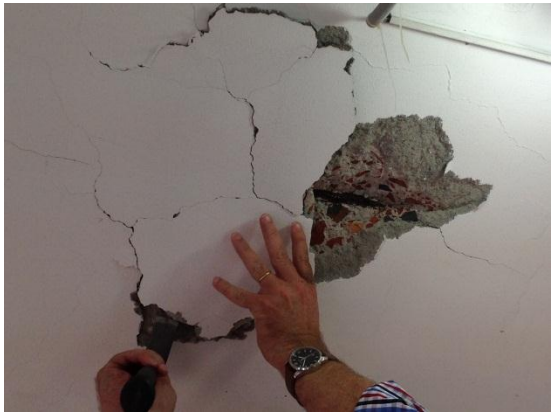
ARUP

Local concrete spalling caused by corrosion





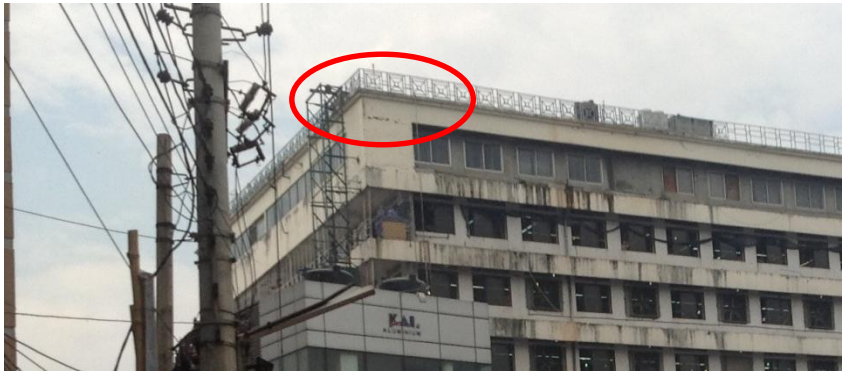


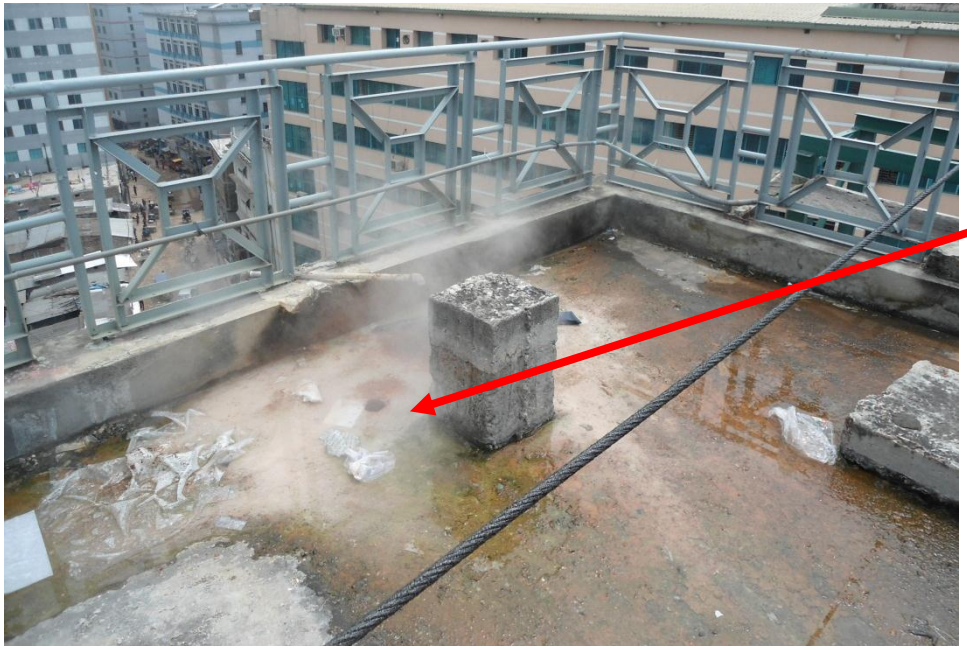
Local concrete spalling caused by corrosion of lower reinforcement bars.

Condensation and leaking from above boiler room causes constant wetting and heating of concrete slab. Heat and wetting causing corrosion and spalling

Local concrete spalling

Water causing damage and corrosion





Steam rejection causing constant wetting

Unmanaged roof drainage causing corrosion to façade and structure

Water causing local damage

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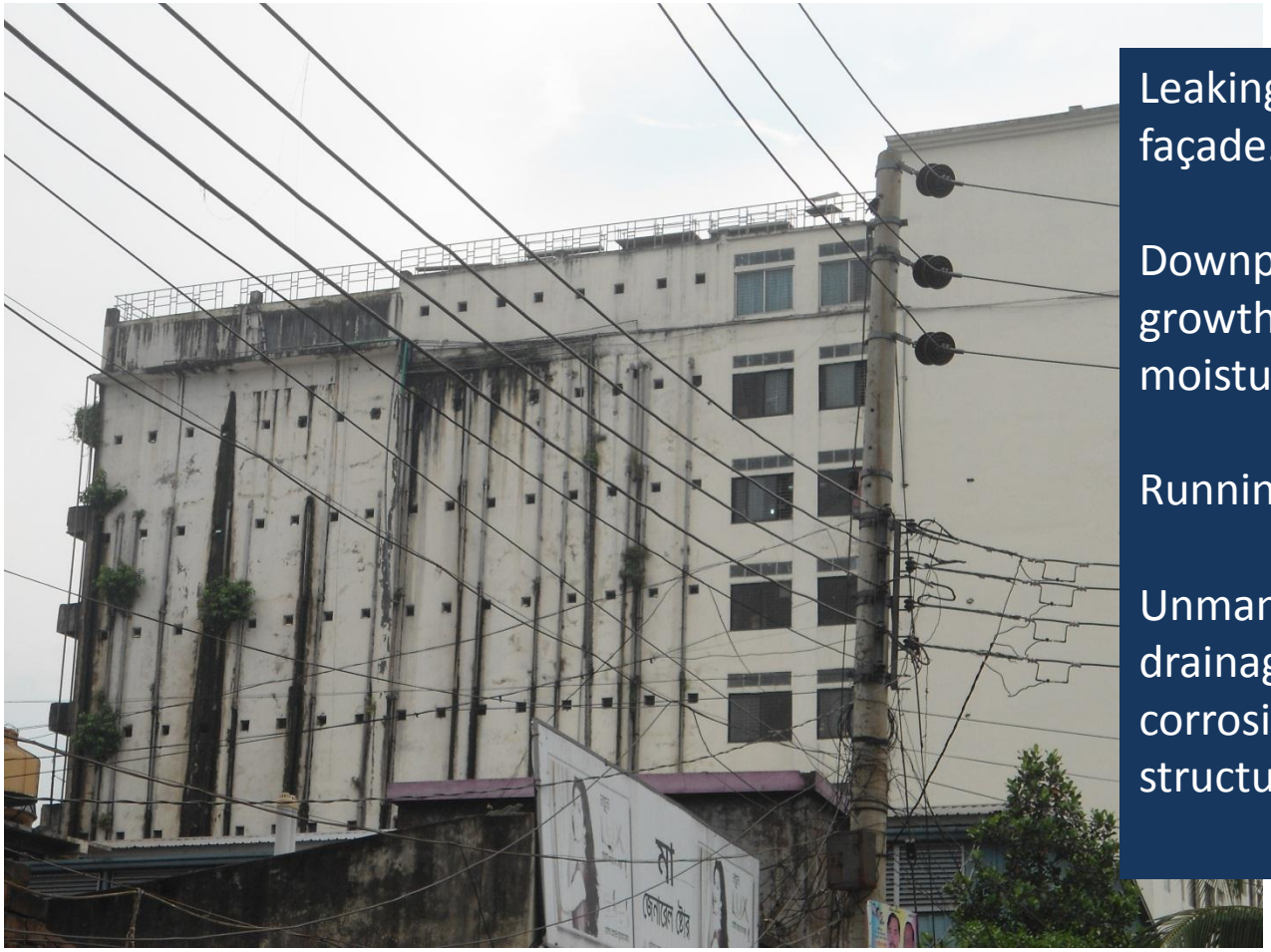

Leaking drainage pipes on façade.

Downpipes vegetation growth indicates moisture.

Running water visible

Unmanaged leaking drainage causing corrosion to façade and structure

Water causing local damage

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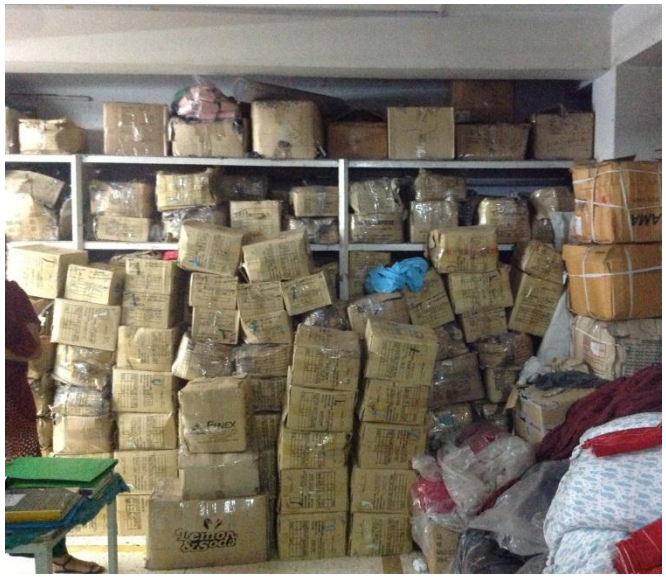
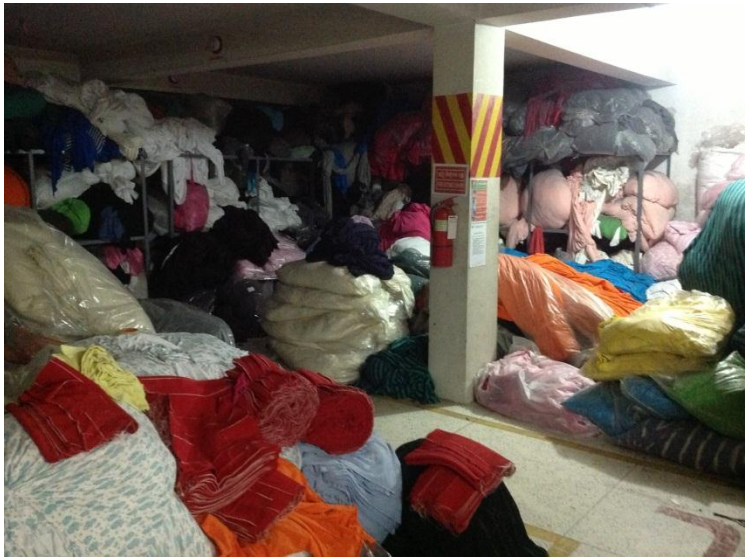
High loads on bonded/storage areas





Material stacked to ceiling within storage areas.

Plan and height restrictions to be introduced to prevent future overloading.
Limit height to 1.80 (1.50x1.50 area) and keep 0.50-0.75 m cleared strip around.

Floor loading

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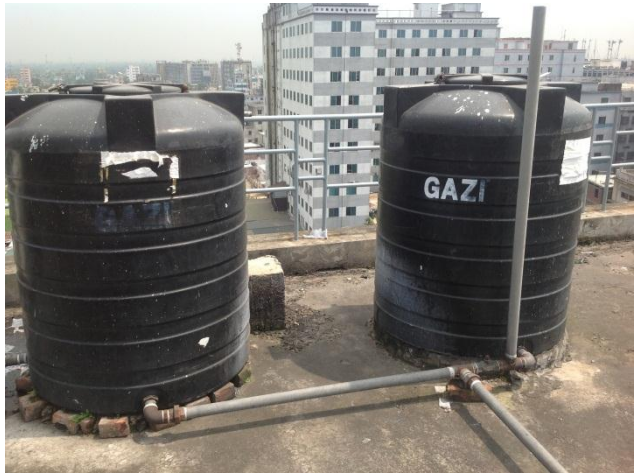
Check on roof structure from localised high loading from water tanks required



Water tanks mounted on small concrete plinths

Building Engineer to check that beam and slab have been designed to accommodate loads.

Water tanks loading

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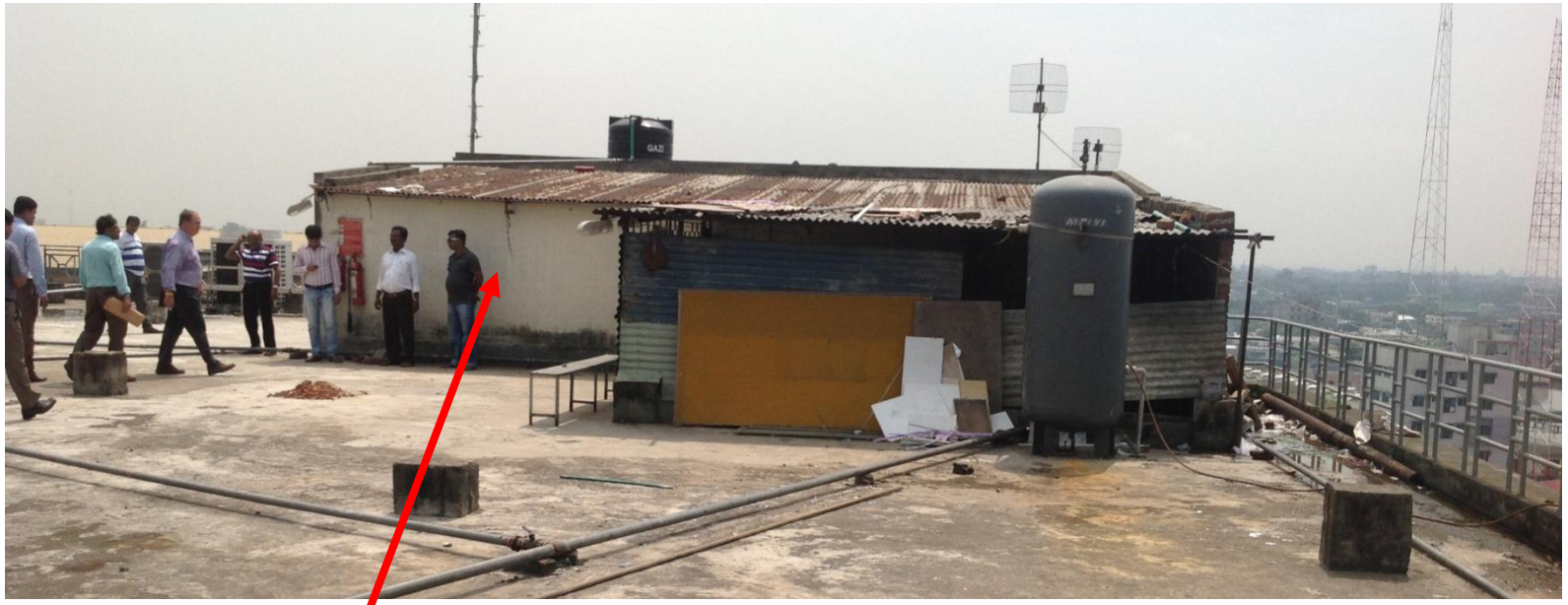
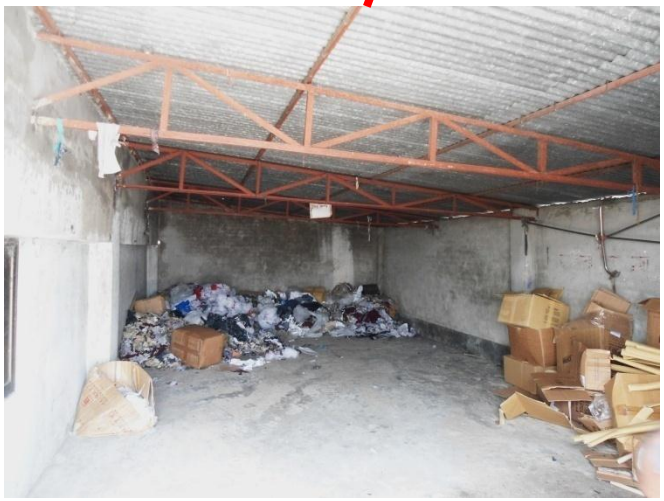
Check on roof additions required





Addition roof structures not shown in the structural design drawings.

Built with unreinforced masonry walls and a lightweight steel roof open to wind uplift.
Inadequate tie-down details

Check on roof additions required

Priority Actions

Problems Observed

ITEM 1: Concrete strength in columns
ITEM 2: Local concrete spalling caused by corrosion
ITEM 3: Water causing damage and corrosion
ITEM 4: High density of loading in bonded/storage areas
ITEM 5: Check on roof structure from localized high loading from water tanks required
ITEM 6: Check on roof additions required

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Concrete strength in columns	Maintain current use of the floors and don´t change use or increase occupation, either of which could increase loading. All storage must be removed immediately to bring loading below a limit of 1KPa	**Immediate - Now**
2	Concrete strength in columns	Factory Engineer to review design, loads and columns stresses for all floors.	**Immediate - Now**
3	Concrete strength in columns	Verify in situ concrete stresses either by cores or existing cylinder strength data for cores from 4 columns.	**Immediate - Now**
4	Concrete strength in columns	A Detail Engineering Assessment of Factory to be commenced immediately, see attached Scope	**Immediate - Now**
5	Concrete strength in columns	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	**6-weeks**
6	Concrete strength in columns	Detail Engineering Assessment to be completed	**6-weeks**

Item No.	Observation	Recommended Action Plan	Recommended Timeline
7	Concrete strength in columns	Continue to implement load plan.	**6-months**
8	Local concrete spalling caused by corrosion	Building engineer to inspect slab under boiler room for corrosion damage and spalling risk.	**6-weeks**
9	Local concrete spalling caused by corrosion	Mitigate water source from boiler room above. Manage drainage, waterproof system and isolating layer.	**6-months**
10	Local concrete spalling caused by corrosion	If required, specify a treatment system for corrosion and concrete repair	**6-months**
11	Water causing damage and corrosion	Manage drainage from roof level and downpipes to avoid structural corrosion due to continuous moisture	**6-months**
12	High density of loading in bonded/storage areas	Building Engineer to create controlled loading plans for all floors designating where storage can be placed and can not be placed.	**6-months**

Item No.	Observation	Recommended Action Plan	Recommended Timeline
13	Check on roof structure from localized high loading from water tanks required	Building Engineer to check that beam/slab has sufficient capacity to support fully filled water tanks plus concrete plinth	**6-months**
14	Check on roof additions required	Addition structures should be Designed and upgraded to support code vertical and wind loads by the building Engineer, or they should be vacated and removed.	**6-months**