



Nine 2 Nine Intimates Ltd

35/A –B, Kalurghat Heavy Industrial Area ,Chittagong 4208 , Bangladesh
(22.390795, 91.872791)

18 June 2017





Observations



Main Building



Foundation of main Building exceeds normal design limit

According to the design report Factor Of Safety of some of the foundations are found less than the recommended $FOS=2.5$ as per BNBC (marked below). It creates concern of the capacity of the pile foundation. Building engineer is required to check the capacity of the foundation system as part of the Engineering Assessment.

Foundation Adequacy Check

Point	GRID ON DWG	Load	NO OF PILE	LOAD ON EACH PILE	PILE CAPACITY	FOS
1	L1	468	2	234	790	3.4
3	K1	365	1	365	790	2.2
5	K1	367	1	367	790	2.2
6	K2	382	1	382	790	2.1
8	K2	398	1	398	790	2.0
9	I1	929	3	310	790	2.6
10	H1	847	3	282	790	2.8
11	G1	872	3	291	790	2.7
12	F1	1169	3	390	790	2.0
13	E2	709	3	236	790	3.3
14	D2	707	3	236	790	3.4
15	C2	777	3	259	790	3.1
16	B2	468	2	234	790	3.4
17	L3	663	3	221	790	3.6
18	K3	1205	4	301	790	2.6
19	F2	1448	4	362	790	2.2

667	2	334	790	2.4
617	2	308	790	2.6
858	3	286	790	2.8
713	2	357	790	2.2
491	2	246	790	3.2
254	1	254	790	3.1
401	1	401	790	2.0
403	1	403	790	2.0
299	1	299	790	2.6
402	1	402	790	2.0
795	3	265	790	3.0
490	2	245	790	3.2
284	1	284	790	2.8

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Observations: Main Building

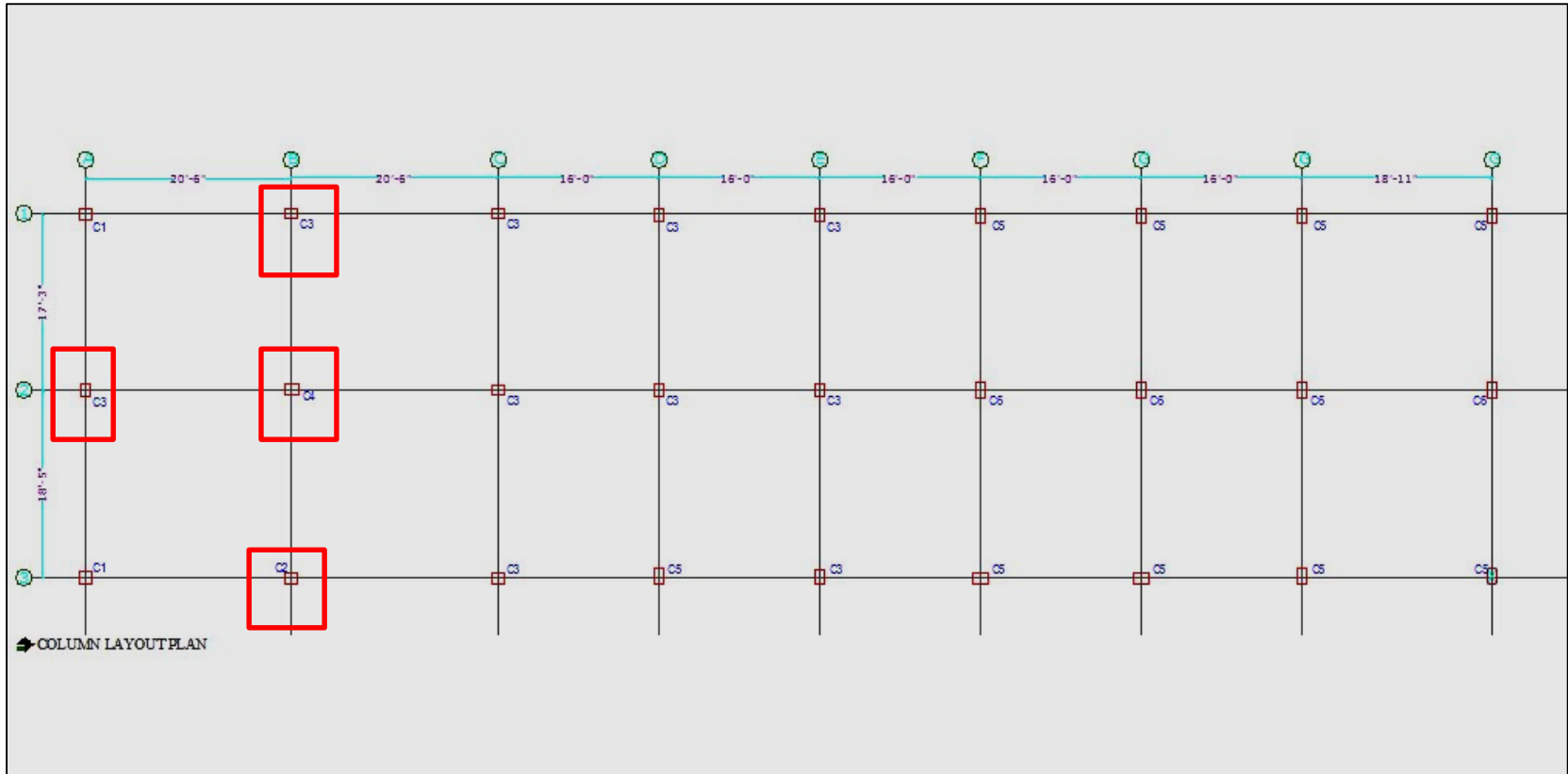


Generator Building



Inconsistency in the as built drawings

Observations: Generator Building

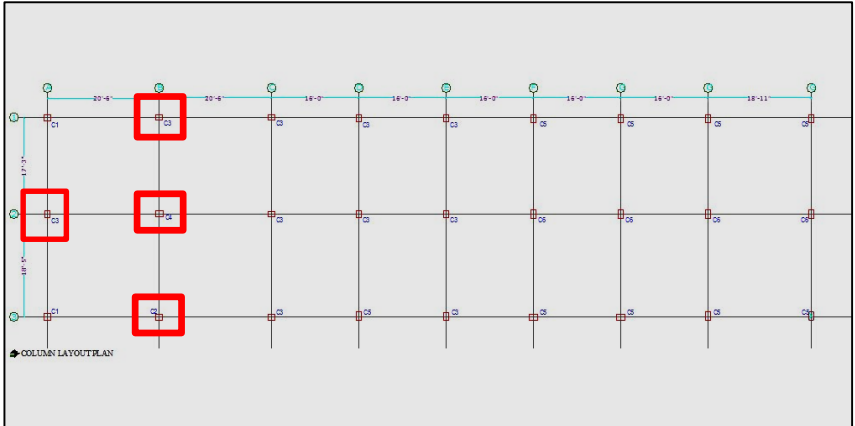


Mismatch was found in the column size in the marked location. Factory is required to update the structural drawing as per the as built condition.

Observations: Generator Building



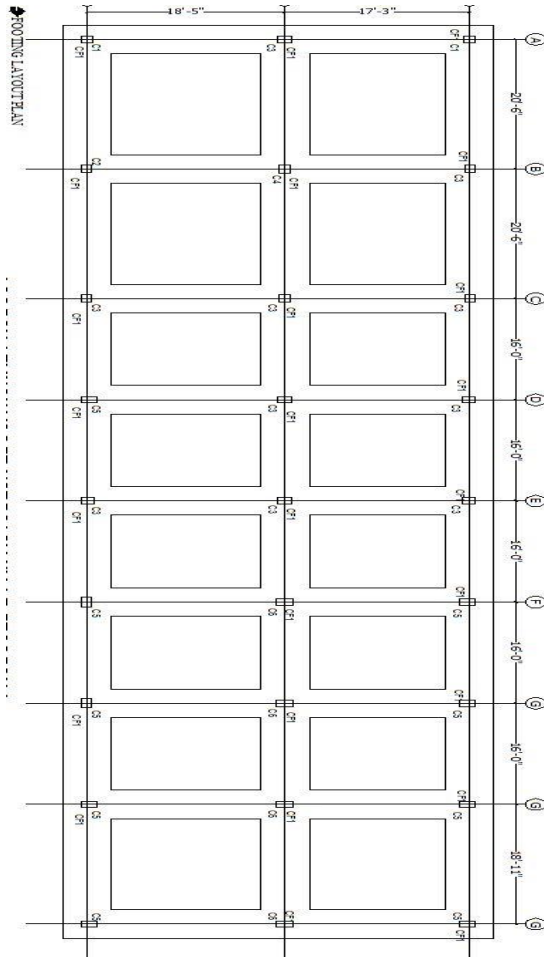
Generator Building



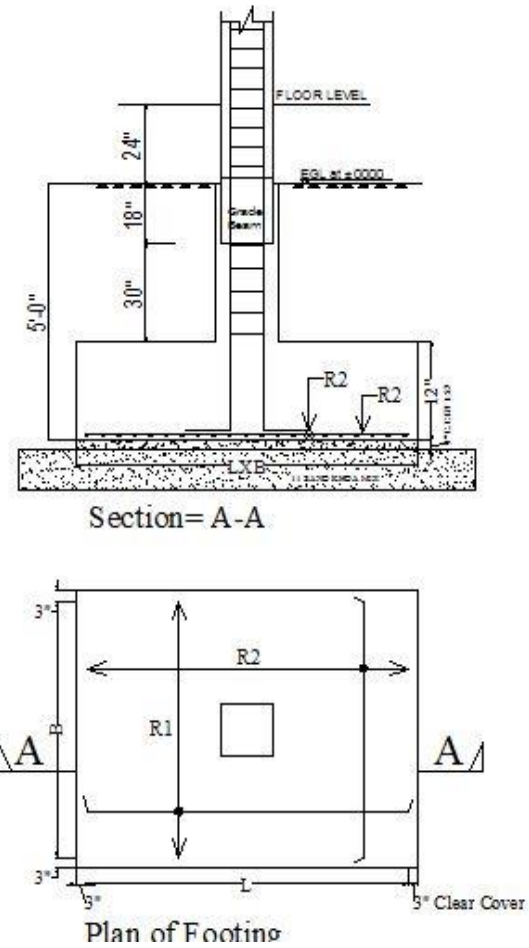
C2	<p>6-16mmØ 10mmØ @ 8"~10" c/c.</p>	<p>6-16mmØ 10mmØ @ 8"~10" c/c.</p>
C3	<p>8-16mmØ 10mmØ @ 8"~10" c/c.</p>	<p>8-16mmØ 10mmØ @ 8"~10" c/c.</p>
C4	<p>8-16mmØ 10mmØ @ 8"~10" c/c.</p>	<p>8-16mmØ 10mmØ @ 8"~10" c/c.</p>

For example in the marked location (Grid A2) the column size was mentioned to have 300mmx375mm. In as built condition the section was found 350mmx375mm. Also in Grid B2 column size was found 300mmx 450mm instead of mentioned 325mmx 400mm . In Grid B1 size was found 300mmx450mm instead of 300mm x375mm and in Grid B3 the found size was 300mmx450mm instead of 300mmx375mm.

Observations: Generator Building



Foundation layout shows strip foundation

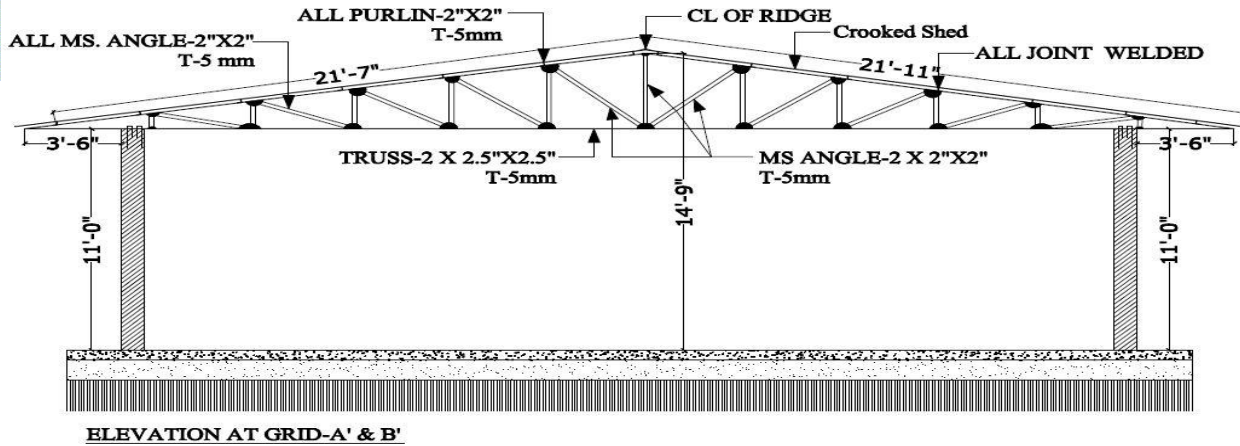


Section & plan of footing shows isolated column footing

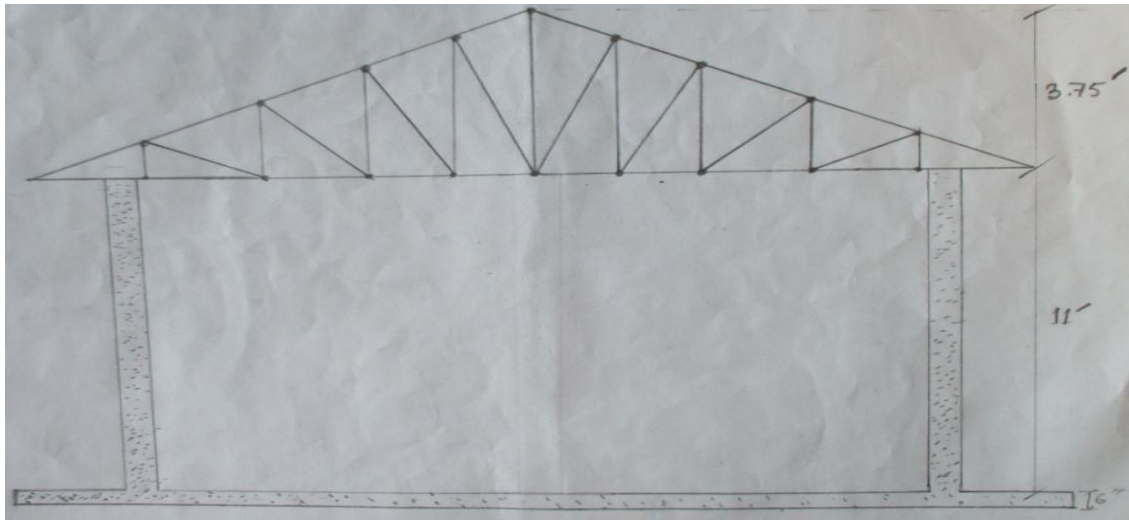
Mismatch between footing layout and section & footing plan has been found. Design report has also stated that the footing type is isolated column footing which leads to ambiguity regarding existing footing.

Factory engineer is required to investigate the foundation type of the building.

Observations: Generator Building



Provided Drawing of Truss: Number of vertical members are 11



Existing Truss: Number of vertical members are 9

Mismatch between existing Trusses of roof top Shed & provided drawing has been found.

Factory engineer is required to update the as built drawing . Also adequacy check is required to verify.

Observations: Generator Building



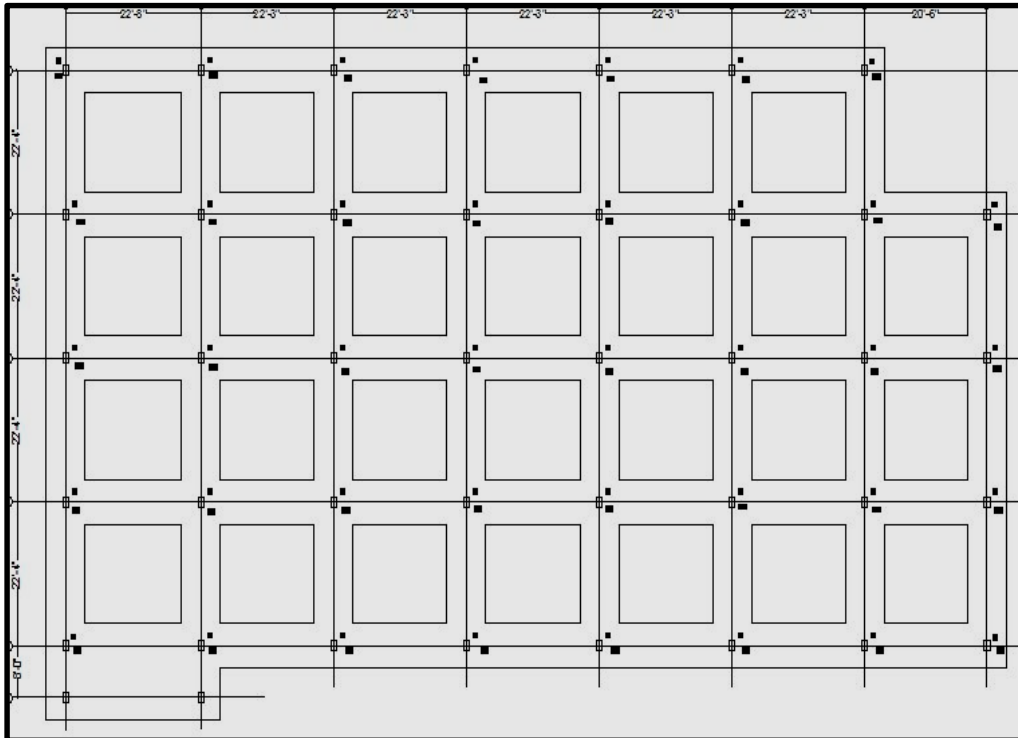
PFL Building



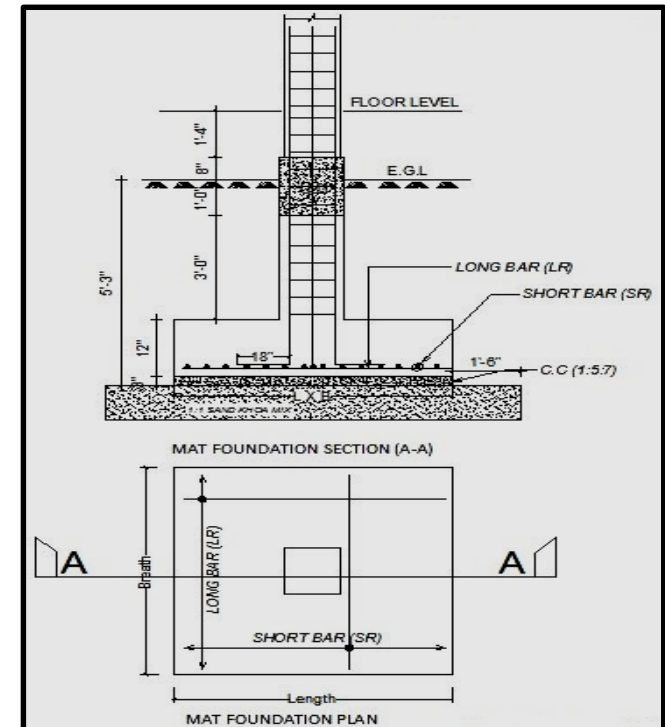
Mismatch in footing layout



Mismatch between footing layout and section & footing plan has been found. Design report has also stated that the footing type is isolated column footing which leads to ambiguity regarding existing footing. Factory engineer is required to investigate the foundation type of the building.



Foundation layout shows strip foundation



Section & plan of footing shows isolated column footing

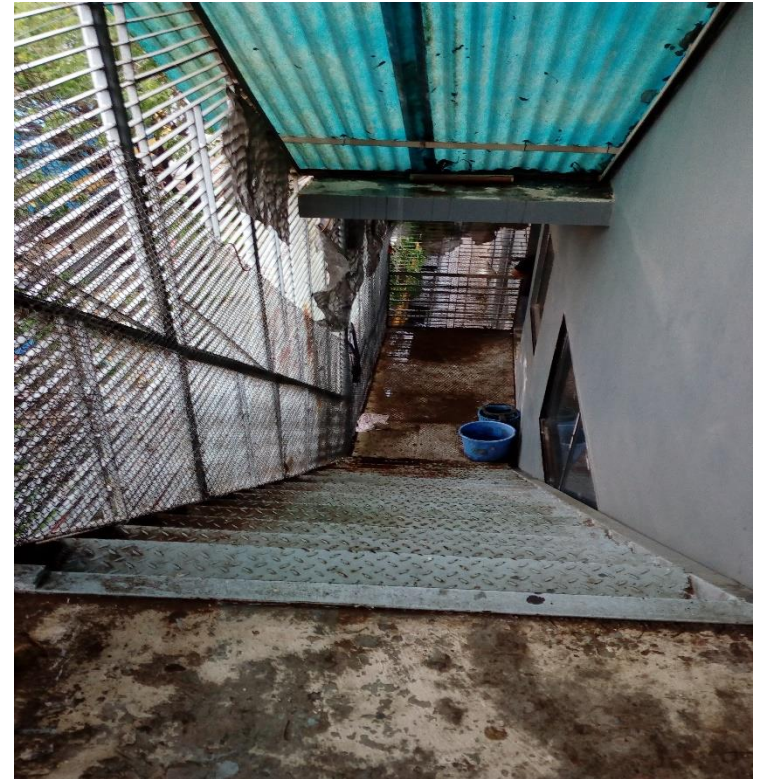
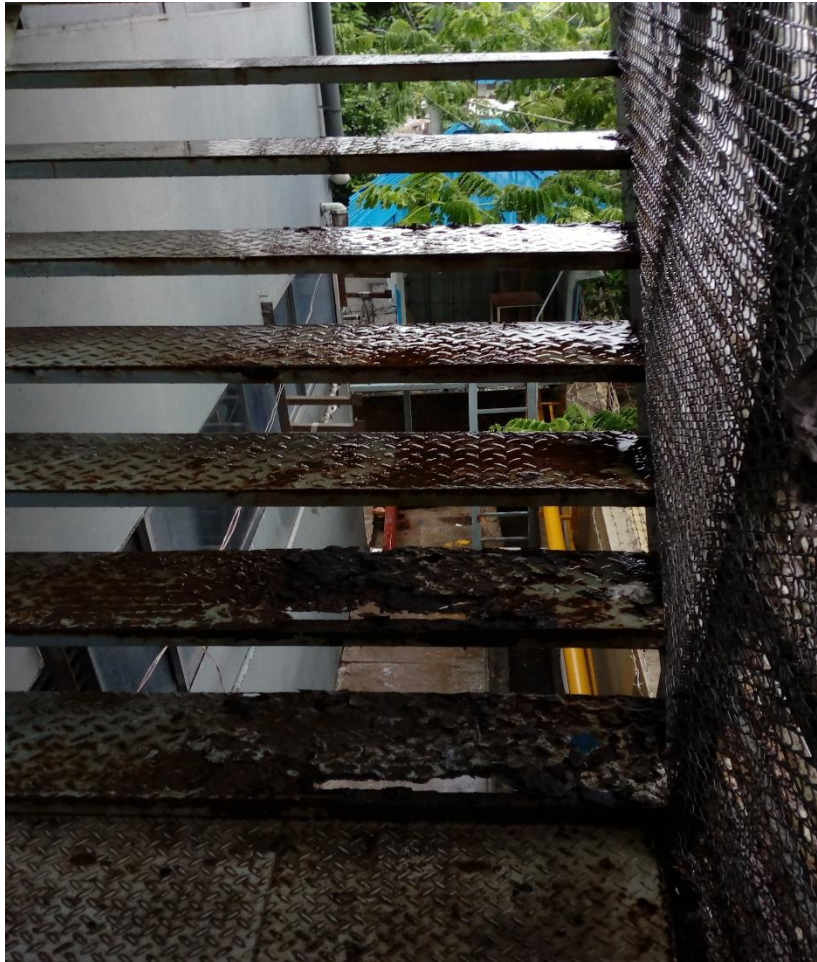
Observations: PFL Building



Damage in Steel Stair



The steel stair was found rusted. Landing was found damaged. It is required factory engineer implement proper remedial action for the rusted stair.



Observations: PFL Building



**No proper drainage is provided at the roof top
of the generator building and PFL building**



Generator Building



PFL Building

No drainage was visible at the roof top of the two buildings. Water accumulated at the roof tops . Proper drainage is required to be provided.

Observations



Undocumented Steel Veranda



No document was found for the steel veranda. Proper documentation is required for the veranda.



Priority Actions



Problems Observed

- 1: Foundation of main Building exceeds normal design limit
- 2: Inconsistency in the as built drawings of the Generator building
- 3: Mismatch in Footing layout in the PFL Building
- 4: Damage in steel stair in the PFL Building
- 5: Undocumented steel verandah in the PFL Building
- 6: No proper drainage is provided at the roof top of the generator building and PFL building



Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Foundation of main Building exceeds normal design limit	Check the foundation capacity as part of Engineering Assessment capacity as per BNBC.	6-weeks
2	Foundation of main Building exceeds normal design limit	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity.	6-weeks
3	Foundation of main Building exceeds normal design limit	Apply remedial action where necessary.	6-months
4	Foundation of main Building exceeds normal design limit	Follow the load plans and make sure that the workers understand the loading requirements.	6-months
5	Inconsistency in the as built drawings of the Generator building	Factory Engineer is to investigate the footing type and Check the adequacy of the existing footing.	6-weeks
6	Inconsistency in the as built drawings of the Generator building	Produce Accurate as built drawings of the Generator Building as part of Engineering assessment.	6-weeks
7	Inconsistency in the as built drawings of the Generator building	Check adequacy of the roof top truss.	6-weeks
8	Inconsistency in the as built drawings of the Generator building	Implement remedial action if required.	6-months



Item No.	Observation	Recommended Action Plan	Recommended Timeline
9	Mismatch in Footing layout in the PFL Building	Factory Engineer is to investigate the footing type and Check the adequacy of the existing Footing as part of the Engineering Assessment.	6-weeks
10	Mismatch in Footing layout in the PFL Building	Produce Accurate drawing as per the as built condition.	6-weeks
11	Mismatch in Footing layout in the PFL Building	Implement remedial action if required.	6-months
12	Damage in steel stair in the PFL Building	Factory Engineer is to investigate the damage of the steel stair.	6-weeks
13	Damage in steel stair in the PFL Building	Apply remedial action if necessary.	6-months
14	Undocumented Steel Veranda in the PFL Building	Produce accurate as built drawings.	6-weeks
15	No proper drainage is provided at the roof top of the generator building and PFL building	Apply proper drainage system at the roof top.	6-months