Sultana Sweaters Limited

Ahakhalia, Hazir Bazar, Mollik Bari, Bhaluka, Mymensingh, Bangladesh.

(24.351528, 90.374492)

02 & 16 February 2021

RSC RMG SUSTAINABILITY COUNCIL

Buildings Information

1. Shed 1 (Single Storied)
2. Shed 2 (Single Storied)
3. Shed 3 (Single Storied)
4. Shed 4 (G+Mz)
5. Shed 5 (G+Mz)
6. Shed 6 (Single Storied)
7. Shed 7 (Single Storied)
8. Shed 8 (Single Storied)
9. Shed 9 (Single Storied)
10. Sub-station 1 (Single Storied)
11. Utility & Sub-station 2 (Single Storied)
12. Boiler Room 1 (Single Storied)
13. Boiler Room 2 (Single Storied)
14. Security Building (Single Storied)
15. Fire Pump Room (B+G)
16. RMS & CP Room (Single Storied)
17. ETP (Single Storied)

Observations

Unavailable of structural design report

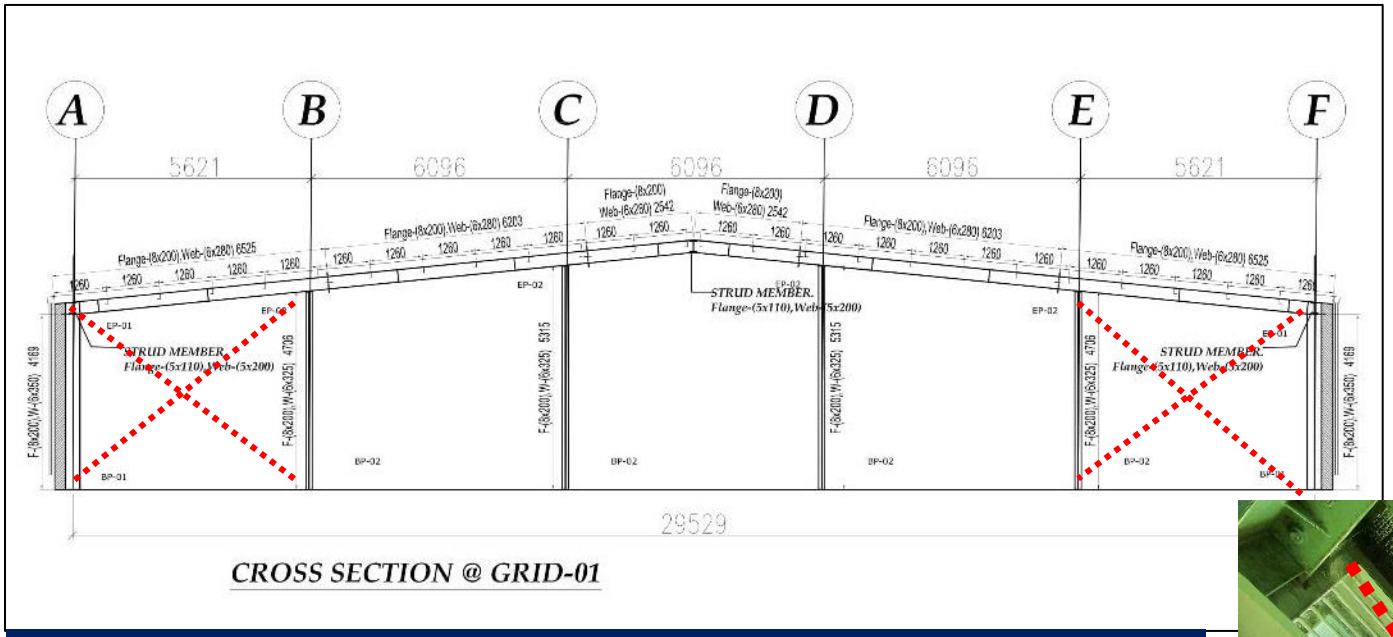
As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC.

Design report of all structures were not found which is required to be prepared in compliance with section 1.9.1.1 (part-6, BNBC).

Observations: All Structures

Missing bracing at Several Location

Observations: Shed 1,3,4, Substation 1 & 2



Gable frame section of Shed 1

Missing Bracing

Observations: Shed 1

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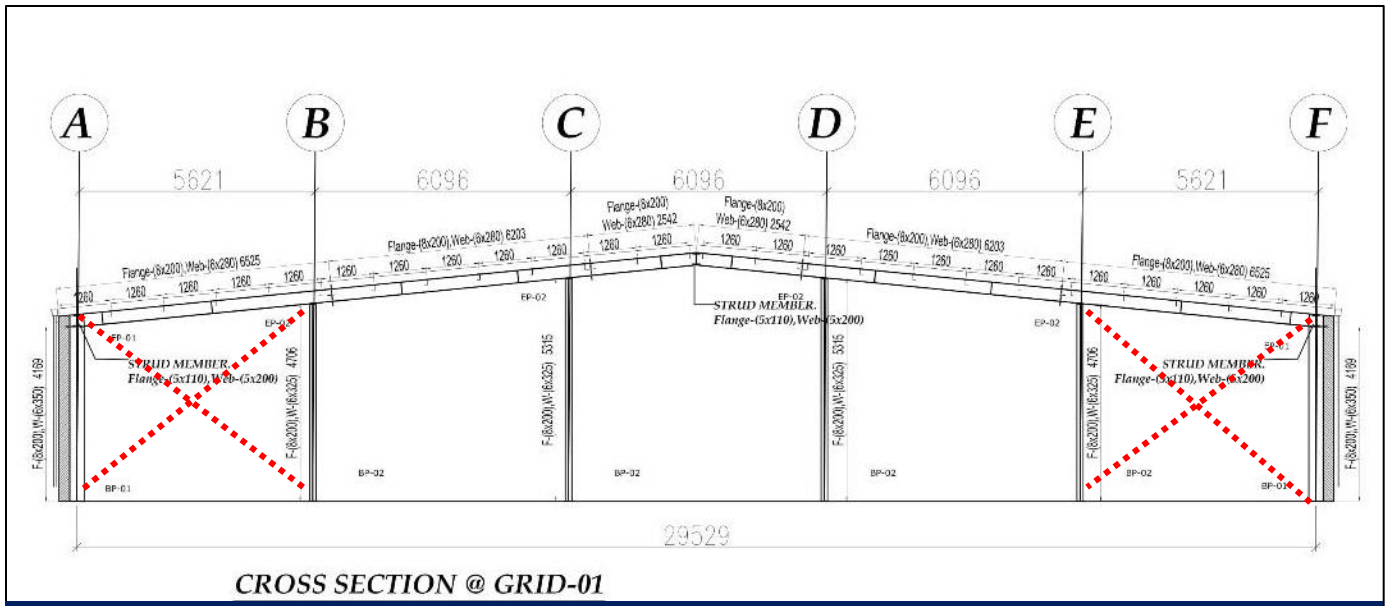
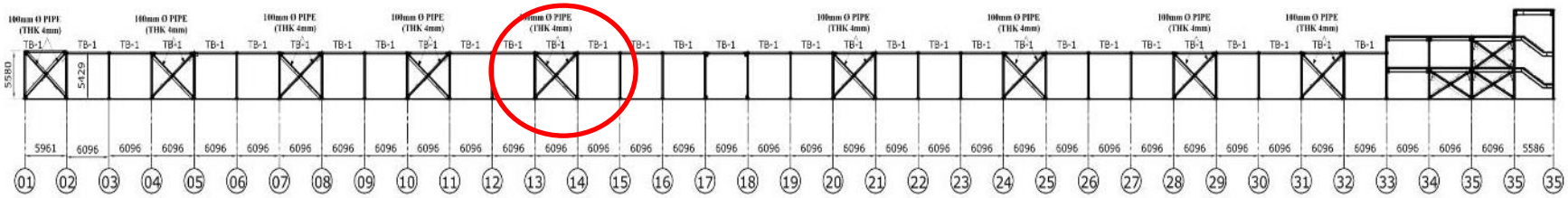


Gable frame section of Shed 3

Missing Bracing

Observations: Shed 3

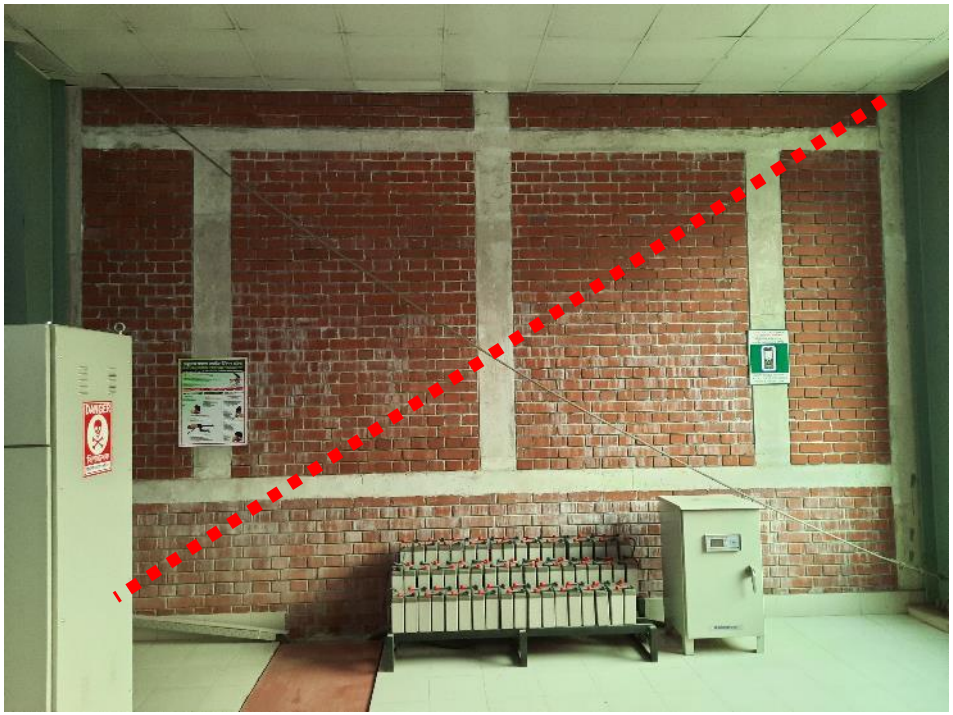


SECTION ON GRID NO: A

Section details of grid-A

Missing Bracing

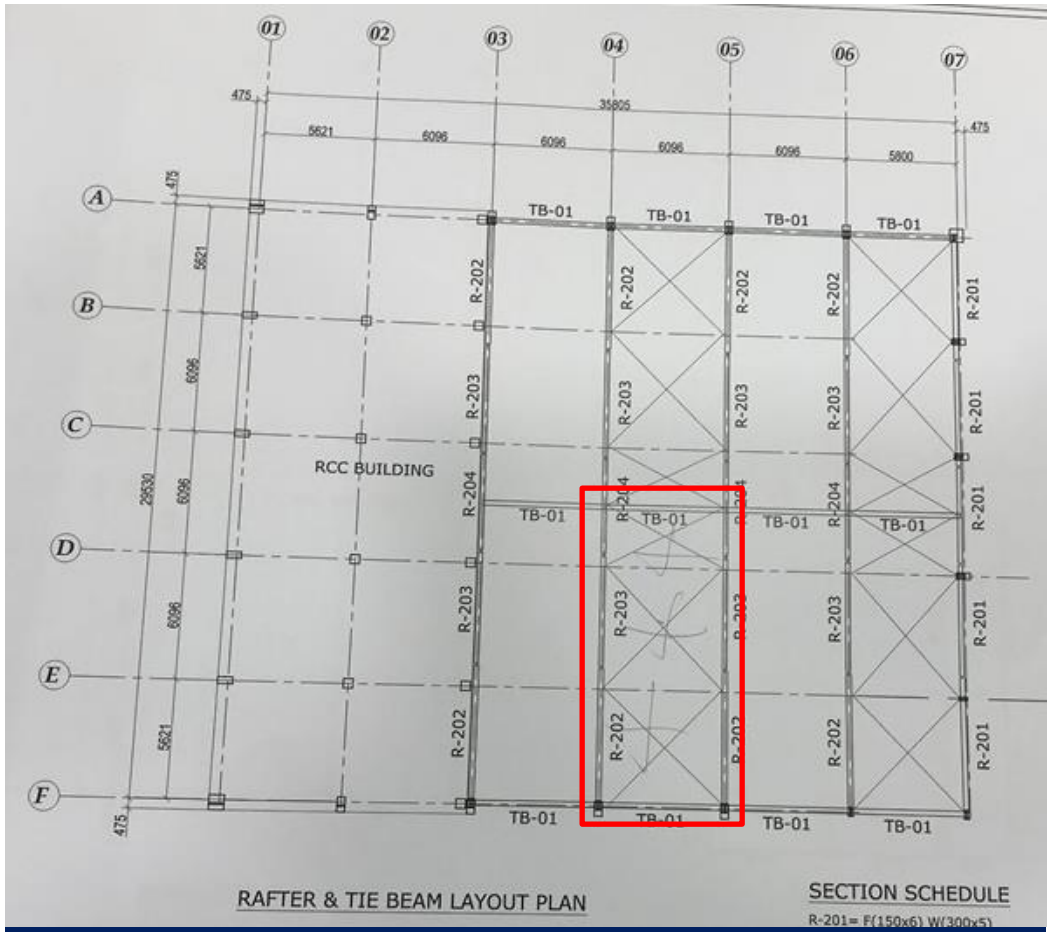
Observations: Shed 4



Missing wall bracing

Missing roof bracing

Observations: Substation 1



Missing roof bracing

Observations: Utility & Sub-Station Building 2

Loose cable bracing

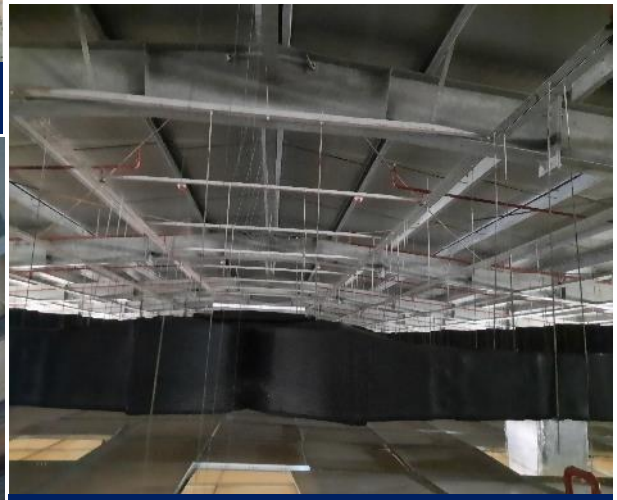
Observations: All steel structures

Shed 2

Shed 8

Shed 4

Shed 9



Shed 3

Shed 1

Observations: All sheds

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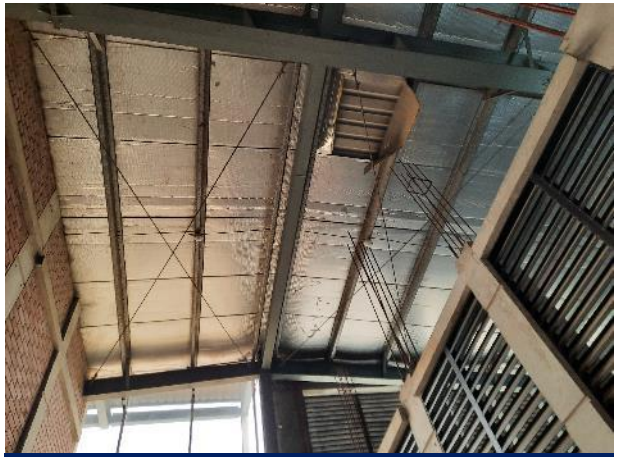
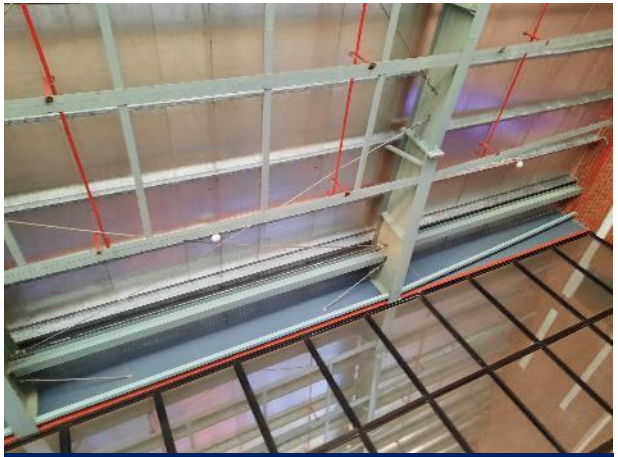
Sub-station 1

Shed 7

Shed 5



Utility & Sub-Station Building 2



Shed 6

Boiler Room 1

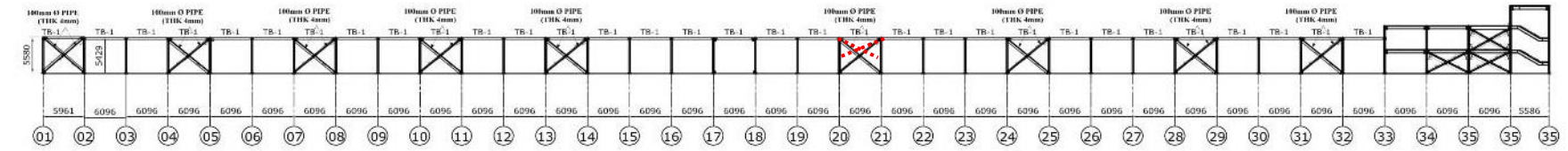
Observations: All sheds

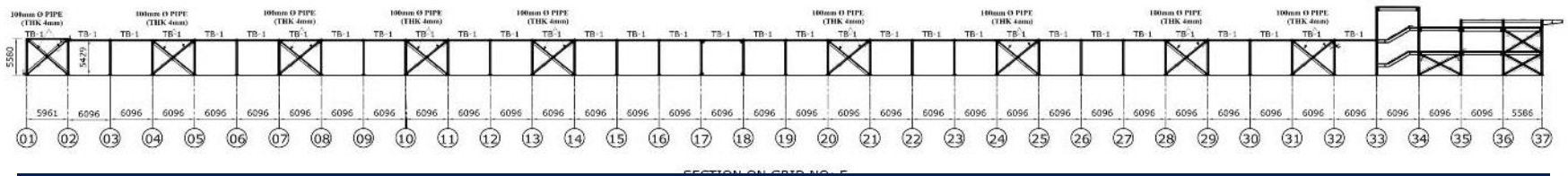
Bracing interrupted in some locations

Observations: Shed 4,5,6,7

Bracings are interrupted in toilet zone (Shed 4,5,6,7)

Bracings are offset from the node point- Shed 5





Typical long section of the bracing in long direction

Observations: Shed 4,5,6,7

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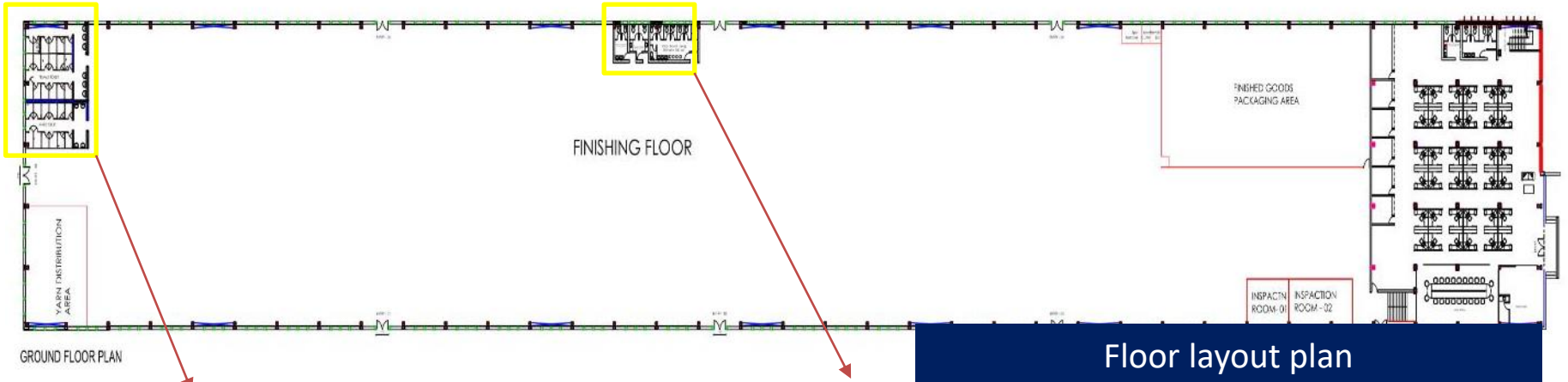
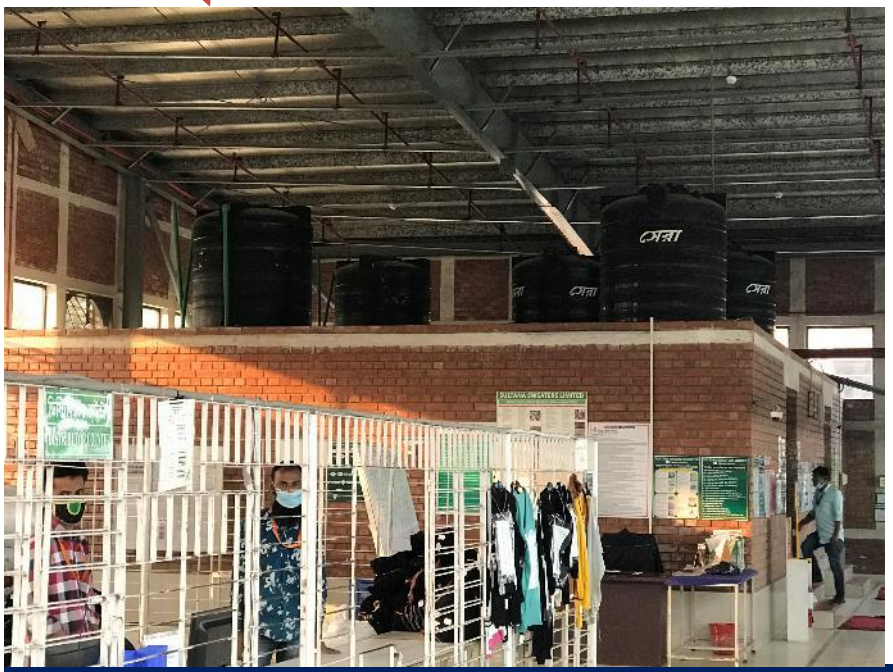
Water tank supported on the toilet zone partition wall

Observations: Shed 4,5,6,7



Floor layout plan



Water tanks are supported on the 125 mm and 250 mm brick walls. Building engineer is required to check the load carrying capacity of the walls.

Observations: Shed 4,5,6,7

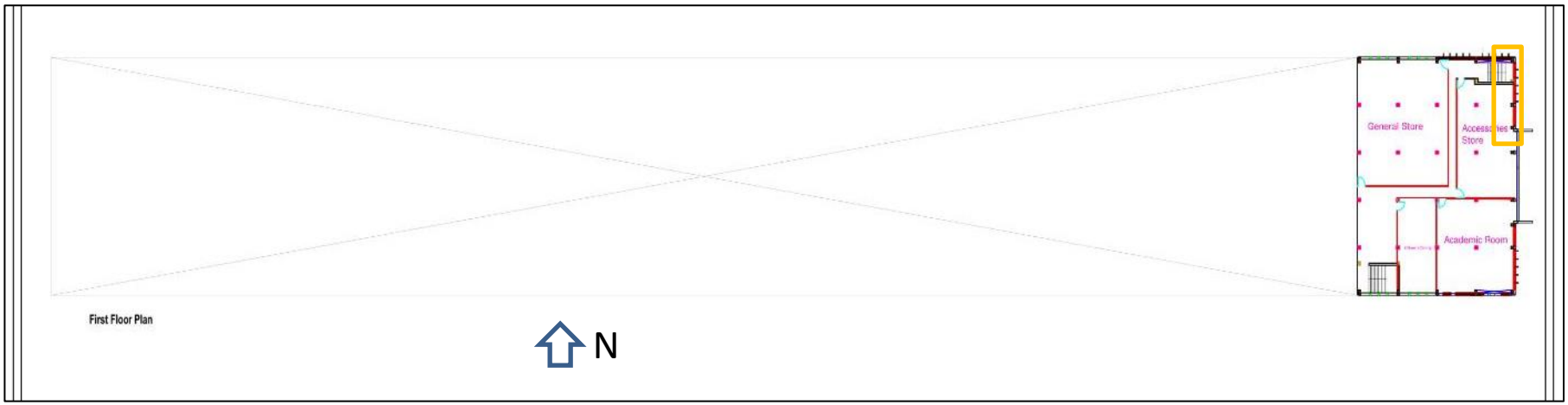
Corrosion on toilet zone steel column

Corrosion was observed on the toilet zone steel columns of shed 4 & 5. Building engineer is required to remove rust and apply anti corrosive paints.

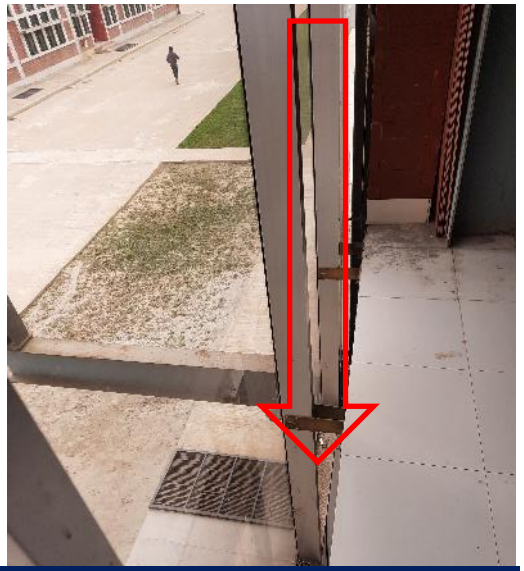
Observations: Shed 4,5

Falling hazard at East zone-Grid 39

Observations: Shed 5



First floor layout plan of Shed 5

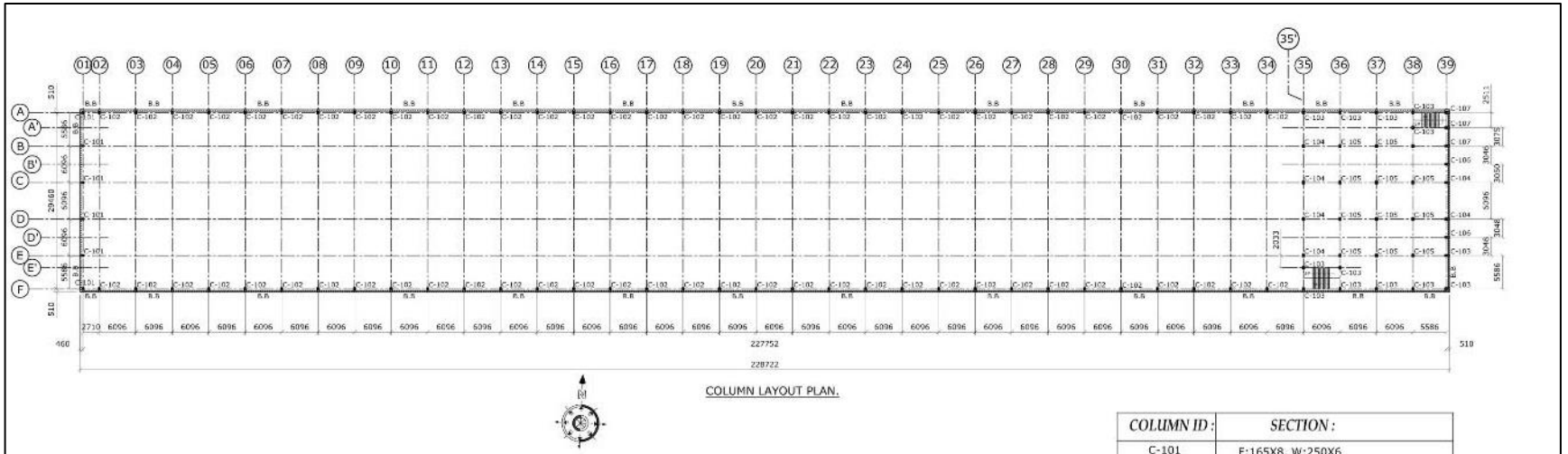


No edge protection provided on this gable grid. Falling hazard may occurred anytime. Building engineer is required to provide edge protection on this area.

Observations: Shed 5

Inconsistency in as-built drawing

Observations: Shed 5, Boiler Room 1



COLUMN ID :	SECTION :
C-101	F:165X8, W:250X6
C-102	F:250X14, W:350~800X8
C-103	F:250X12, W:350X8
C-104	F:250X16, W:350X8
C-105	F:300X16, W:400X8
C-106	F:250X10, W:300X8
C-107	F:250X12, W:350X6

Column layout plan and column schedule

COLUMN ID :	SECTION :
C-101	F:165X8, W:250X6
C-102	F:250X14, W:350~800X8
C-103	F:250X12, W:350X8
C-104	F:250X16, W:350X8
C-105	F:300X16, W:400X8
C-106	F:250X10, W:300X8
C-107	F:250X12, W:350X6

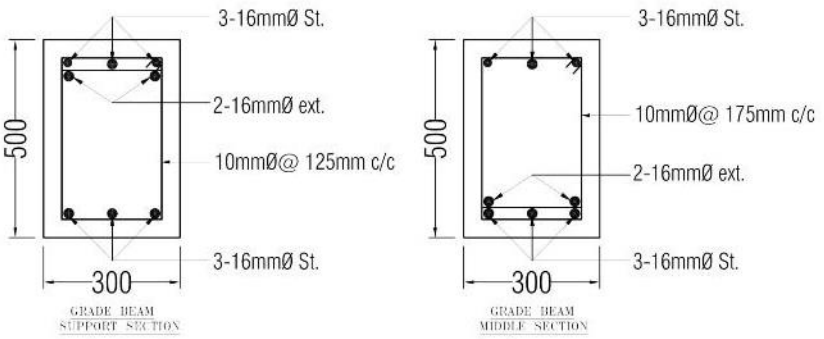
C-105 column was measured F 300X16, W 345X8 instead of F 300X16, W 400X8. Building engineer is required check the column capacity considering reduced size also update the as-built drawings.

Observations: Shed 5

COLUMN DETAILS

COLUMN SCHEDULE		
COLUMN MARK	ABOVE PL	ABOVE PL
C-1	12-16 mm Ø, 10mmØ @ 150 C/C, 350, 500	12-16 mm Ø, 10mmØ @ 150 C/C, 300, 450
	All Side Clear Covering =62.5 mm	All side clear covering =40.0 mm

NOTE:-
fy =60,000 psi (60 Grade steel).
f'c =3,000 psi (1:1.5:3 Stone Chips).

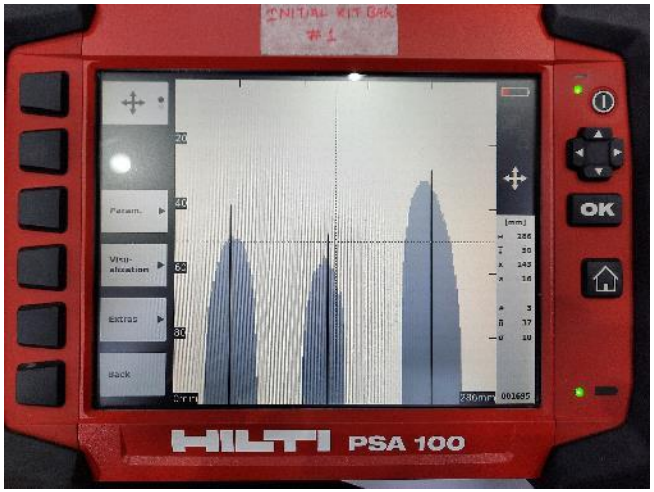


GRADE BEAM DETAILS

NOTE:-
f'c =3000 psi (1:1.5:3 Brick chips).
fy =60,000 psi (60 Grade steel).

Column schedule

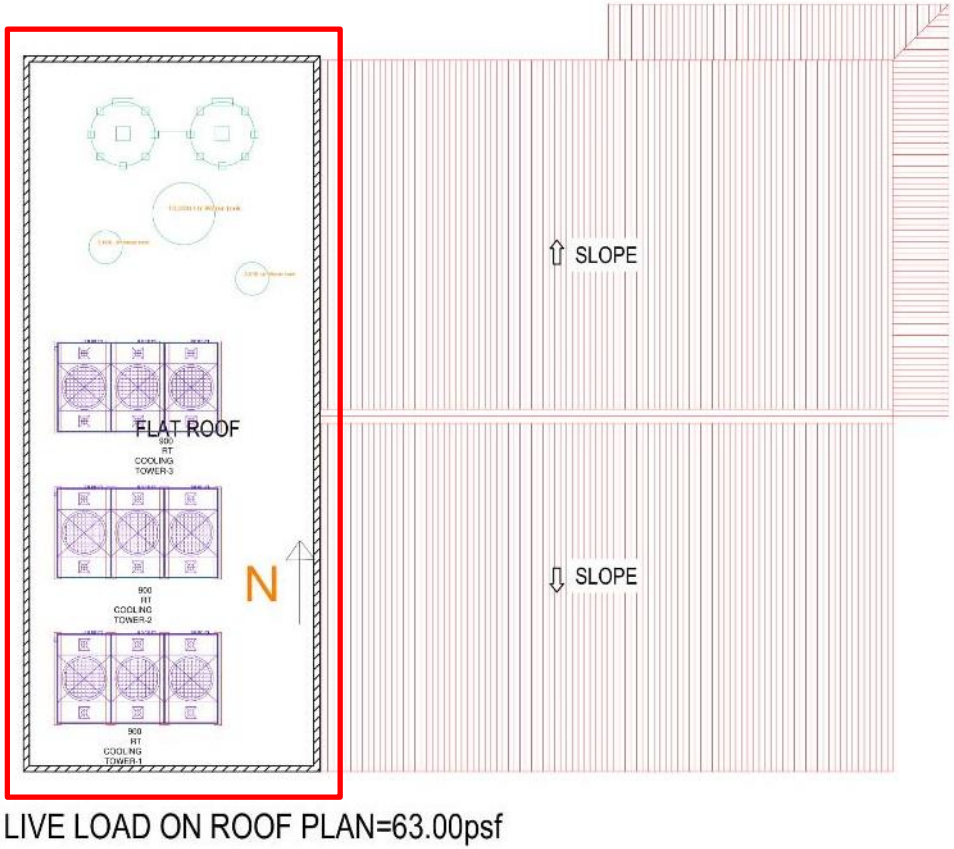
Total number of rebar counted 10-16 mm diameter by ferro scanner instead of 12-16 mm diameter. Building engineer is required to check the column adequacy and revise the as-built drawings.



Observations: Boiler Room 1

Heavy loading on roof slab

Observations: Utility & Sub-Station Building 2



Live Load plan of the roof

Heavy loading was observed on the roof of substation roof. Building engineer is required to check the flexure capacity of the slab.

Cooling tower

Water tank with build-up

Chiller loading

Observations: Utility & Sub-Station Building 2

Non-Engineered roof shed

Observations: Fire Pump Room

Inadequate structural members

Poor connection details

Poor connection details, Inadequate structural members. Apparently non-engineered shed.

Observations: Fire Pump Room

Problems Observed

All Structures:

1: Structural design reports not available.

All Sheds:

2: Loose cable bracing.

Shed 1,3,4, Substation 1 & 2:

3: Missing bracing at several locations.

Shed 4, 5, 6, 7:

4: Bracing interrupted in some locations.

5: Water tank supported on the toilet zone partition wall.

Shed 4, 5:

6: Corrosion on toilet zone steel column.

Shed 5:

7: Falling hazard at East zone-Grid 39.

Shed 5 & Boiler Room 1:

8: Inconsistency in as-built drawing.

Utility & Sub-Station Building 2:

9: Heavy loading on roof slab.

Fire Pump Room:

10: Non-Engineered roof shed.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Structural design reports not available. (All Structures)	Building engineer to prepare the design document including a design report, and a set of structural drawings in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC..	6-weeks
02	Structural design reports not available. (All Structures)	Review the design of the structures considering the lateral loading described in BNBC.	6-weeks
03	Structural design reports not available. (All Structures)	Complete implementation of any remedial works deemed necessary by the design review.	6-months
04	Loose cable bracing. (All Sheds)	Building engineers required to tighten all the loose bracings.	6-weeks
05	Missing bracing at several locations. (Shed 1,3,4, Substation 1 & 2)	Building engineer is required to re-install all the missing bracing as per the design specifications.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
06	Missing bracing at several locations. (Shed 1,3,4, Substation 1 & 2)	Building engineer is required to check the lateral stability of the sheds.	6-weeks
07	Missing bracing at several locations. (Shed 1,3,4, Substation 1 & 2)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
08	Bracing interrupted in some locations. (Shed 4, 5, 6, 7)	Building engineer is required to check the existing bracing system and the load path of the bracings.	6-weeks
09	Bracing interrupted in some locations. (Shed 4, 5, 6, 7)	Carry out remedial works where necessary.	6-months
10	Water tank supported on the toilet zone partition wall. (Shed 4, 5, 6, 7)	Building engineer is required to check the load carrying capacity of the walls.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
11	Water tank supported on the toilet zone partition wall. (Shed 4, 5, 6, 7)	Carry out remedial works where necessary.	6-months
12	Corrosion on toilet zone steel column. (Shed 4 & 5)	The building engineer to investigate the reason & extent of corrosion and suggest proper remedial measure accordingly.	6-weeks
13	Corrosion on toilet zone steel column. (Shed 4 & 5)	Take necessary measures to prevent further corrosion and repair the corroded steel members as per engineer's suggestion.	6-months
14	Falling hazard at East zone-Grid 39. (Shed-5)	Building engineer is required to provide edge protection on this area.	6-weeks
15	Inconsistency in as-built drawing. (Shed 5 & Boiler Room 1)	Building Engineer to survey the structure and prepare accurate as-built structural drawings.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
16	Heavy loading on roof slab. (Utility & Sub-Station Building 2)	Building Engineer is required to check the flexural capacity of the slab to carry the imposed loading.	6-weeks
17	Heavy loading on roof slab. (Utility & Sub-Station Building 2)	Carry out remedial works where necessary.	6-months
18	Non-Engineered roof shed. (Fire Pump Room)	Building engineer is required to check the adequacy of the roof shed for gravity and lateral forces. or Replace with the engineered sheds.	6-weeks
19	Non-Engineered roof shed. (Fire Pump Room)	Carry out remedial works where necessary.	6-months