

Lantabur Apparels Ltd Taqwa Fabrics Ltd & Libas Knitwear.

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(24.19605675N), (90.40638176E)

4th November, 2015



Observations

Observations

Building 1 Seven Storey building

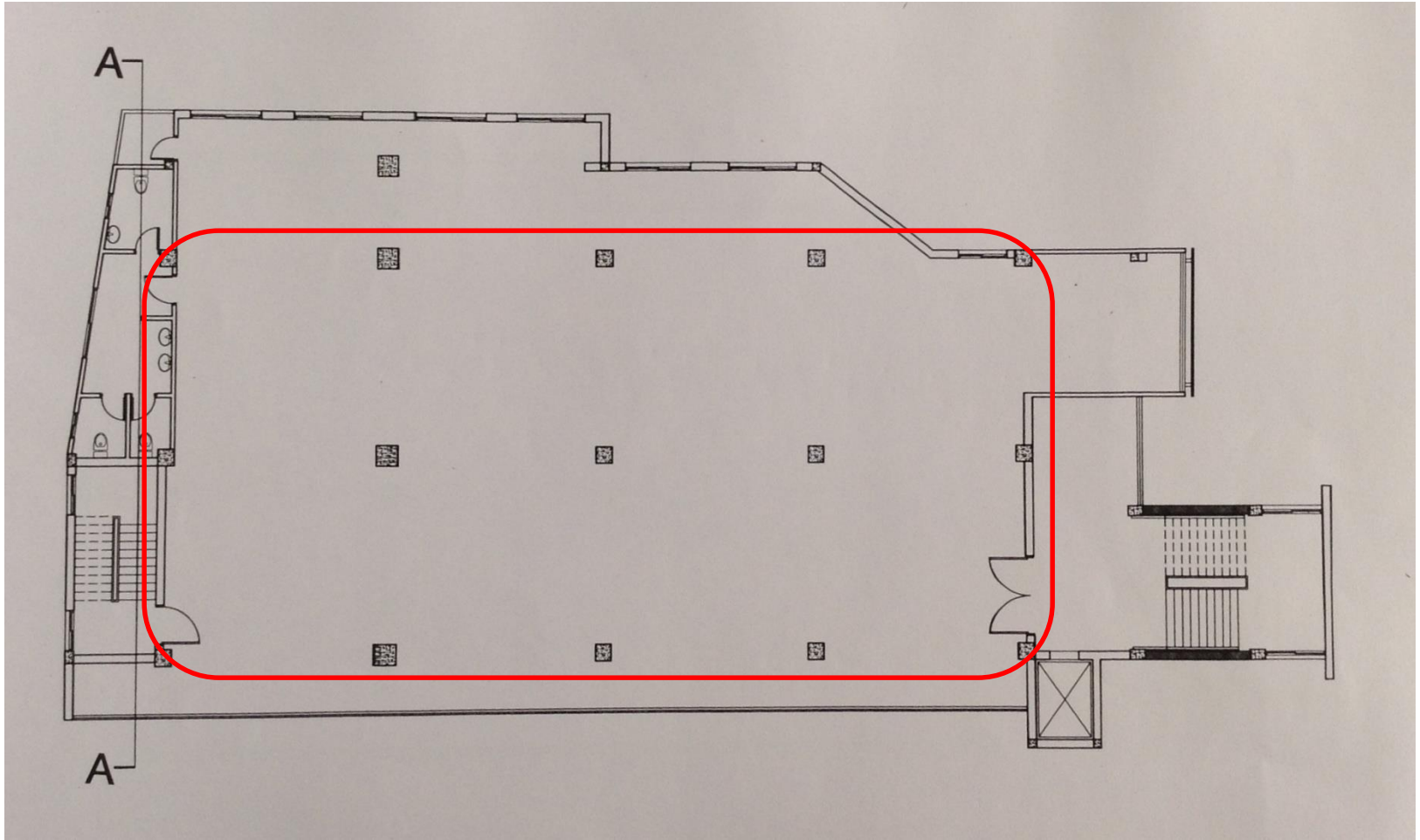
- Ground floor columns appear to be overstressed with their working loads
- Ground floor Large wall panels appear to be slender
- Toilets are on a cantilever
- Water tank on drawing to be constructed on roof slab
- Stone chips observed

Shed 1 All Over Print

- Structural drawings different from as-constructed building
- Non-engineered lean-to structure under construction as add-on to main shed
- Non-engineered connections to mezzanine floor - On site welding
- Portal 2 to 5 have no moment connection with column. (ability to act as a portal)
- Lack of gable bracing on-site - Not as per drawings
- Lack of head restraint to masonry infill wall panels

Shed 2 Dyeing and Finishing

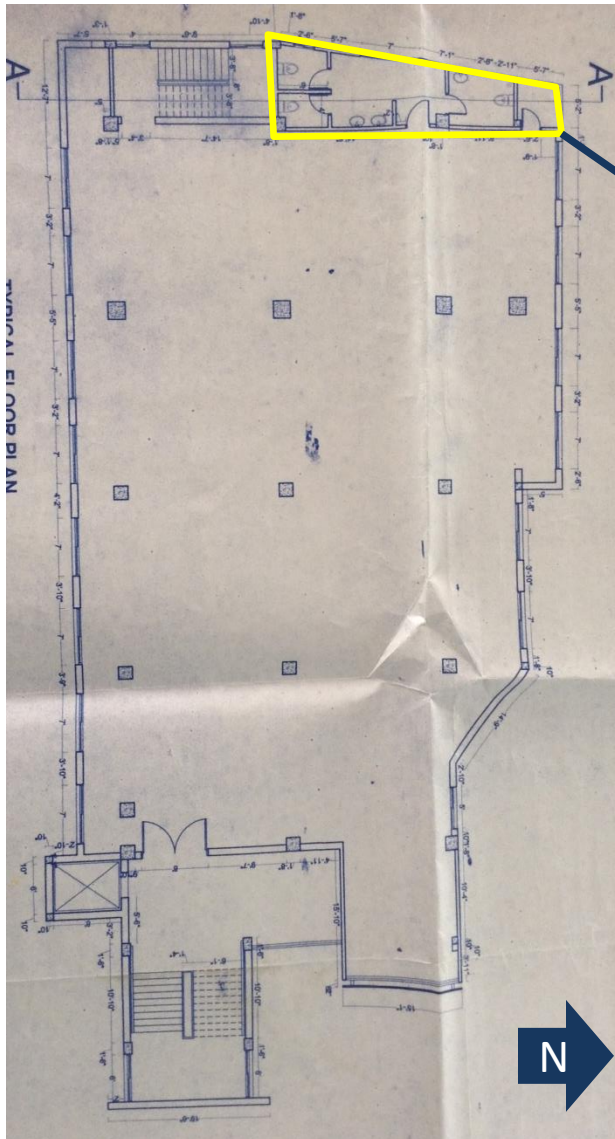
- Gable columns constructed half height in concrete
- Open moment joint in portal 10
- Missing bottom flange plates to rafter splices portal 02
- Gable masonry wall has no head restraint
- Roof bracing not as shown on drawings. (appears light)



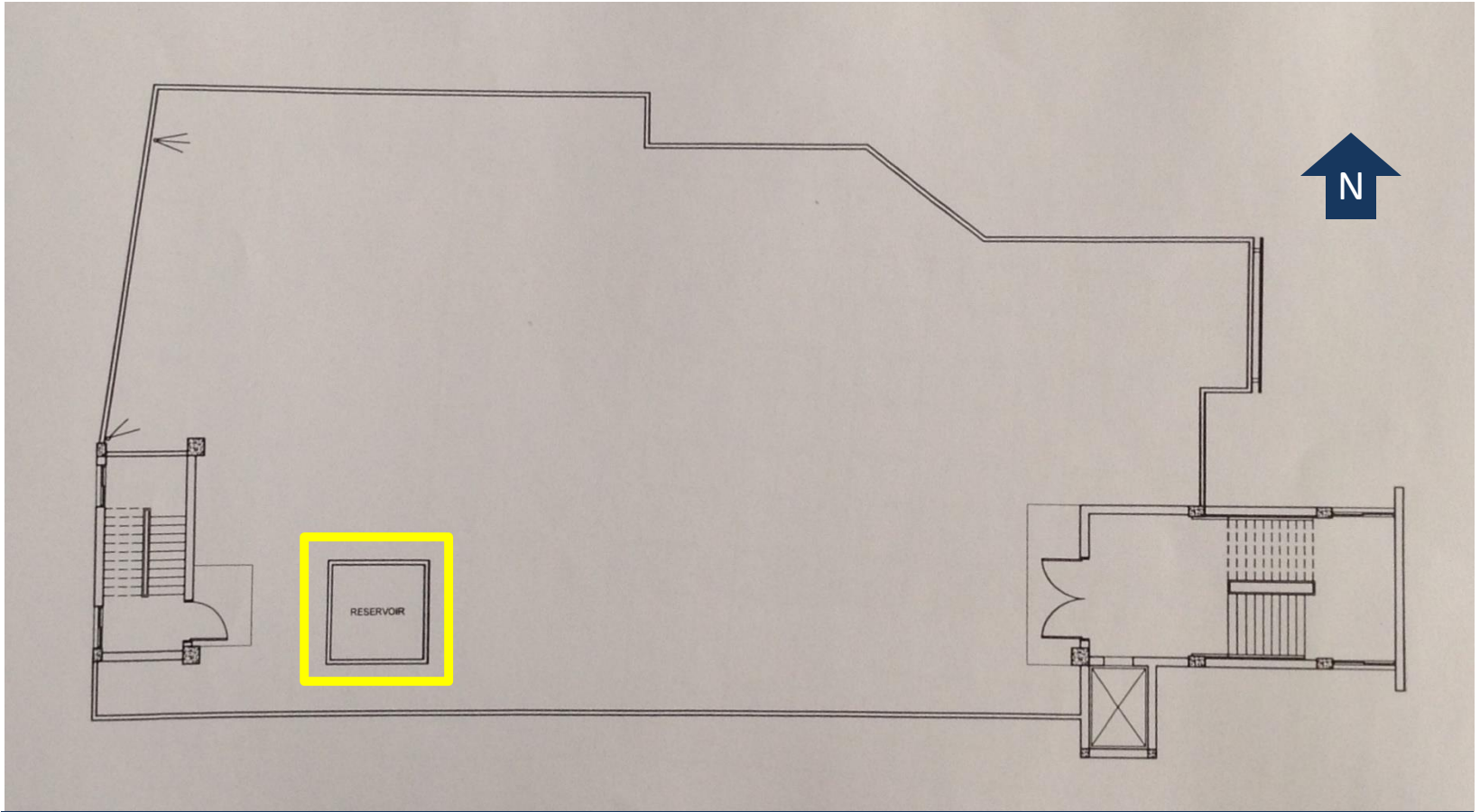
Ground floor columns appear to be overstressed with their working loads



Ground floor large wall panels appear to be slender



Toilets are on cantilever

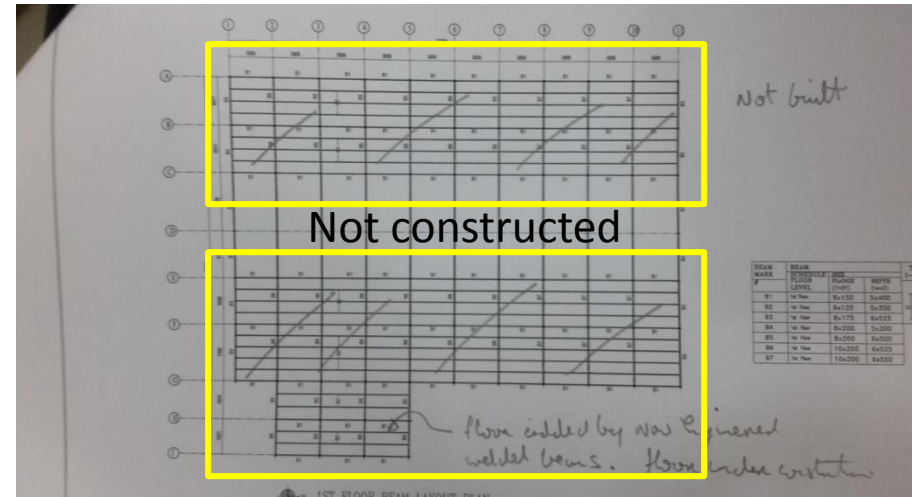
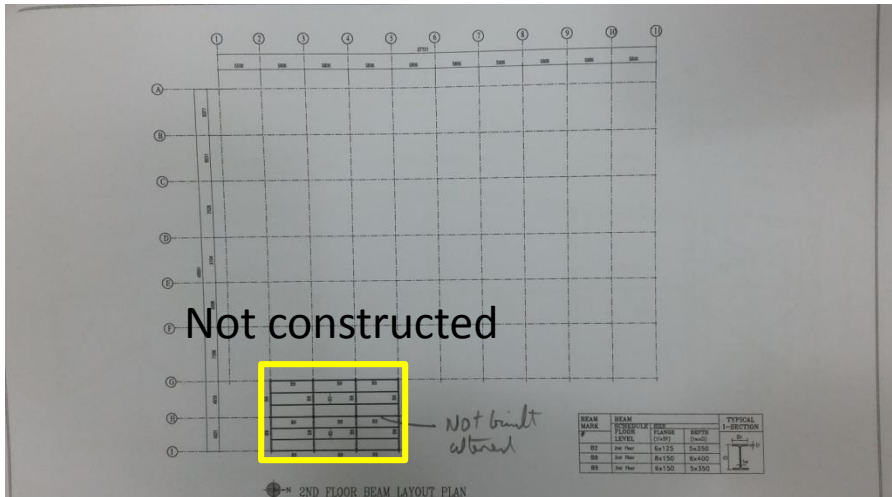


Water tanks on drawings to be constructed on roof slab

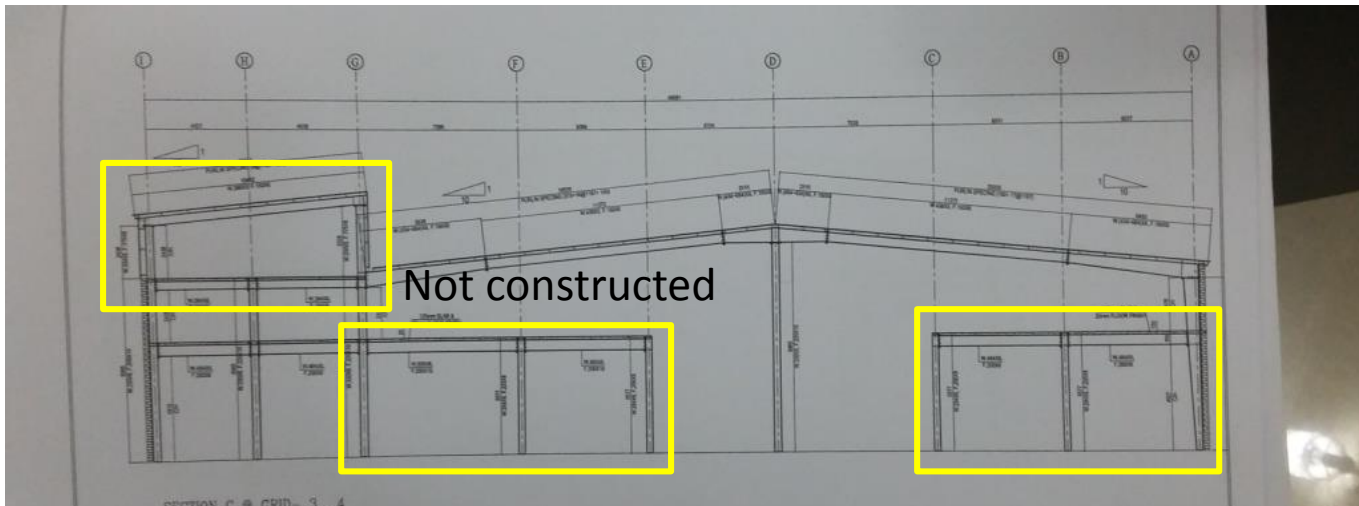


Stone chips observed at ground floor column

Shed 1



Structural drawing is different from as constructed building



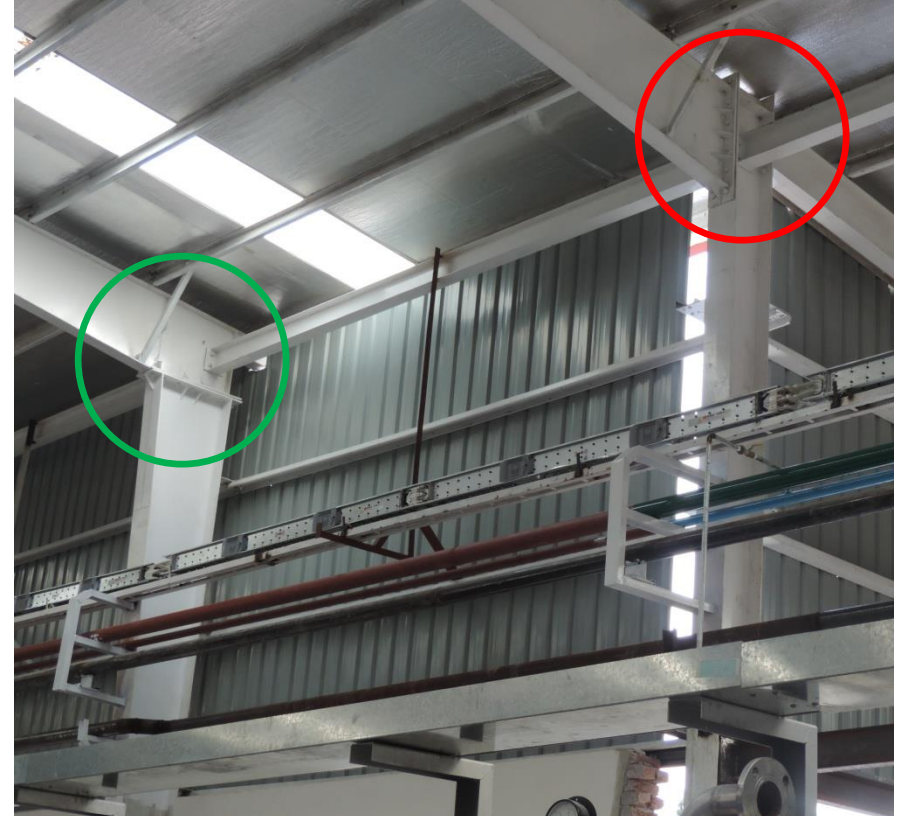
Structural drawing is different from as constructed building



Non Engineered lean-too structure under construction as add-on to main shed



Non engineered connections to mezzanine floor. On site welding



Portal 2 to 5 have no moment connection with column. (ability to act as a portal)



Lack of head restraint to masonry infill wall panels

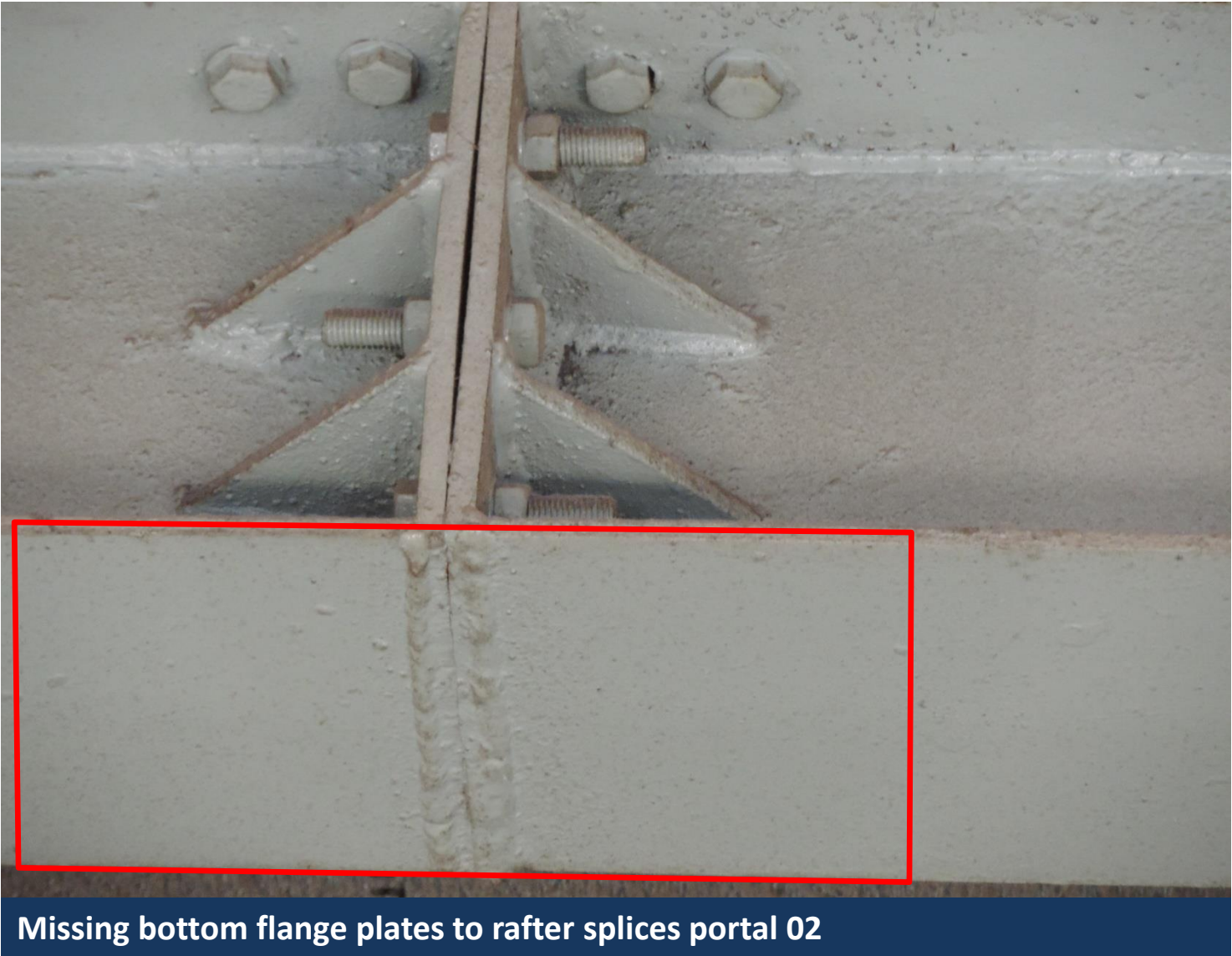
Shed 2



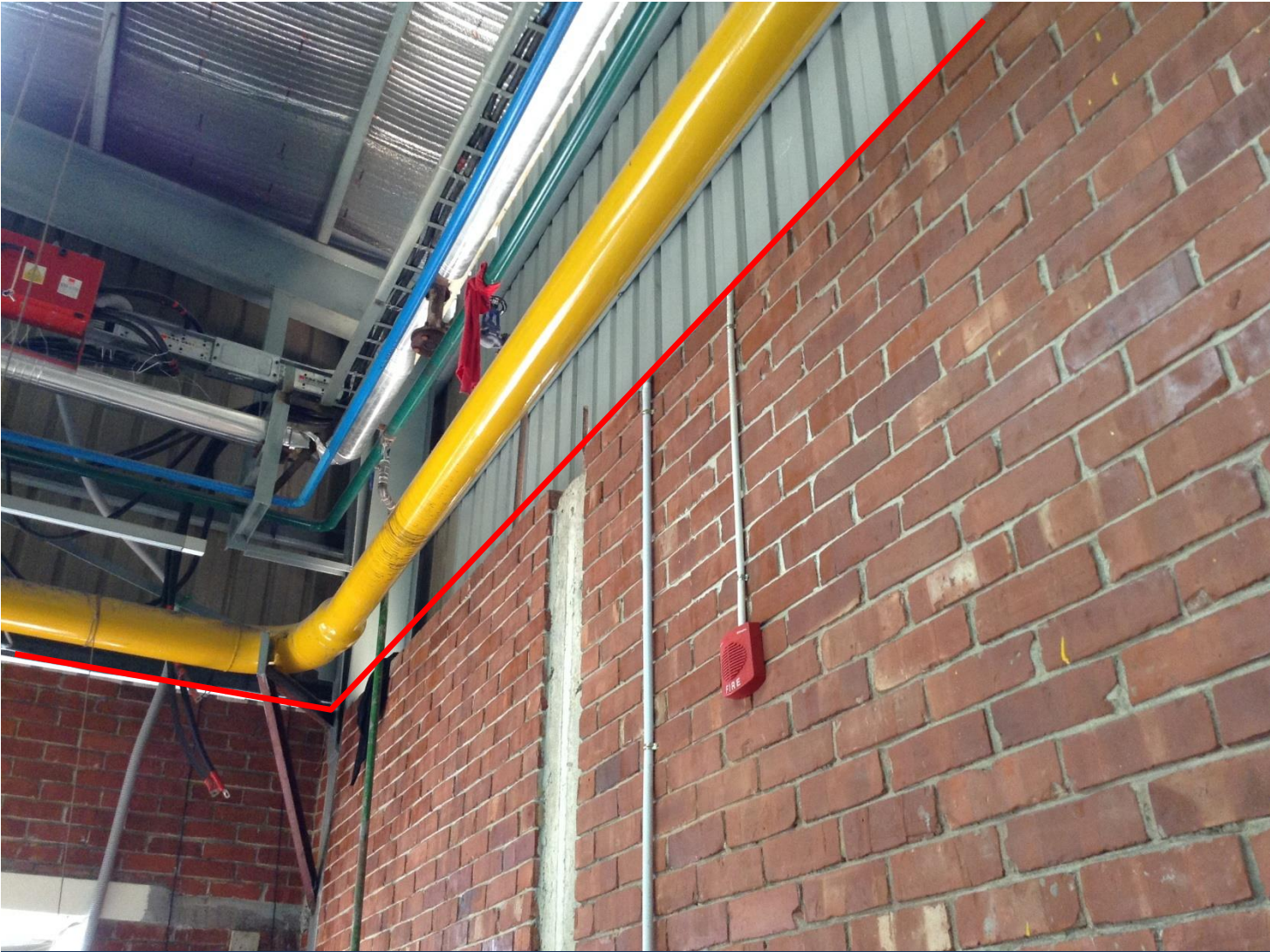
Gable columns constructed half height in concrete



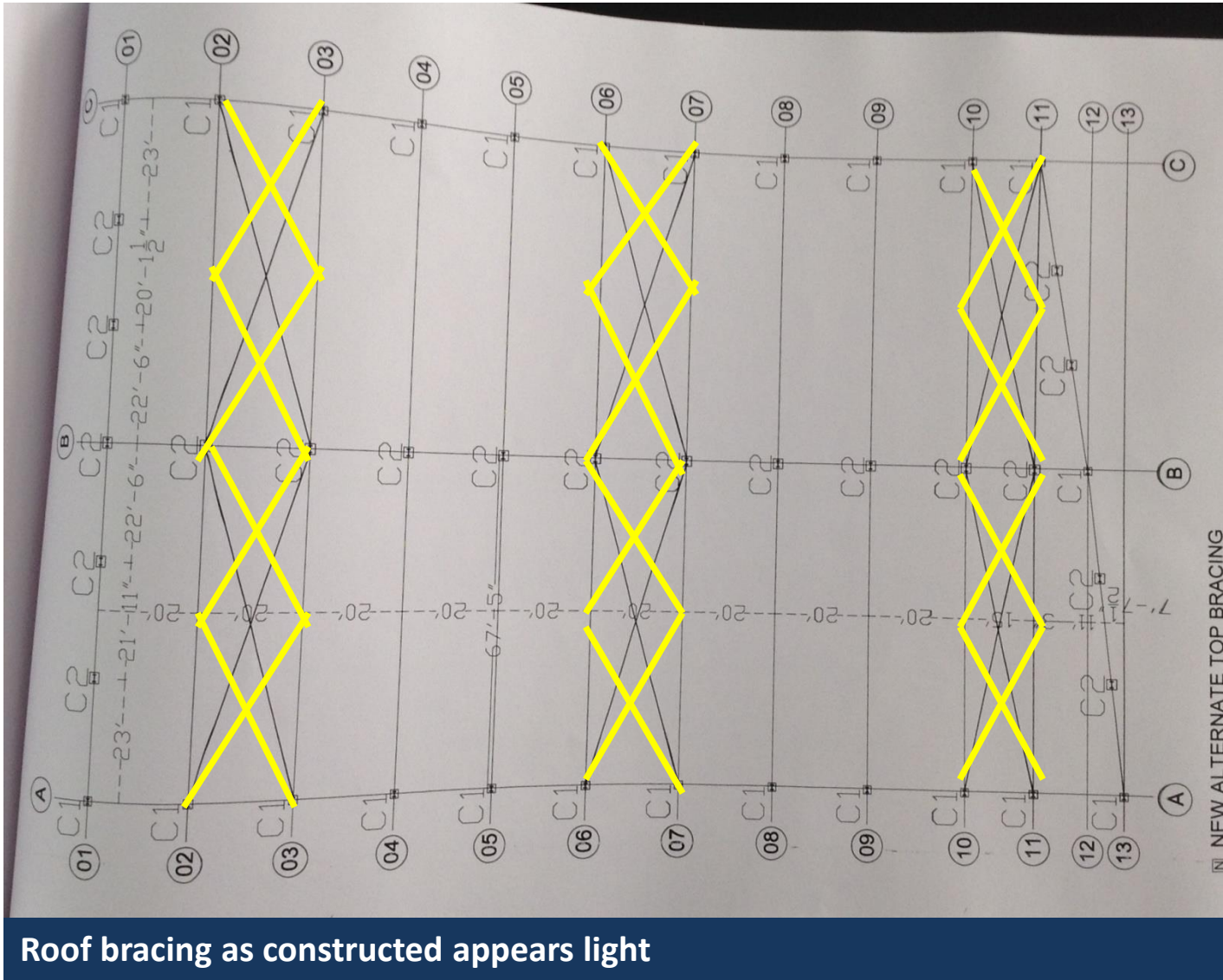
Open moment joint in portal 10



Missing bottom flange plates to rafter splices portal 02



Gable masonry wall has no head restraint



Roof bracing as constructed appears light

Problems Observed

Building 1 Seven Storey building

- Item 1:** Ground floor Columns appear to be stressed in excess of normal design limits and require review
- Item 2:** Ground floor Large wall panels appear to be slender
- Item 3:** Toilets and 250mm thick external walls build on large cantilever average 1.75m
- Item 4:** Water tank on drawing to be constructed on roof slab

Shed 1 All Over Print

- Item 1:** Structural drawings different from as-constructed building
- Item 2:** Non-engineered lean-to structure under construction as add-on to main shed
- Item 3:** Non-engineered connections to mezzanine floor - On site welding
- Item 4:** Portal 2 to 5 have no moment connection with column. (ability to act as a portal)
- Item 5:** Lack of gable bracing on-site. Not as per drawings
- Item 6:** Lack of head restraint to masonry infill wall panels

Shed 2 Dyeing and Finishing

- Item 1:** Gable columns constructed half height in concrete
- Item 2:** Open moment joint in portal 10
- Item 3:** Missing bottom flange plates to rafter splices portal 02
- Item 4:** Gable masonry wall has no head restraint
- Item 5:** Roof bracing as constructed not as shown on drawings. (appears light)

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Building 1 External Columns adjacent to the cantilevers appear to be stressed in excess of normal design limits and require review	Factory Engineer to review design, loads and columns stresses in the columns based design check to loading set out in BNBC-2006.	6-weeks
2	Building 1 External Columns adjacent to the cantilevers appear to be stressed in excess of normal design limits and require review	Factory Engineer to verify insitu concrete strength by taking 100mm diameter cores from 4 brick aggregate columns . Verify grade of steel reinforcement used.	6-weeks
3	Building 1 External Columns adjacent to the cantilevers appear to be stressed in excess of normal design limits and require review	No further construction should proceed until the above study is completed	6-weeks
4	Building 1 External Columns adjacent to the cantilevers appear to be stressed in excess of normal design limits and require review	Carry out any remedial actions arising form the above study.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
5	Building 1 Ground floor Large wall panels appear to be slender	Design engineer to review by calculation the capacity of the large brick wall panels to resist the wind and other lateral loads	6-weeks
6	Building 1 Ground floor Large wall panels appear to be slender	Carry out any remedial actions from the above review	6-months
7	Building 1 Toilets and 250mm thick external walls build on large cantilever average 1.75m	Building Engineer to review by calculation the loads on the cantilevers and their ability to carry these loads	6-weeks
8	Building 1 Toilets and 250mm thick external walls build on large cantilever average 1.75m	Carry out such remedial actions as maybe required from the above study	6-months
9	Building 1 Water tank on drawing to be constructed on roof slab	The water tank on the roof needs to form part of the review for the heavily loaded edge columns. (refer to Item 1).	6-weeks
10	Building 1 Water tank on drawing to be constructed on roof slab	Construction of the tank to be put on hold until such time the column capacities have been justified.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
11	Shed 1 Structural drawings different from as-constructed building	Engineer to revise drawings to reflect the as-built structure and to include any remedial works following this review	6-weeks
12	Shed 1 Non Engineered lean-to structure under construction as add-on to main shed	Engineer to review by calculation the non-engineered structure currently under construction. Engineer to propose alternations to make the design conform with code requirement or instruct its removal.	6-weeks
13	Shed 1 Non Engineered lean-to structure under construction as add-on to main shed	No further works to be carried out on this structure until after the Engineering review	6-weeks
14	Shed 1 Non Engineered lean-to structure under construction as add-on to main shed	Carry out the remedial works from the above study	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
15	Shed 1 Non – engineered connections to mezzanine floor. On site welding	Engineer to review by calculation the non-engineered structure currently under construction. Engineer to propose alternations to make the design conform with code requirement in particular the member connections.	6-weeks
16	Shed 1 Non – engineered connections to mezzanine floor. On site welding	No further works to be carried out on this structure until after the Engineering review	6-weeks
17	Shed 1 Non – engineered connections to mezzanine floor. On site welding	Carry out the remedial works from the above study	6-months
18	Shed 1 Portal 2 to 5 have no moment connection with column. (ability to act as a portal)	Engineer to review by calculation the ability of the above frames to act as portals in particular its ability to resist lateral loading.	6-weeks
19	Shed 1 Portal 2 to 5 have no moment connection with column. (ability to act as a portal)	Carry out the remedial works from the above study	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
20	Shed 1 Lack of gable bracing on-site. Not as per drawings	Engineer to review the build structure against the original design. Currently the gable bracing on the drawings is missing	6-weeks
21	Shed 1 Lack of gable bracing on-site. Not as per drawings	Carry out the remedial works from the above study	6-months
22	Shed 1 Lack of head restraint to masonry infill wall panels	Engineer to review the capacity of the wall panels without head restraint to resist lateral loading and make suitable recommendations on remedial works	6-weeks
23	Shed 1 Lack of head restraint to masonry infill wall panels	Engineer to review the capacity of the wall panels without head restraint to resist lateral loading and make suitable recommendations on remedial works	6-months
24	Shed 2 Gable columns constructed half height in concrete	Engineer to review by calculation gable columns on site. Columns on the engineering drawings are full height steel vs the as-built concrete columns with a steel post on top.	6-weeks
25	Shed 2 Gable columns constructed half height in concrete	Carry out the remedial works from the above study	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
26	Shed 2 Open moment joint in portal 10	Engineer to review the joint as-built on site and propose remedial works	6-weeks
27	Shed 2 Open moment joint in portal 10	Carry out the remedial works from the above study	6-months
28	Shed 2 Missing bottom flange plates to rafter splices portal 02	Engineer to review the splice connections and propose remedial work to correct the splice joint	6-weeks
29	Shed 2 Missing bottom flange plates to rafter splices portal 02	Carry out the remedial works from the above study	6-months
30	Shed 2 Gable masonry wall has no head restraint	Engineer to review the capacity of the wall panels without head restraint to resist lateral loading and make suitable recommendations on remedial works	6-weeks
31	Shed 2 Gable masonry wall has no head restraint	Carry out the remedial works from the above study	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
32	<p style="text-align: center;">Shed 2</p> <p>Roof bracing as constructed not as shown on drawings. (appears light)</p>	<p>Engineer to review the as-built roof bracing by calculation to resist lateral loading to the gable.</p>	<p style="text-align: center;">6-weeks</p>
33	<p style="text-align: center;">Shed 2</p> <p>Roof bracing as constructed not as shown on drawings. (appears light)</p>	<p>Update drawing to show as built</p>	<p style="text-align: center;">6-weeks</p>
34	<p style="text-align: center;">Shed 2</p> <p>Roof bracing as constructed not as shown on drawings. (appears light)</p>	<p>Carry out the remedial works from the above study</p>	<p style="text-align: center;">6-months</p>