Bea-Con Knit Wear Ltd. Factory-02

South Salna, Salna Bazaar, Gazipur
(24.034544 N, 90.393632E)
14TH February 2015

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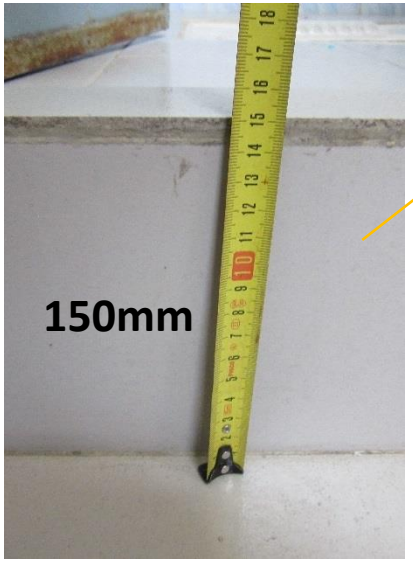
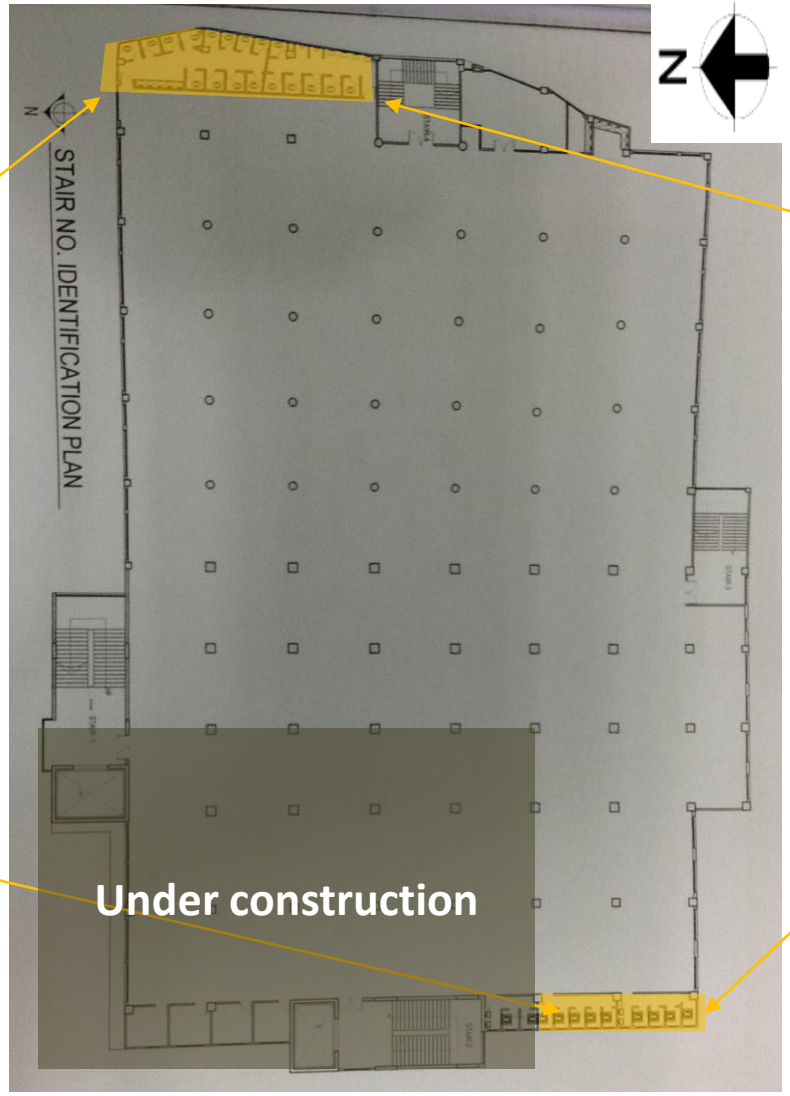
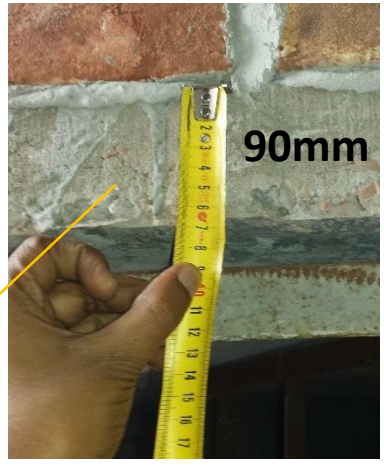
Observations

Large Build-ups observed on site

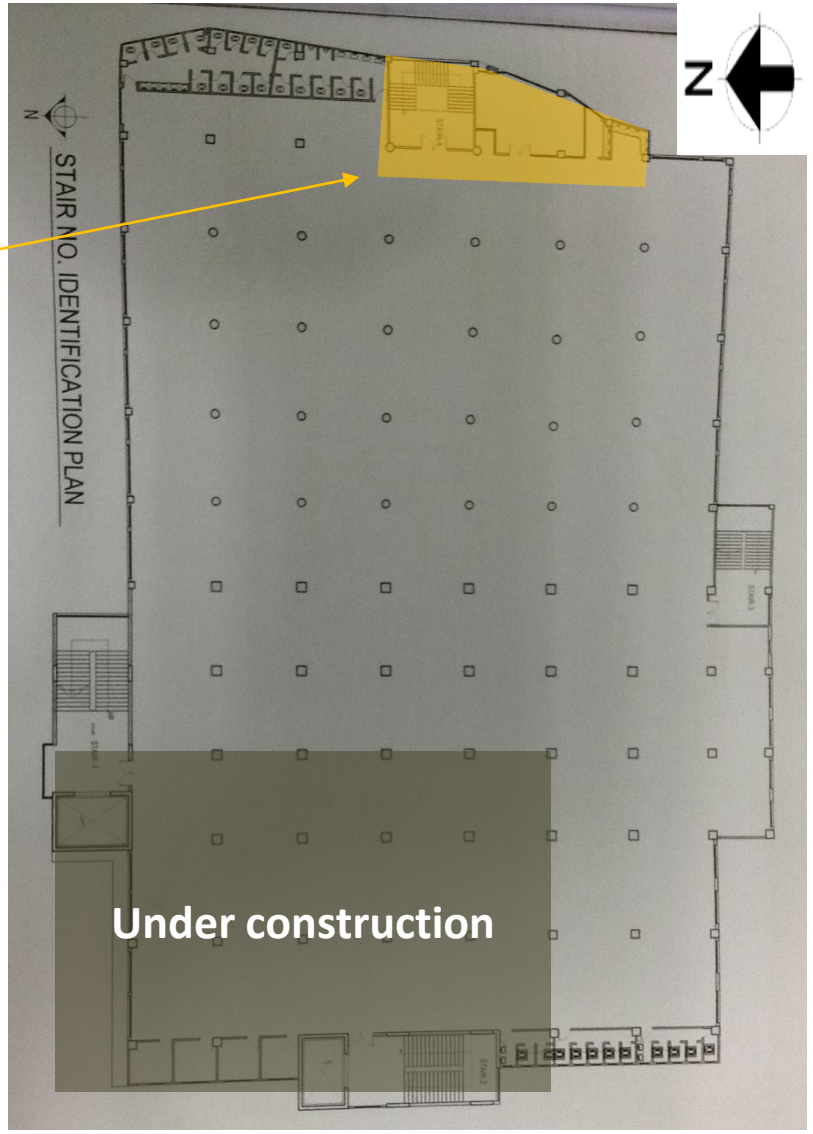






There is total of more than 120mm build-up in the east toilet and more than 150mm in the west. Both toilets have false slabs of 70 – 90mm.

Observations



Additional 130mm floor finish on 6st floor (roof)

Observations

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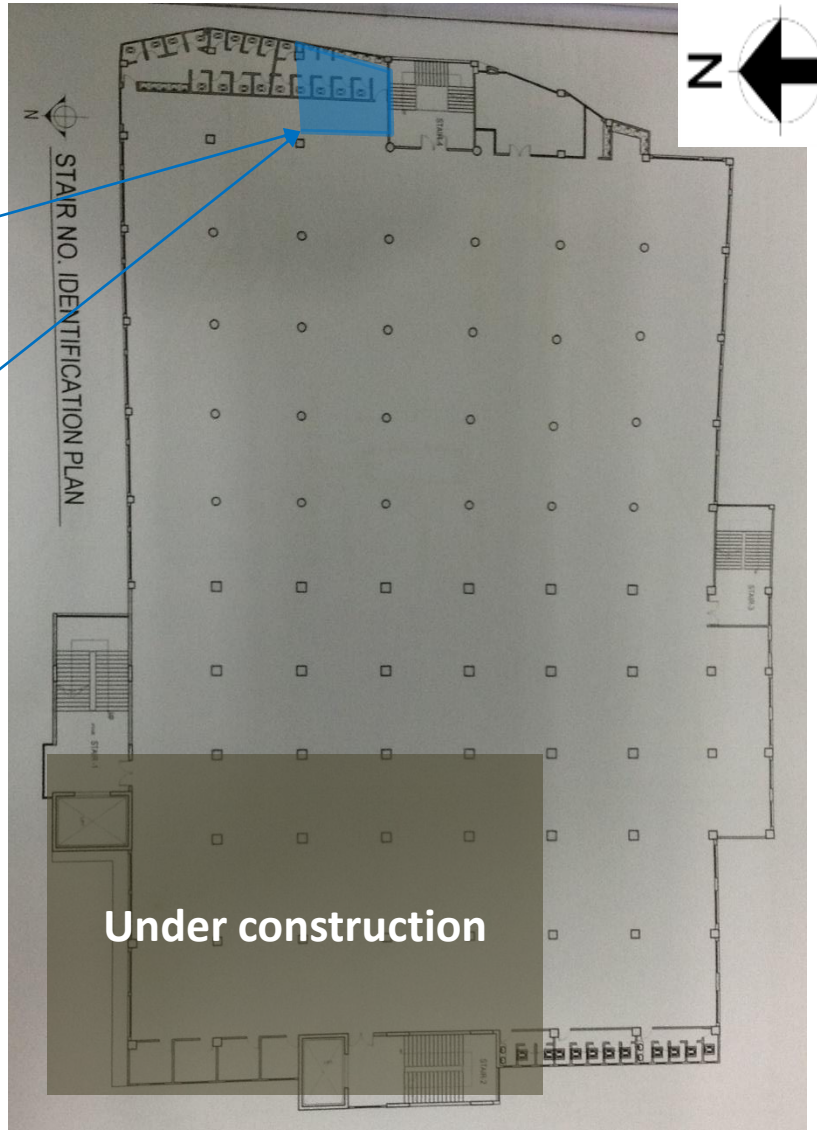
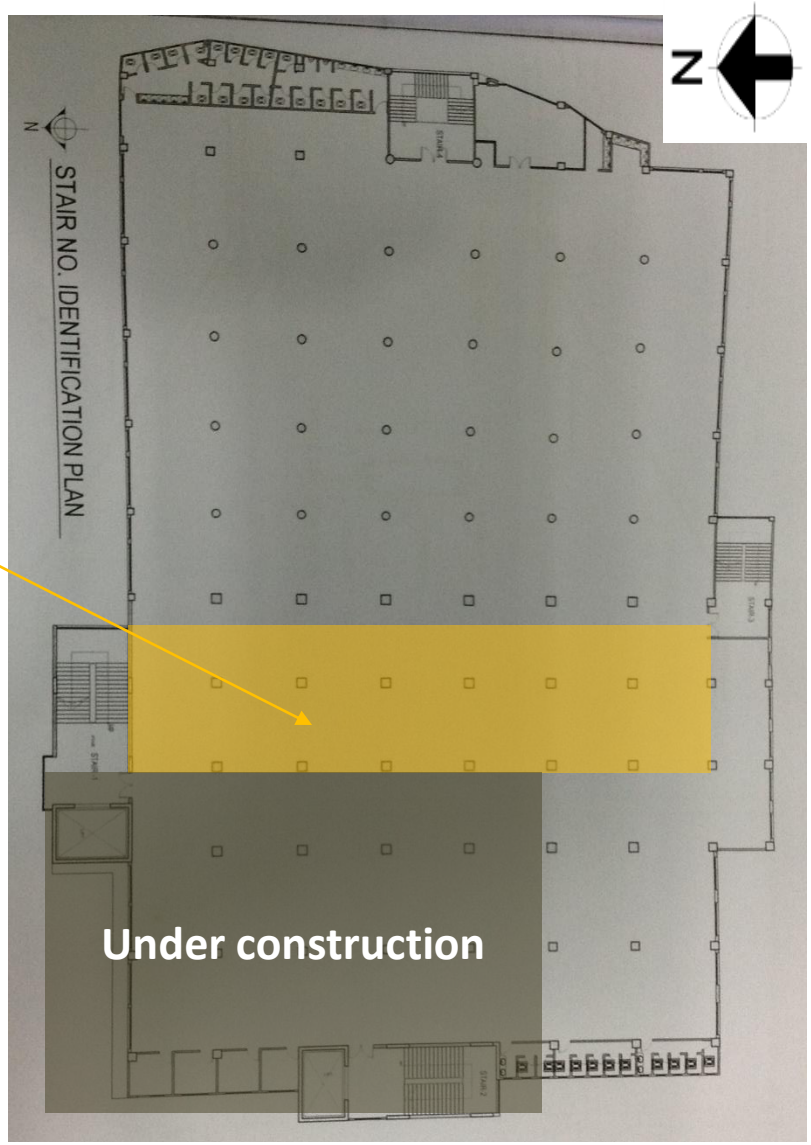
Heavy loads on the floors



RC water tank (43000L) on 6th floor roof

Observations



Heavy loading of temporary cement bag piles in areas under construction

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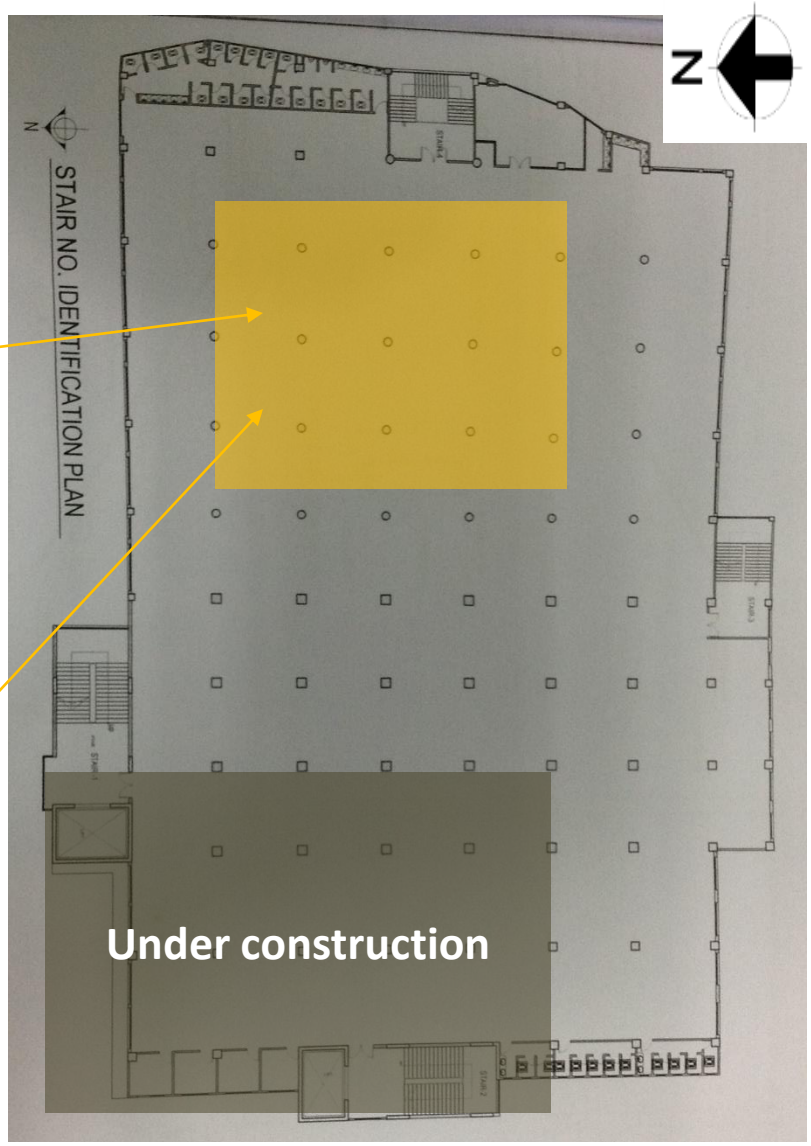

Heavy loading from storage on 4th floor

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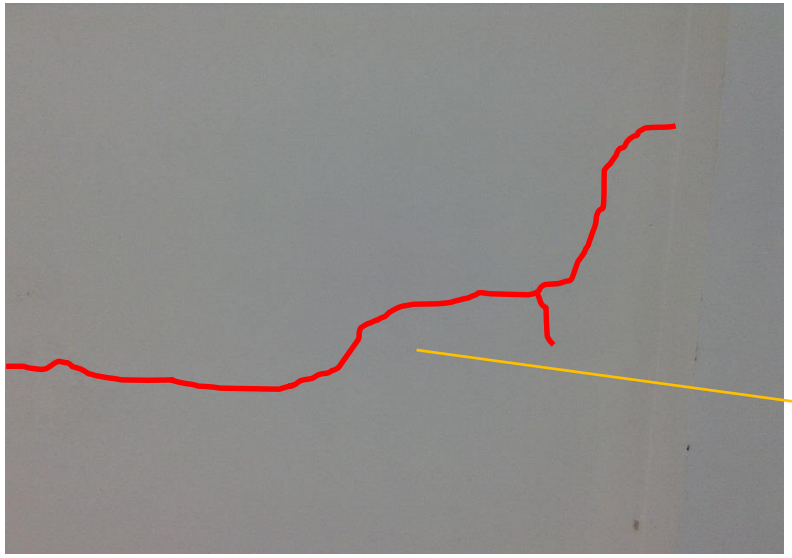
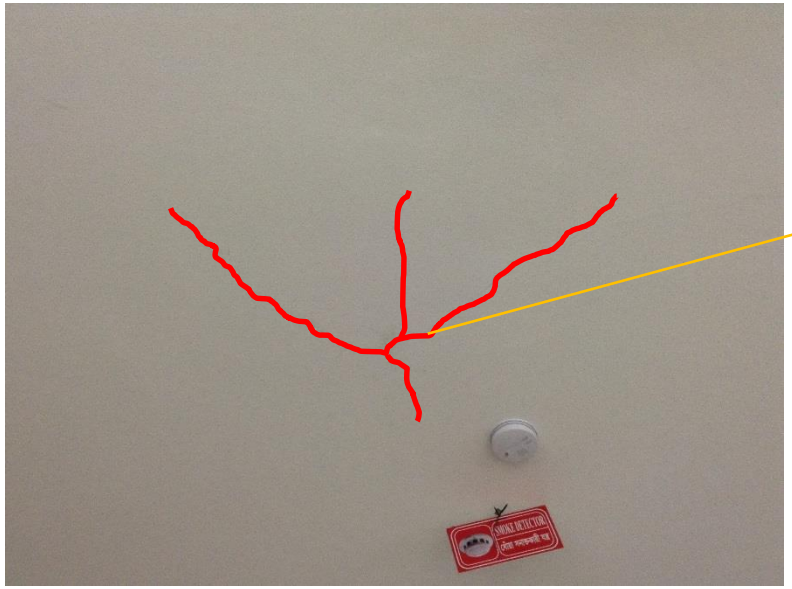
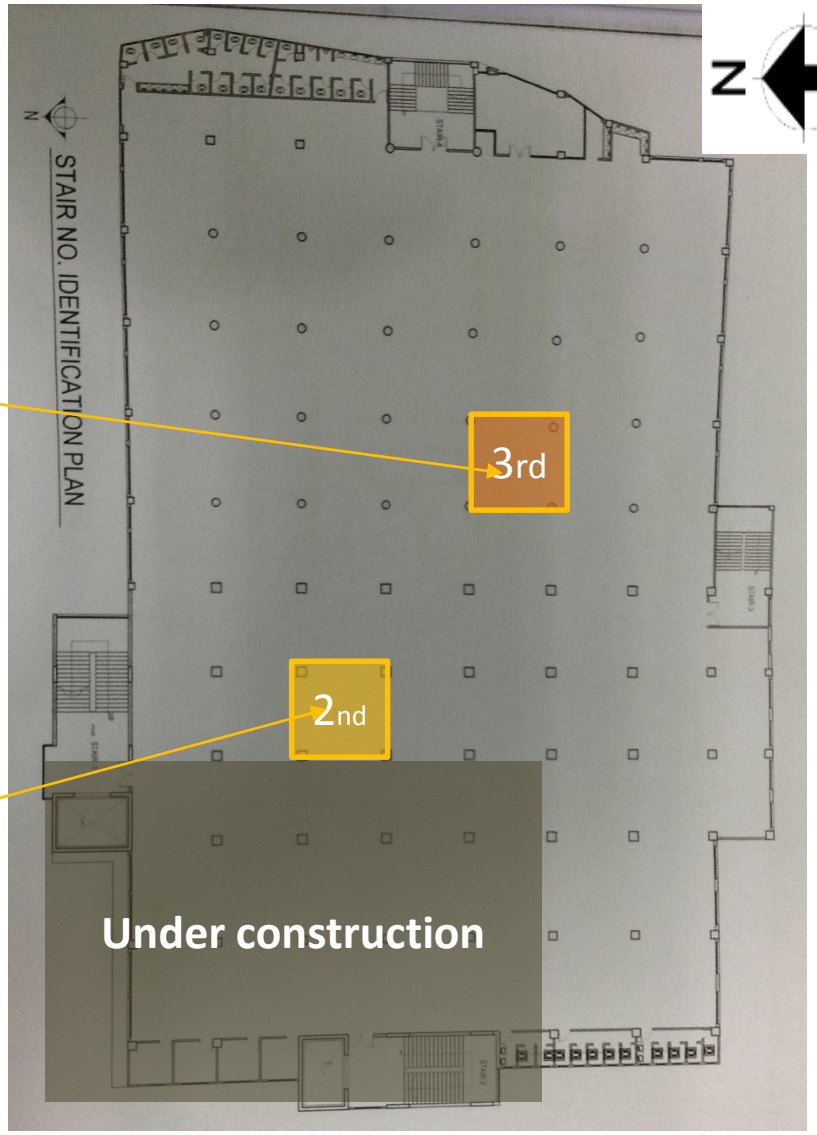
Cracks on the beams and slabs







N

Cracks in slabs

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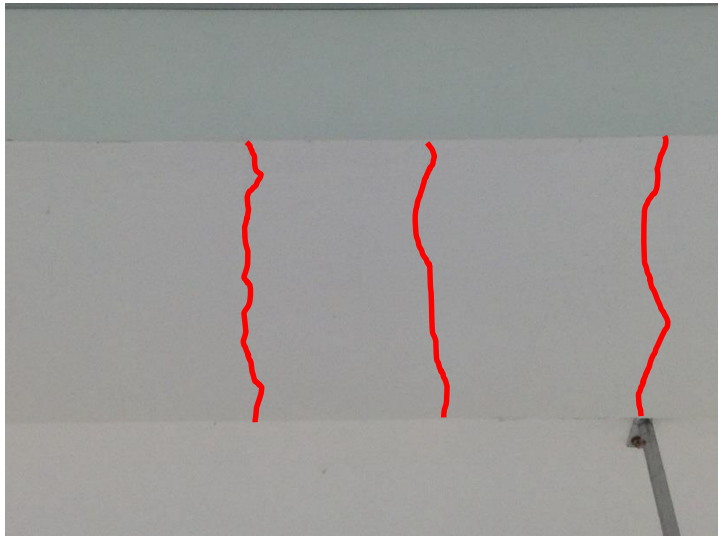

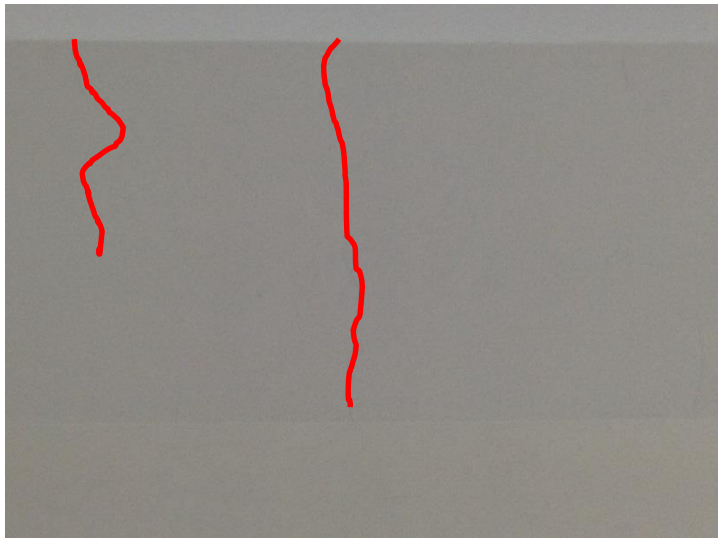

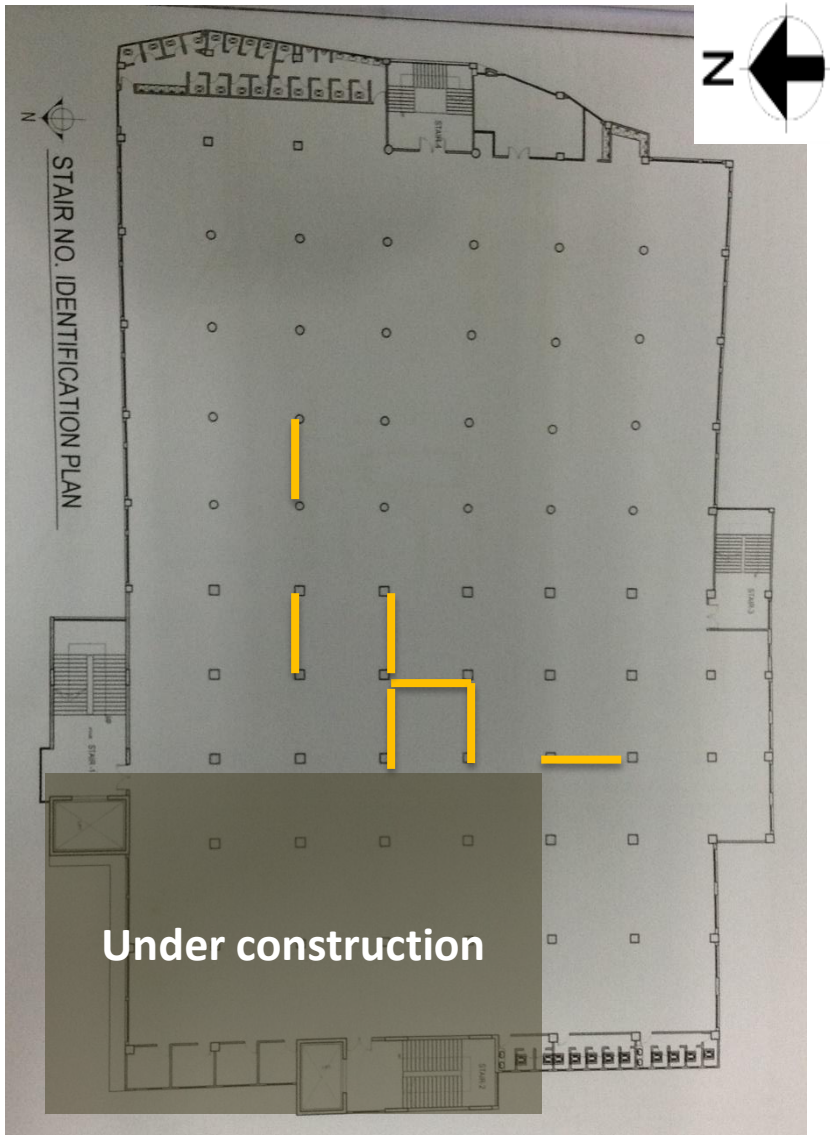

Cracks in beam soffits on 2nd floor (cracks also appeared on 3rd and 4th floor).

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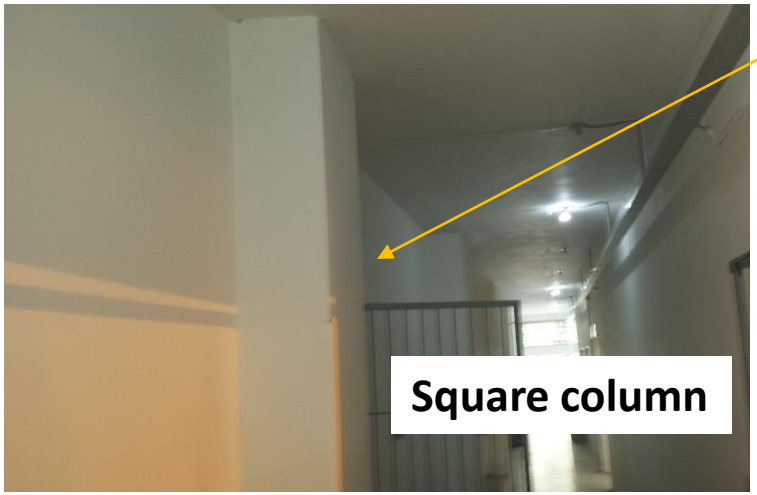
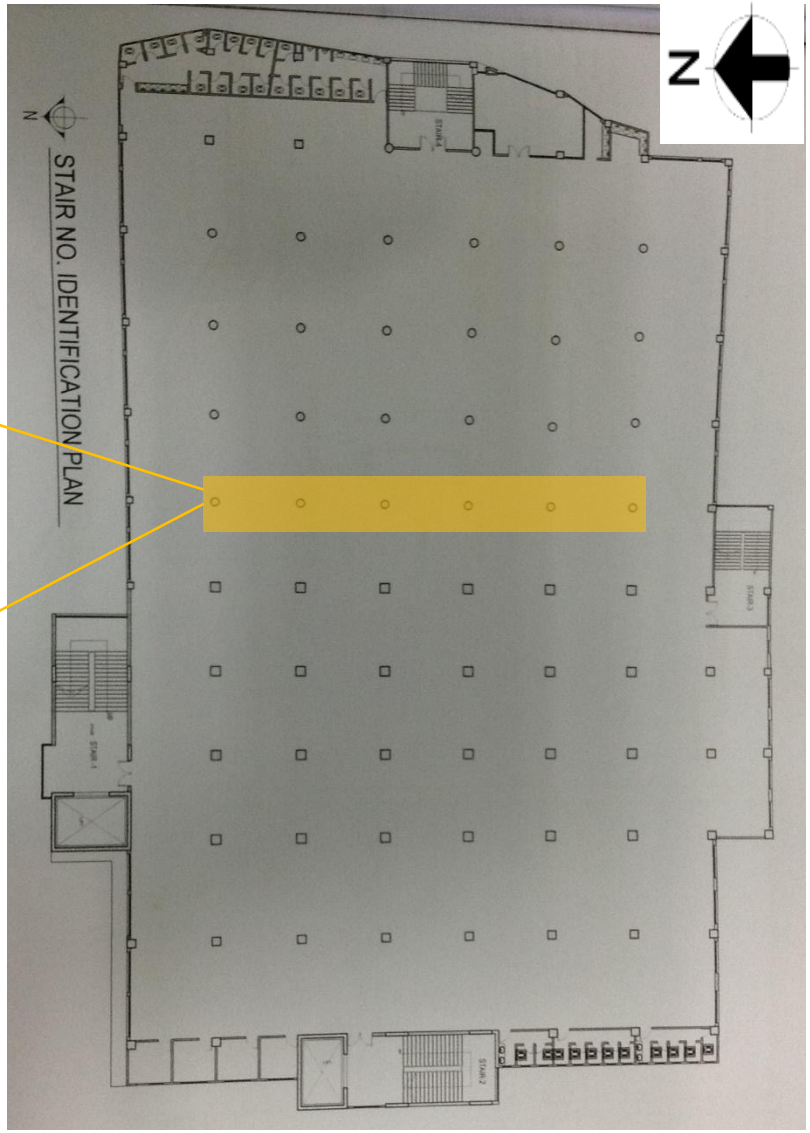
Discrepancies between drawings and as built





Change of column shape at axis F starting at 2nd & 3rd floor.

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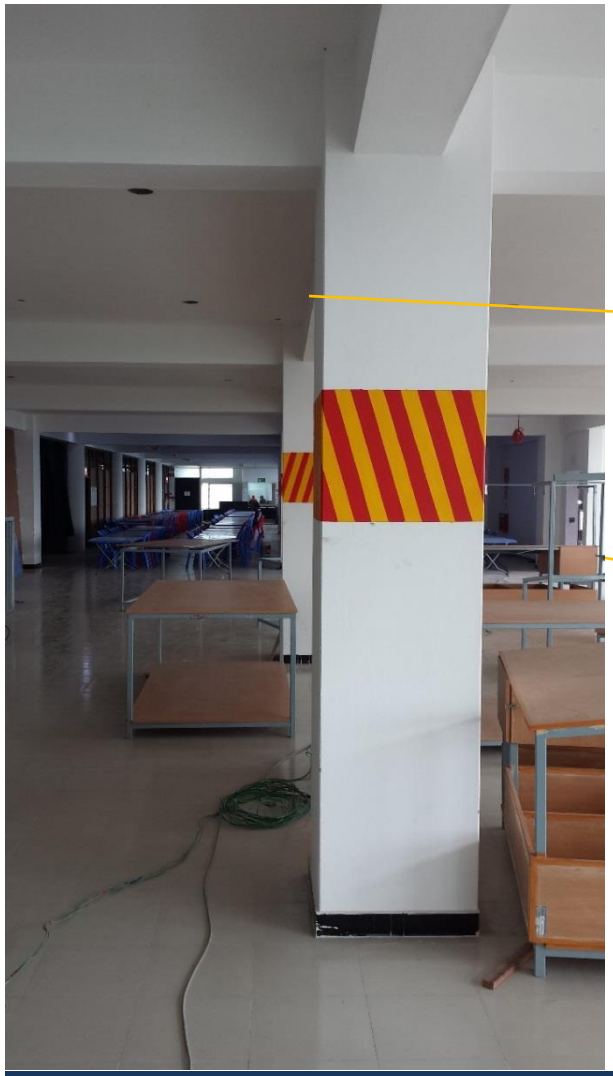

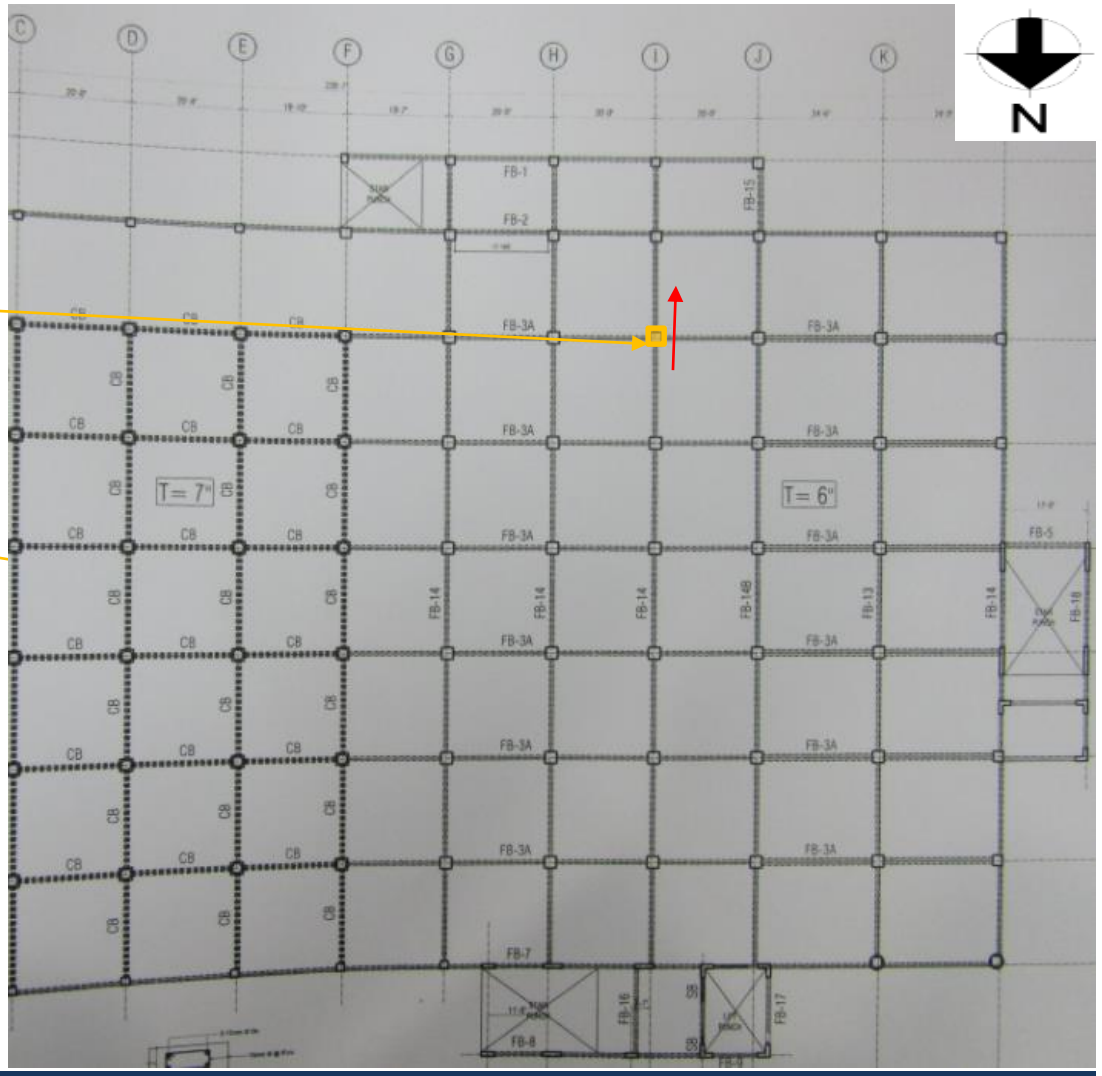

Column shifted off grid

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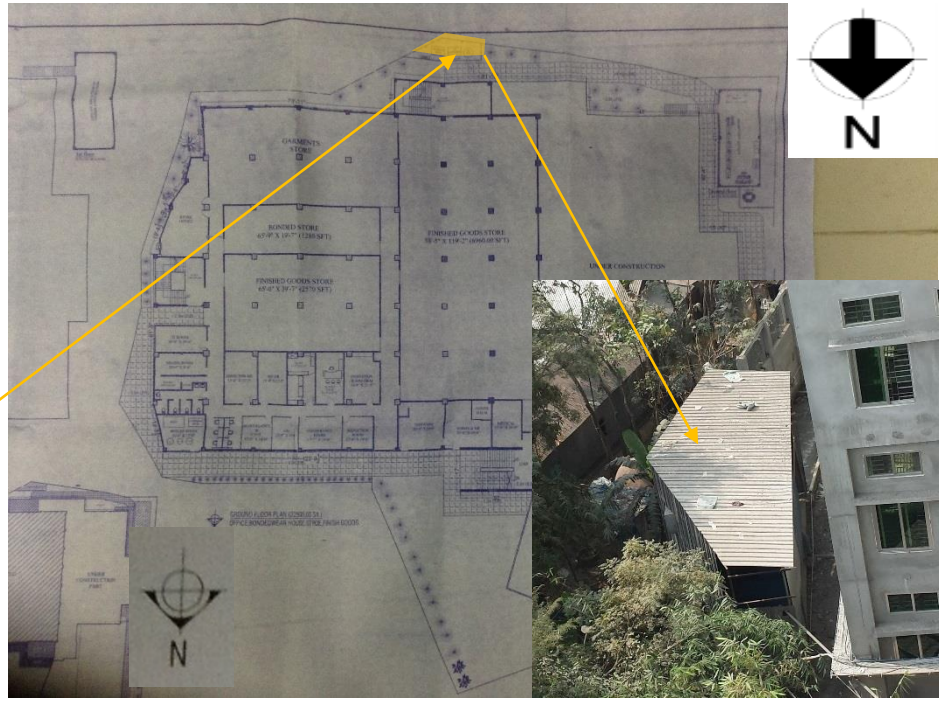
Non-engineered steelwork to sheds



Shed/construction for compressor appeared to be non-engineered

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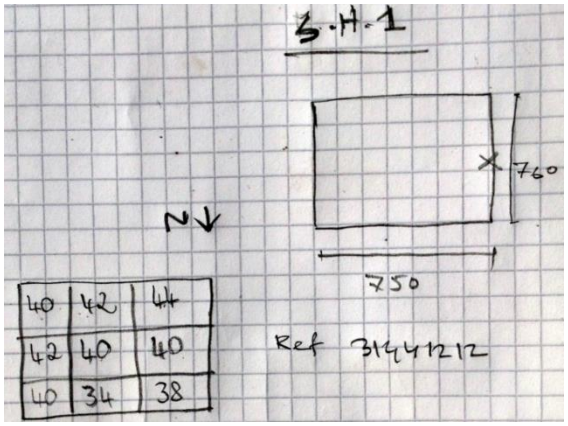
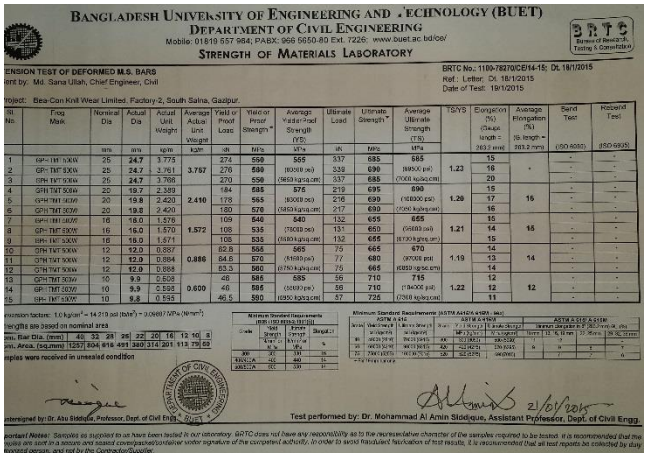
Type of aggregate and results for steel and concrete quality present



Stone Aggregate



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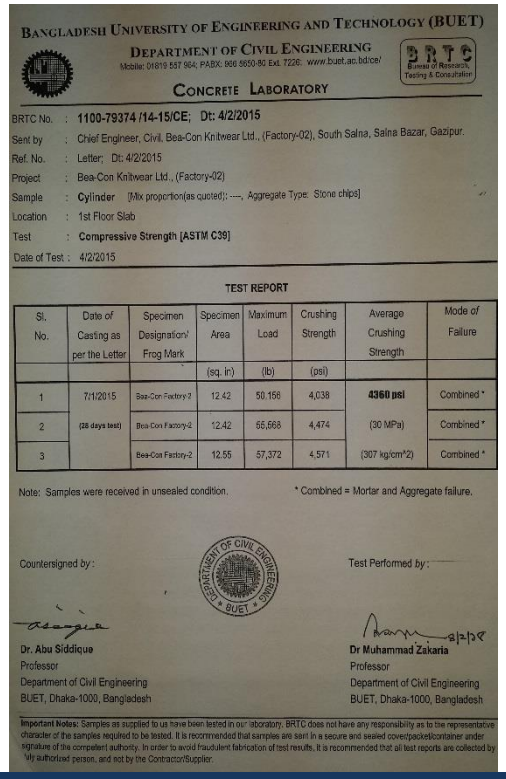
STRENGTH OF MATERIALS LABORATORY

BRTC

ENSION TEST OF DEFORMED M.S. BARS
BRTC No.: 1100-79370/CE/14-15; Dt: 18/1/2015
Ref. Letter; Dt: 18/1/2015
Date of Test: 19/1/2015
nt by: Md. Sana Ullah, Chief Engineer, Civil
oject: Bea-Con Knit Wear Limited, Factory-2, South Salna, Gazipur.

Sl. No.	Frog Mark	Nominal Dia	Actual Dia	Actual Unit Weight	Average Actual Unit Weight	Yield or Proof Load	Yield or Proof Stress	Average Yield or Proof Strength (YS)	Ultimate Load	Ultimate Strength	Average Ultimate Strength (TS)	TS/YS	Elongation (%) (Gauge length = 203.2 mm)	Average Elongation (%) (Gauge length = 203.2 mm)	Bend Test	Rebend Test
		mm	mm	kg/m	kg/m	kN		MPa	kN		MPa					
1	GR= TMT 500W	25	24.7	3.775		274	590	565	537	685	685		15		-	-
2	GR= TMT 500W	25	24.7	3.761	3.767	276	590	(60908 psi)	339	690	(69800 psi)	1.23	16	*	-	-
3	GR= TMT 500W	25	24.7	3.768		270	590	(5859 kg/sq.cm)	337	685	(7008 kg/sq.cm)		20		-	-
4	GR= TMT 500W	20	19.7	2.389		184	585	575	219	695	690		15		-	-
5	GR= TMT 500W	20	19.8	2.420	2.410	178	565	(80908 psi)	216	690	(69800 psi)	1.20	17	15	-	-
6	GR= TMT 500W	20	19.8	2.400		180	570	(5859 kg/sq.cm)	217	690	(7030 kg/sq.cm)		16		-	-
7	GR= TMT 500W	16	16.0	1.576		109	540	540	132	655	655		15		-	-
8	GR= TMT 500W	16	16.0	1.570	1.572	108	535	(78908 psi)	131	650	(95800 psi)	1.21	14	15	-	-
9	GR= TMT 500W	16	16.0	1.571		108	535	(5500 kg/sq.cm)	132	655	(6700 kg/sq.cm)		15		-	-
10	GR= TMT 500W	12	12.0	0.887		62.8	555	560	75	665	670		14		-	-
11	GR= TMT 500W	12	12.0	0.884	0.886	64.6	570	(81908 psi)	77	680	(97008 psi)	1.19	13	14	-	-
12	GR= TMT 500W	12	12.0	0.888		63.3	560	(5750 kg/sq.cm)	75	665	(6850 kg/sq.cm)		14		-	-
13	GR= TMT 500W	10	9.9	0.608		48	585	585	55	710	715		12		-	-
14	GR= TMT 500W	10	9.9	0.595	0.600	46	585	(83908 psi)	58	710	(101600 psi)	1.22	12	12	-	-
15	GR= TMT 500W	10	9.8	0.595		46.5	590	(6050 kg/sq.cm)	57	725	(7360 kg/sq.cm)		11		-	-

Test performed by: Dr. Mohammad Al Amin Siddique, Assistant Professor, Dept. of Civil Engg.



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BRTC No. : 1100-79374 /14-15/CE; Dt: 4/2/2015
Sent by : Chief Engineer, Civil, Bea-Con Knitwear Ltd., (Factory-02), South Salna, Salna Bazar, Gazipur.
Ref. No. : Letter; Dt: 4/2/2015
Project : Bea-Con Knitwear Ltd., (Factory-02)
Sample : Cylinder [Mix proportion(as quoted): ----, Aggregate Type: Stone chips]
Location : 1st Floor Slab
Test : Compressive Strength [ASTM C39]
Date of Test : 4/2/2015

TEST REPORT

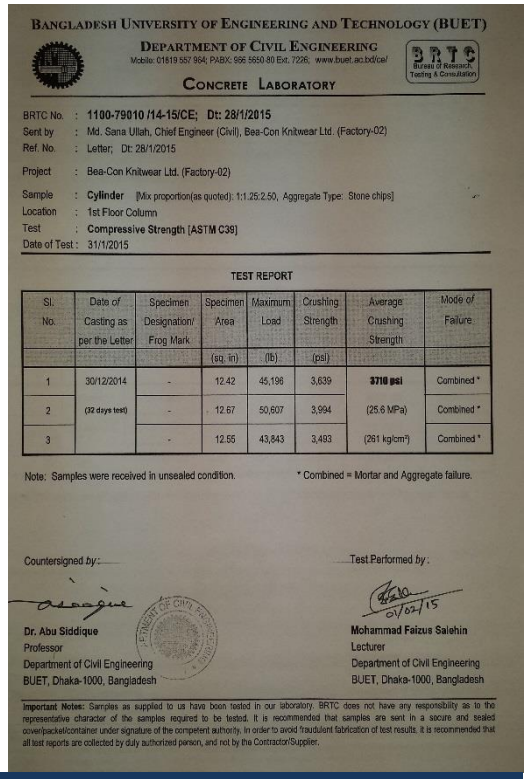
Sl. No.	Date of Casting as per the Letter	Specimen Designation/ Frog Mark	Specimen Area	Maximum Load	Crushing Strength	Average Crushing Strength	Mode of Failure
			(sq. in)	(lb)	(psi)		
1	7/1/2015	Bea-Con Factory-2	12.42	50,166	4,038	4360 psi	Combined *
2	(28 days test)	Bea-Con Factory-2	12.42	55,668	4,474	(30 MPa)	Combined *
3		Bea-Con Factory-2	12.55	57,372	4,571	(307 kg/cm^2)	Combined *

Note: Samples were received in unsealed condition. * Combined = Mortar and Aggregate failure.

Countersigned by:
Dr. Abu Siddique
Professor
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

Test Performed by:
Dr Muhammad Zakaria
Professor
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

Important Notes: Samples as supplied to us have been tested in our laboratory. BRTC does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that samples are sent in a secure and sealed cover/packet/container under signature of the competent authority. In order to avoid fraudulent fabrication of test results, it is recommended that all test reports are collected by duly authorized person, and not by the Contractor/Supplier.



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CONCRETE LABORATORY

BRTC No. : 1100-79010 /14-15/CE; Dt: 28/1/2015
Sent by : Md. Sana Ullah, Chief Engineer (Civil), Bea-Con Knitwear Ltd. (Factory-02)
Ref. No. : Letter; Dt: 28/1/2015
Project : Bea-Con Knitwear Ltd. (Factory-02)
Sample : Cylinder [Mix proportion(as quoted): 1:1.25:2.50, Aggregate Type: Stone chips]
Location : 1st Floor Column
Test : Compressive Strength [ASTM C39]
Date of Test : 31/1/2015

TEST REPORT

Sl. No.	Date of Casting as per the Letter	Specimen Designation/ Frog Mark	Specimen Area	Maximum Load	Crushing Strength	Average Crushing Strength	Mode of Failure
			(sq. in)	(lb)	(psi)		
1	30/12/2014	-	12.42	45,198	3,639	3710 psi	Combined *
2	(32 days test)	-	12.67	50,607	3,994	(25.6 MPa)	Combined *
3		-	12.55	43,843	3,493	(261 kg/cm^2)	Combined *

Note: Samples were received in unsealed condition. * Combined = Mortar and Aggregate failure.

Countersigned by:
Dr. Abu Siddique
Professor
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

Test Performed by:
Mohammad Faizus Salehin
Lecturer
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

Important Notes: Samples as supplied to us have been tested in our laboratory. BRTC does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that samples are sent in a secure and sealed cover/packet/container under signature of the competent authority. In order to avoid fraudulent fabrication of test results, it is recommended that all test reports are collected by duly authorized person, and not by the Contractor/Supplier.

Reinforcement steel certificate &Concrete core test present

Observations

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ARUP

Priority Actions

Problems Observed

(All apply to Building 1)

ITEM 1: Heavy loaded areas in cantilever toilets, construction zones and storage areas
ITEM 2: Cracking observed in some beams and slabs
ITEM 3: Discrepancies between drawings and as-built
ITEM 4: Non-engineered steel work on the roof sheds
ITEM 5: Loading plans are missing

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Heavy loaded areas (toilets on cantilevers, construction zones and storage areas)	Areas close to the toilets not to be used for storage. Water tanks above toilets not to be filled. Loading in construction zones to be reduced. Loading in storage areas not to be increased	**Immediate - Now**
2	Heavy loaded areas (toilets on cantilevers, construction zones and storage areas)	Factory Engineer to review design, loads and columns stresses in areas identified above	**6-weeks**
3	Heavy loaded areas (toilets on cantilevers, construction zones and storage areas)	Verify in-situ concrete stresses and take 100mm dia. cores to verify concrete strength	**6-weeks**
4	Heavy loaded areas (toilets on cantilevers, construction zones and storage areas)	Carry out remedial action as required by Factory Engineer	**6-months**
5	Cracking observed in some beams and slabs	Factory Engineer to review design, loads and structural stresses in areas identified above	**Immediate - Now**
6	Cracking observed in some beams and slabs	Carry out remedial action as required	**6-weeks**
7	Non-engineered steel work in sheds	Factory Engineer to review steelwork design and make modifications as necessary	**6-months**
8	Lack of loading plans	Factory Engineer to make loading plans of all areas	**6-weeks**
9	Lack of loading plans	Implement requirement of the loading plan	**6-months**