BID NO: GEM/2023/B/3489492
CORRIGENDUM NUMBER 1

A1: AMENDMENTS IN RESPECT TO ENGINEERING SPECIFICATIONS: SCHEDULE 1 OF MTF

Point Number	Description of original clause	AMENDED CLAUSE/ Point Number
1 & 2	1.Godown Centre to Centre 125.55m X 21.80m 2. Outside to Outside 126.01m X 22.26m	1.Godown Centre to Centre 125.55m X 21.80m 2. Outside to Outside 126.01m X 22.26m 3. The wall width is to be provided with 34 cm thick in brick masonary or 38 cm thick in RR masonry with cement mortar (1:6)(1 cement: 6 coarse sand)
5	Platform shall be constructed on both sides (However, isolated platform of 4.65 m X 0.90 m to be constructed in case of non-availability of sufficient space).	Platform shall be constructed on both side.
13	Number of Stacks in each Compartment: 12 Nos., 9 Nos., 8 Nos. and 4 Nos., according to availability of land size	Number of Stacks in each Compartment: 12 Nos
24	Roofing should be either truss-less or tubular truss	Roofing should be truss-less.
8 (A)	ROADS: The formation Level and Internal Road Level shall be kept 200 mm and 300 mm respectively above the level of MDR/SH/NH as the case may be. 27.5 cm thick W.B.M road (Metal Road) having clear width of 6.7m if there is one row of godowns and 15 m wide road in between two rows of godowns with necessary layers of gravel base, metal layer to with stand the Traffic, is to be laid with 4 cm thick premix carpet. Thickness of WBM may be more in case of poor soil having less CBR value. Further CC Road may be constructed as per the approved drawing by any Govt. engineering college	ROADS: The formation Level and Internal Road Level shall be kept 200 mm and 300 mm respectively above the level of MDR/SH/NH as the case may be. 27.5 cm thick W.B.M road (Metal Road) having clear width of 6.7m if there is one row of godowns and 15 m wide road in between two rows of godowns with necessary layers of gravel base, metal layer to with stand the Traffic, is to be laid with 4 cm thick premix carpet. Thickness of WBM may be more in case of poor soil having less CBR value. Further CC Road may be constructed as per the approved drawing by any Govt. engineering college, for which any Govt. Engineering College in the vicinity may be approached for structural designing of CC Road.
8 (H):	Fire Fighting System: Provided by tenderer as per Government guidelines	Fire Fighting System: Provided by tenderer as per Government guidelines. NOC from the local fire department shall be obtained to ensure the same.
8 (K)	LAND REQUIREMENT FOR CONVENTIONAL TYPE STORAGE GODOWNS (IN IDEALSHAPE): a)First 5,000 M.T Capacity=2.0 Acres.(approx) b)Further 1.70 acres additional land will be required for an increase of 5,000 MT capacity godown each.	LAND REQUIREMENT FOR CONVENTIONAL TYPE STORAGE GODOWNS (IN IDEALSHAPE): a)First 5,000 M.T Capacity=2.0 Acres.(approx) b)Further 1.70 acres additional land will be required for an increase of 5,000 MT capacity godown each. c) Platform is to be constructed on both the sides. Therefore investor should make provision for adequate piece of land considering the requirement of land as per the site and design.

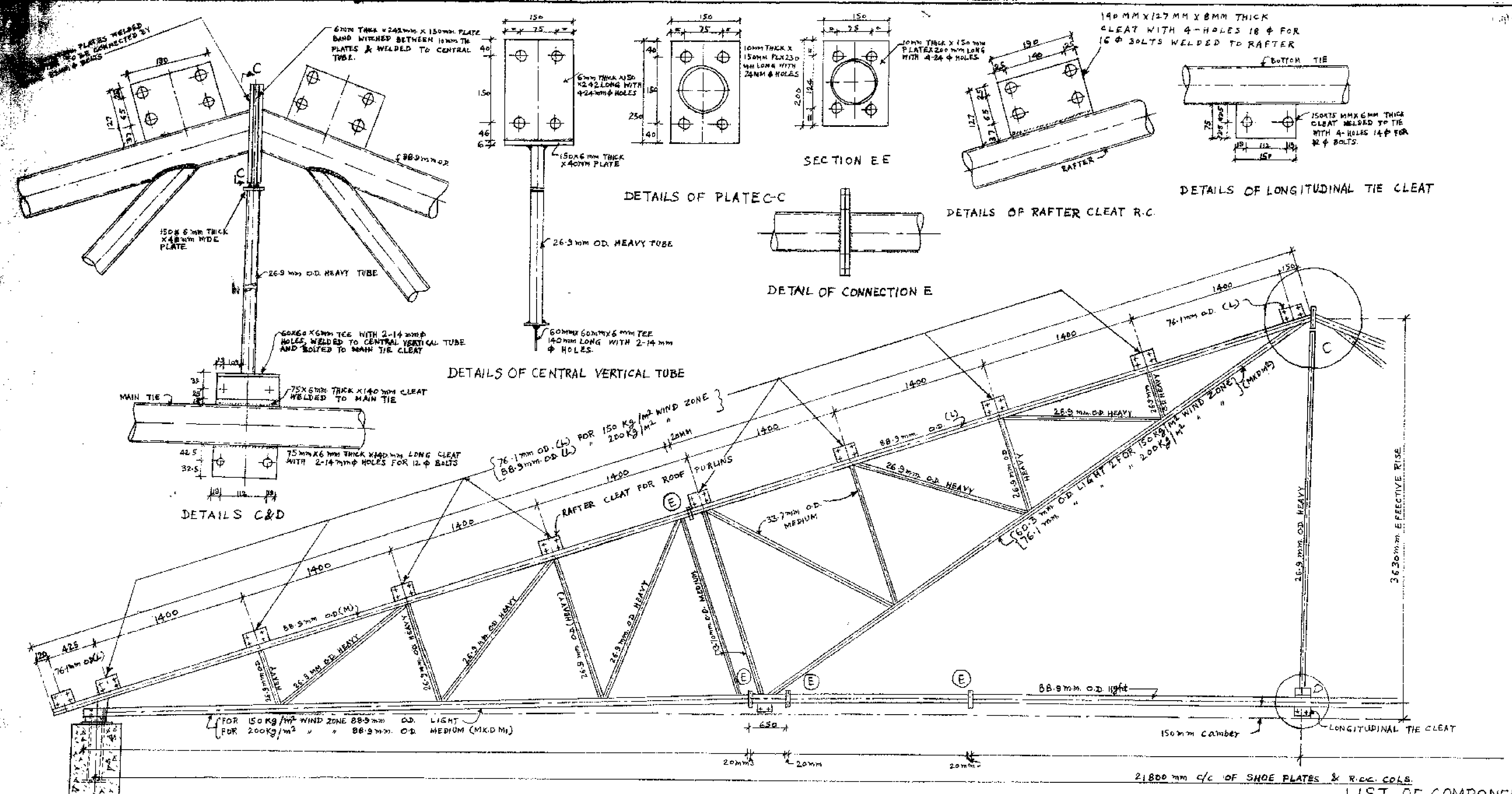
A2: STANDARD DESIGNS OF GODOWNS/VARIOUS ALLIED STRUCTURES AS RECEIVED FROM FCI ARE ATTACHED.

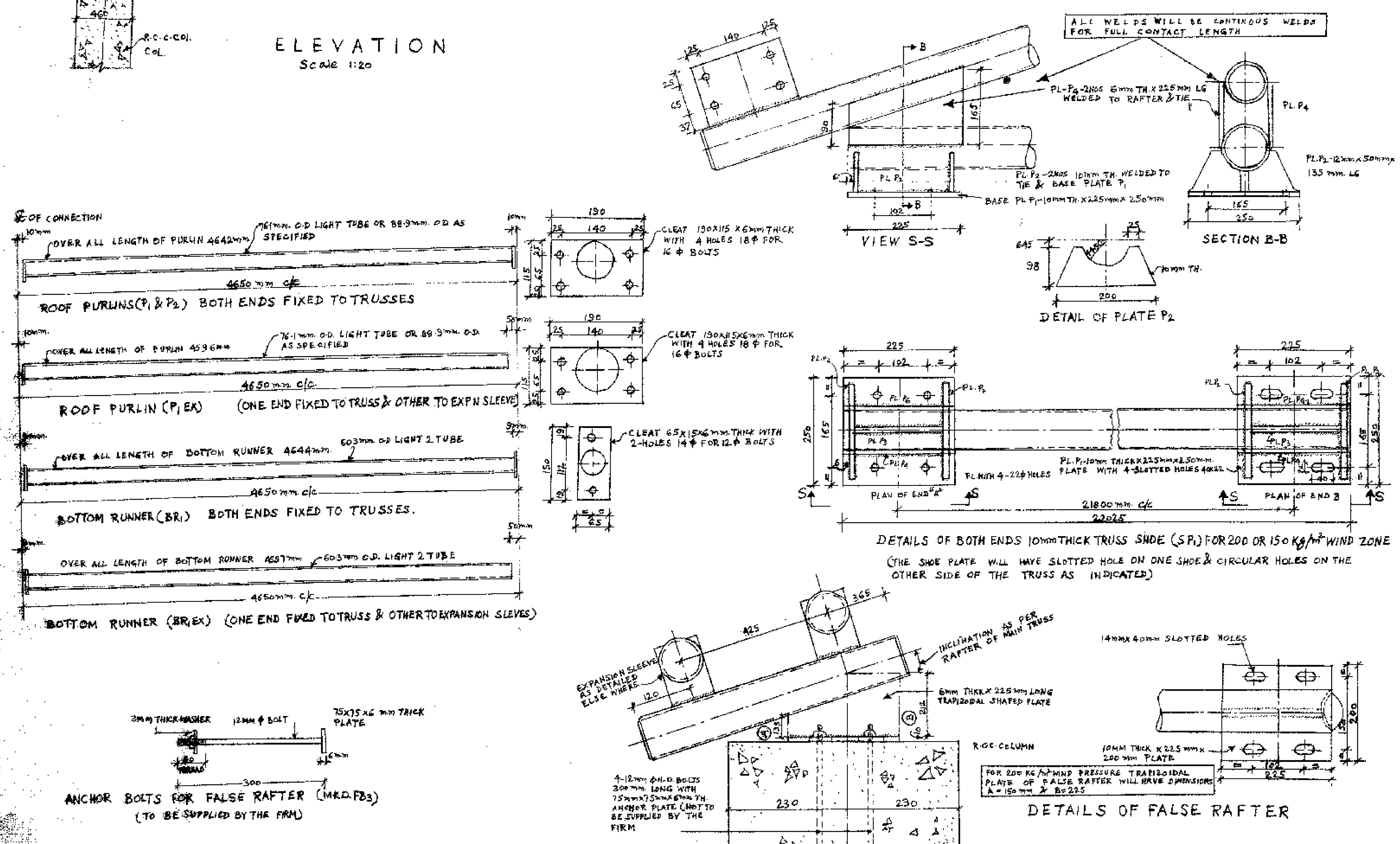
B : AMENDMENTS IN TENDER TERMS & CONDITIONS:

Clause No.	Original Clause	AMENDED CLAUSE
22	In case of lease with services c) The Tenderer should have two years technical experience of preservation and maintenance of foodgrains or he should hire a person having two years relevant technical experience d) The tenderer shall also provide Data Entry Operators along with necessary hardware to ensure operation of the software prescribed by FCI from time to time	In case of lease with services d) The Tenderer should have or hire personnel who have two years hand on technical experience in preservation and maintenance of foodgrains. e) The tenderer shall also provide Data Entry Operators along with necessary hardware to ensure operation of the software prescribed by FCI from time to time. The data entry operator must know how to use the computer and maintain records.
60 (1)	The limit of location of godowns is fixed at 8 Kms from the boundary of municipal limits of District Headquarters or 15 Kms from the zero point of the location. No normalization factor would be applied for such road-fed locations.	The limit of location of godowns is fixed at 8 Kms from the boundary of municipal limits of District Headquarters or 15 Kms from the zero point of the location. No normalization factor would be applied for such road-fed locations. NOTE: Road fed godowns are godowns where transportation takes place through road only

Date: 21.06.2023

Managing Director, PUNGRAIN





NOTES :-

1. ALL STEEL TUBES SHALL CONFORM TO IS 1161-1962 AND GRADE YST-22, GRADE ERW YST-22 WITH CARBON CONTENTS LESS THAN [illegible]
2. ALL OTHER STEEL SHALL CONFORM TO IS 226-1969 AND SHALL [illegible]
3. ALL STRUCTURAL COMPONENTS, JOINTS, FABRICATION ETC. TO/WITH [illegible] SAFELY OF 150 Kg/m² OR 200 Kg/m² AS SPECIFIED.
4. NO JOINT IN ANY MEMBER OF THE TRUSS WILL BE ALLOWED EXCEPT AT [illegible]
5. THE SHOE PLATE WILL HAVE SLOTTED HOLES ON ONE SIDE & CIRCULAR HOLES [illegible] AS PER DETAILS SHOWN IN THIS DRAWING.
6. THE SIZE OF STRUCTURAL MEMBER OR SYMMETRICAL ABOUT CENTRE LINE OF [illegible]
7. TO AVOID WASTAGE ONLY ONE JOINT IN A ROOF PURLIN & ALSO IN A BOTTOM RUNNER [illegible] THE TOTAL QUANTITY OF THE ROOF PURLINS & BOTTOM RUNNERS RESPECTIVELY [illegible] SUCH A JOINT IS PROPERLY BUTT WELDED AS PER IS: 806-1968 & SHOULD HAVE A [illegible] A SINGLE PIECE ROOF PURLIN OR BOTTOM RUNNER. SUCH JOINT MAY [illegible] OF THE SPAN.
8. ALL DIMENSIONS IN METRIC UNITS ARE IN MILLIMETERS.
9. THE FABRICATION OF STRUCTURE BY WELDING USING STEEL TUBES SHALL [illegible] 816-1969 & 6227-1971 & 823-1964.
10. FILLET WELDS 6mm THROUGHOUT WILL BE USED UNLESS OTHERWISE MENTIONED.
11. ALL OPEN ENDS OF TUBES SHALL BE SEALED WITH 3mm THICK PLATE.
12. SHOP PAINTING SHALL BE OF ONE COAT OF READY MADE RED OXIDE ZINC CHROMATE [illegible] CONFORMING TO I.S. 2074-1962 WITH AMENDMENT NO-1.
13. THE TENDER SHALL VARIFY THE DIMENSIONS GIVEN IN THESE DRAWINGS TO ENSURE [illegible] & ACCURATE FITTINGS & FIXING ARRANGEMENTS IN CASE OF ANY DISCREPANCIES IN [illegible] THE SAME SHALL BE SPECIFICALLY BROUGHT OUT WITH ALL RELEVENT DETAILS TO THE INDENTOR BEFORE [illegible]
14. PURLIN SPACING FOR ROOFING ADOPTED IN THIS DRAWING ARE SUITABLE FOR 6mm THICK A.C. SHEETS.
15. FOR KEY PLAN & SECTION SHOWING GENERAL ARRANGMENT RAFTER, SPACING, EXPANSION SLEEVES, [illegible] HOOKS ETC. SEE DRG. NOS. FCI/FGG/C-III/1/76-77.
16. THE STRUCTURE WILL HAVE WELDED CONNECTIONS. EXECEPT WHERE BOLTED CONNECTIONS AS SPECIFIED AT THE FLANGE JOINTS, ALL THE WELDED CONNECTIONS SHOULD BE WELDED CONTINOUS THE FULL CONTACT LENGTH.

LIST OF COMPONENTS FOR PLATFORM ROOF FOR ONE SHED

S.No.	MARK	DESCRIPTION	SKETCH	QUANTITY
1	VT1	PLATFORM TRUSS (3048 OR 2438 mm) PLAIN		16
2	VT2	" " (" ") WITH WIND BRACING CLEAT(R)	AS ABOVE	4
3	VT2'	" " (" ") " " " (L)	"	4
4	VT1 Ex	" " " " WITH EXP. SLEEVE INTER WALL	"	2
5	VT1 ExG	" " " " " " GABLE WALL	"	2 (1R+1L)
6	P1	ROOF PURLIN NORMAL (76.1mm O.D. OR 88.9mm O.D.)		[illegible]
7	P1 Ex	" EXPANSION (" " " ")		[illegible]
8	RB3 OR RB4	WIND BRACING ROD 18mm ϕ WITH 2-NUTS		16
9	RBR	" " RING		4
10	B3 P	16mm ϕ x 50 LONG WITH NUTS & WASHER FOR PURLIN JOINTS		294
11	B4 WB	16mm ϕ x 40 WIND BRACING		16
12	J H	G.I. 8mm ϕ 'J' HOOK BOLT (76.1mm OD OR 88.9mm OD PURLIN) WITH NUTS,		788

LIST OF COMPONENTS FOR ONE SHED

S.NO.	MARK	DESCRIPTION	SKETCH	QUANTITY
1	T1/1	PART TRUSS AS DRAWN (1ST PORTION) BUT WITHOUT RAFTER BRACING CLEAT WITH CIRCULAR HOLES IN SHOE PLATE.		16
2	T1/2	PART TRUSS AS DRAWN (1ST PORTION) BUT WITHOUT RAFTER BRACING CLEAT WITH SLOTTED HOLES IN SHOE PLATE	AS ABOVE	16
3	T1/3	PART TRUSS AS DRAWN (2ND PORTION) BUT WITHOUT RAFTER BRACING CLEATS.		32
4	T1/4 T2/4 T2/4	LONGER PART OF THE MAIN TIE.		24
5	T1/5 T2/5 T2/5	SHORTER PART OF THE MAIN TIE.		48
6	T1/6, T2/6, T2/6	CENTRAL VERTICAL POST		24
7	T2/1 & T2/1	PART TRUSS AS T1/1 BUT WITH RAFTER BRACING CLEATS.	AS T1/1	8 (4R+4L)
8	T2/2 & T2/2	PART TRUSS AS T1/2 BUT WITH RAFTER BRACING CLEATS.	AS T1/2	8 (4R+4L)
9	T2/3 & T2/3	PART TRUSS AS T1/3 BUT WITH RAFTER BRACING CLEATS	AS T1/3	16 (8R+8L)
10	FR1	FALSE RAFTER OVER INTER WALL WITH EXPANSION SLEEVE WELDED INCLUDING SHOE PLATE.		4
11	FR2	FALSE RAFTER OVER GABLE WALL WITH EXPANSION SLEEVE WELDED INCLUDING SHOE PLATE.	AS ABOVE	4
12	P1	76.1mm OD (FOR 150 Kg/m² WIND ZONE) 88.9mm OD (FOR 200 Kg/m² WIND ZONE) ROOF PURLIN NORMAL TYPE		76.1mm OD = 420 * OR 76.1mm OD = 84, 88.9mm OD 336 **
13	P1 EX.	" " " " " " WIND ZONE) ROOF PURLIN EXPANSION TYPE.		76.1mm OD = 120 * OR 76.1mm OD = 24, 88.9mm OD = 96 **
14	BR1	60.3mm OD BOTTOM RUNNER NORMAL TYPE (FOR 150 Kg/m² OR 200 Kg/m²)	AS P1	63
15	BR1 EX	" " " EXPANSION (" " ")	AS P1 EX	18
16	PEXS1 (TYPE I)	PURLIN SLEEVE INTER WALL FOR 76.1mm OD OR 88.9mm OD PURLINS (FOR 150 OR 200 Kg/m² WIND ZONE RESPECTIVELY)		28
17	PEXS1G (TYPE I)	" " GABLE WALL " " " " " " " " "		28
18	PEXS'	" " INTER WALL " " " " " " " " "	AS PEXS1	8
19	PEXS'G	" " GABLE WALL " " " " " " " " "	AS PEXS1G	8
20	BRES1	BOTTOM RUNNER SLEEVE GABLE WALL (FOR 150 OR 200 Kg/m² W/ZONE)	AS PEXS1G	6
21	BRES2	" " " INTER WALL (" " " ")	AS PEXS1	6
22	RB1	WIND BRACING ROD 16mm ϕ WITH 2 NUTS EACH.		96
23	RB2	" " " " " "	AS ABOVE	32
24	RBR	" " RING " " "		
25	JH	G.I. 8mm ϕ 'J' HOOK BOLT (76.1mm OR 88.9mm OD PURLIN) WITH NUT, G.I. WASHER & BITUMEN WASHER.		5250
26	B1 M	22mm ϕ x 65 LONG BOLTS WITH NUTS & WASHERS FOR CROWN JOINT OF RAFTER		95
27	B2 M	" x 50 " " " " FOR OTHER JOINTS IN TRUSS		783
28	B3 P	16mm ϕ x 50 " " " " FOR PURLIN JOINTS		1958
29	B4 WB	16 " x 40 " " " " FOR WIND BRACING TO RAFTER JOINT		130
30	B5 M	12 " x 40 " " " " FOR MAIN TIE & CENTRAL VER. POST		49
31	B6 BR	12 " x 40 " " " " FOR BOTTOM RUNNER TO TIE		147
32	B7 F	12 " x 300 " WITH 75X75X6mm ANCHOR PLATE WELDED AT ONE END WITH NUTS WASHERS.		32

NOTE :- * FOR 150 Kg/m² WIND ZONE
** FOR 200 Kg/m² WIND ZONE

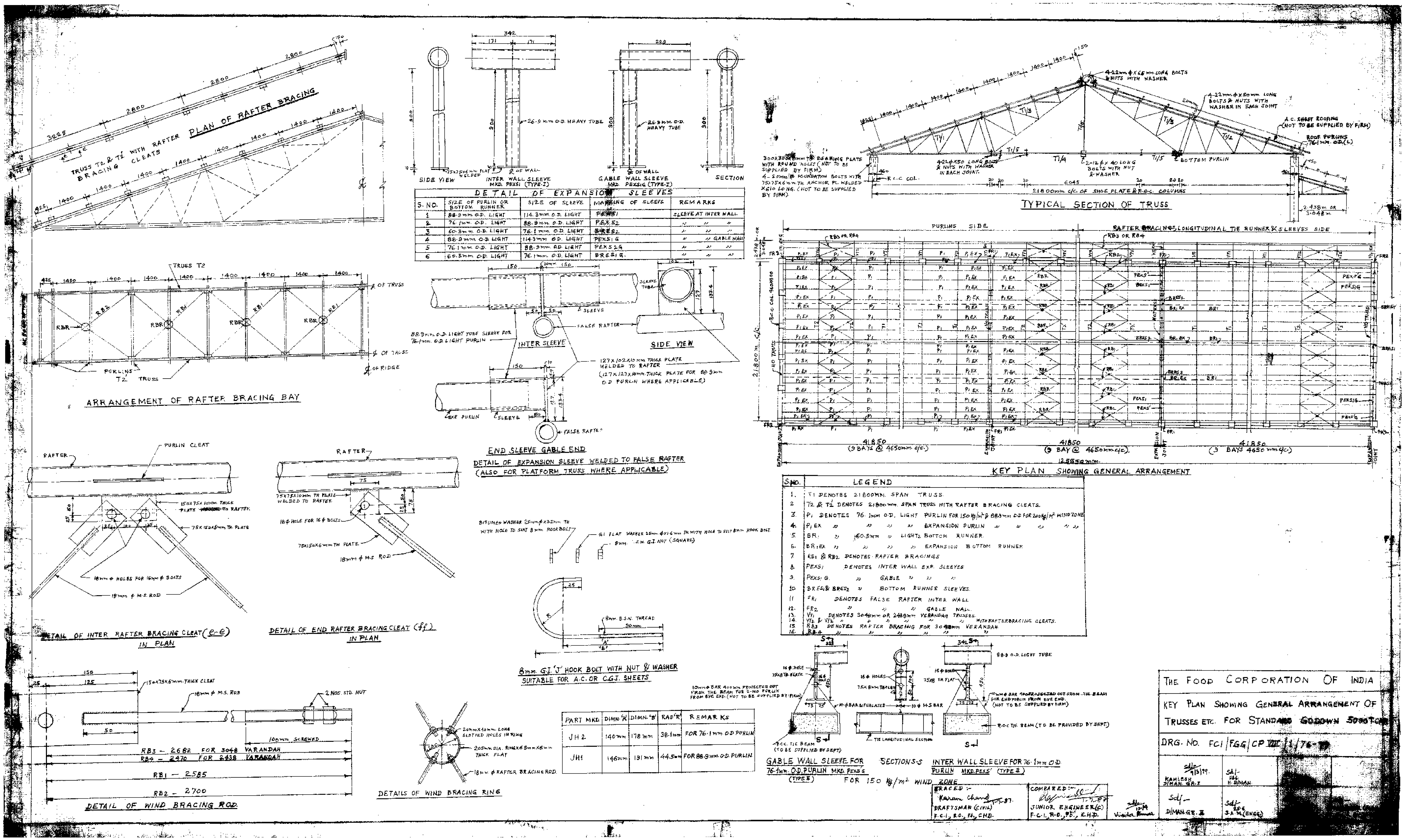
TRACED :-
Karam Chand 25/8/87
DRAFTSMAN (CIVIL)
F.C.I., R.O., Pb., CHD.

COMPARED :-
JUNIOR ENGINEER (CIVIL)
F.C.I., R.O., Pb., [illegible]

THE FOOD CORPORATION OF INDIA

DETAILS OF 2180[illegible] TRUSSES IN TYPICAL [illegible] GODOWNS

D/MAN J.N. SEHDEV	Sd/- 25/8/76 SAN[illegible]	
Sd/- [illegible]	Sd/- 30/8/76	
Sd/- 2-6-77	AEN (PLG)	



DETAIL OF EXPANSION SLEEVES				
S. NO.	SIZE OF PURLIN OR BOTTOM RUNNER	SIZE OF SLEEVE	MARKING OF SLEEVE	REMARKS
1	88.9mm O.D. LIGHT	114.3mm O.D. LIGHT	PEXS1	SLEEVE AT INTER WALL
2	76.1mm O.D. LIGHT	88.9mm O.D. LIGHT	PEXS2	" " "
3	60.3mm O.D. LIGHT	76.1mm O.D. LIGHT	BRES2	" " "
4	88.9mm O.D. LIGHT	114.3mm O.D. LIGHT	PEXS1G	" " GABLE WALL
5	76.1mm O.D. LIGHT	88.9mm O.D. LIGHT	PEXS2G	" " "
6	60.3mm O.D. LIGHT	76.1mm O.D. LIGHT	BRES1G.	" " "

S.NO.	LEGEND
1.	T1 DENOTES 21800MM. SPAN TRUSS.
2	T2 & T2' DENOTES 21800mm. SPAN TRUSS WITH RAFTER BRACING CLEATS.
3.	P1 DENOTES 76.1mm O.D. LIGHT PURLIN FOR 150Kg/m² & 88.9mm O.D. FOR 200Kg/m² WIND ZONE
4.	P1 EX " " " " EXPANSION PURLIN " " " " "
5.	BR1 " 60.3mm " LIGHT BOTTOM RUNNER.
6.	BR1EX " " " " EXPANSION BOTTOM RUNNER
7	RB1 & RB2 DENOTES RAFTER BRACINGS
8.	PEXS1 DENOTES INTER WALL EXP. SLEEVES
9.	PEXS1G " GABLE " " "
10	BRES1 & BRES2 " BOTTOM RUNNER SLEEVES.
11	FR1 DENOTES FALSE RAFTER INTER WALL
12.	FR2 " " " GABLE WALL.
13.	VT1 DENOTES 3048mm OR 2438mm VERANDAH TRUSSES.
14.	VT2 & VT2' " " " " " " WITH RAFTER BRACING CLEATS.
15.	RB3 DENOTES RAFTER BRACING FOR 3048mm VERANDAH.
16.	RB4 " " " " " "

PART MKD.	DIMN. 'A'	DIMN. 'B'	RAD 'R'	REMARKS
JH2	140mm	178mm	38.1mm	FOR 76.1mm O.D. PURLIN
JH1	146mm	191mm	44.5mm	FOR 88.9mm O.D. PURLIN

TRACED - Karam Chand, DRAFTSMAN (CIVIL) F.C.I., R.O., PB., CHD.

COMPARED - JUNIOR ENGINEER (C) F.C.I., R.O., PB., CHD.

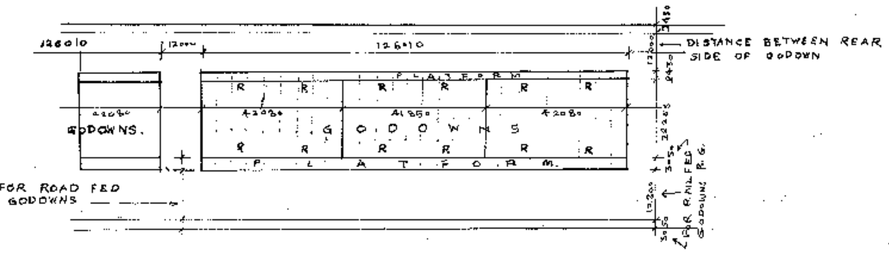
THE FOOD CORPORATION OF INDIA

KEY PLAN SHOWING GENERAL ARRANGEMENT OF TRUSSES ETC. FOR STANDARD GODOWN 5000 TON

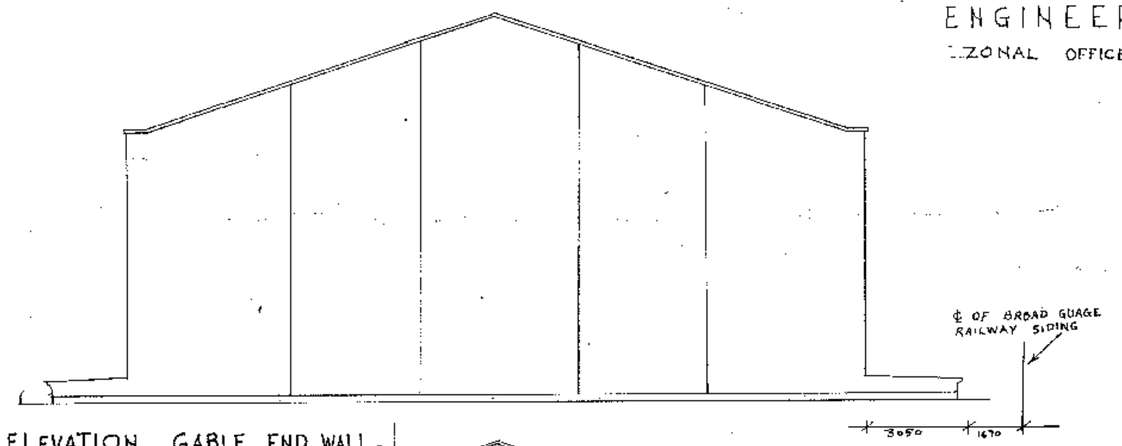
DRG. NO. FCI/FGG/CP VII 1/76-77

Sd/- 9/3/79. KAMLESH DIMAN GR-I	Sd/- H. DIMAN
Sd/- DIMAN GR. II	Sd/- S.A.M. (ENGG.)

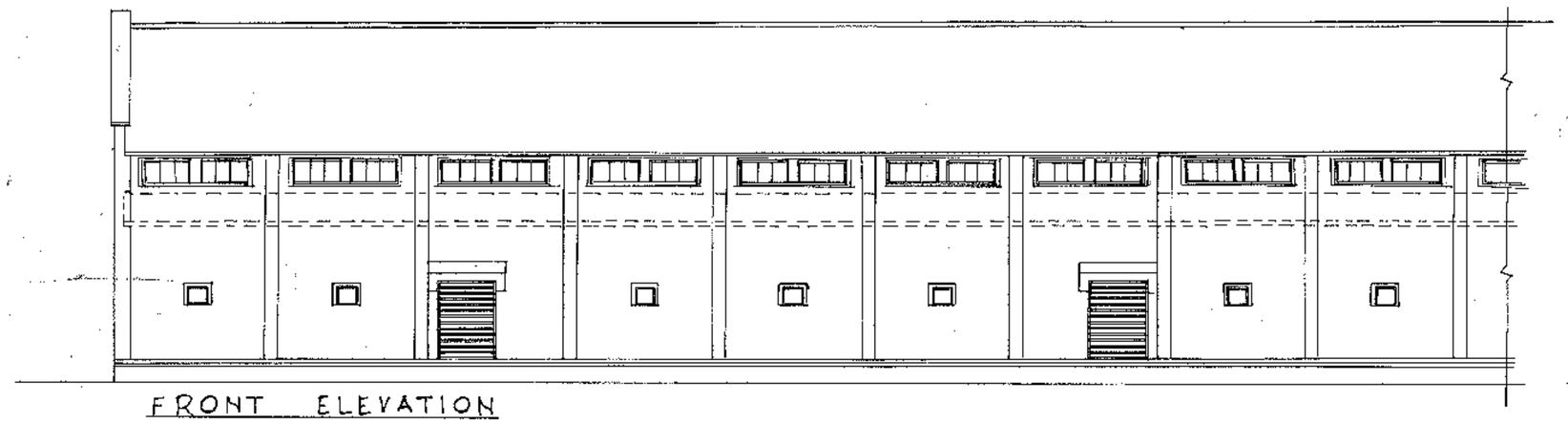
ENGINEERING DIVISION
ZONAL OFFICE NORTH



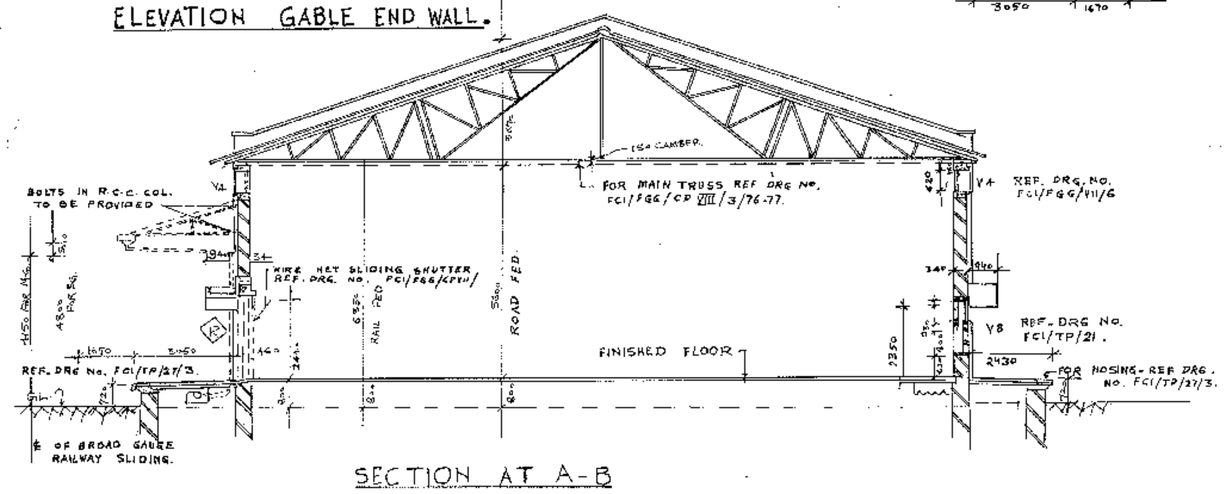
KEY-PLAN . 5000 M.T. CAPACITY.



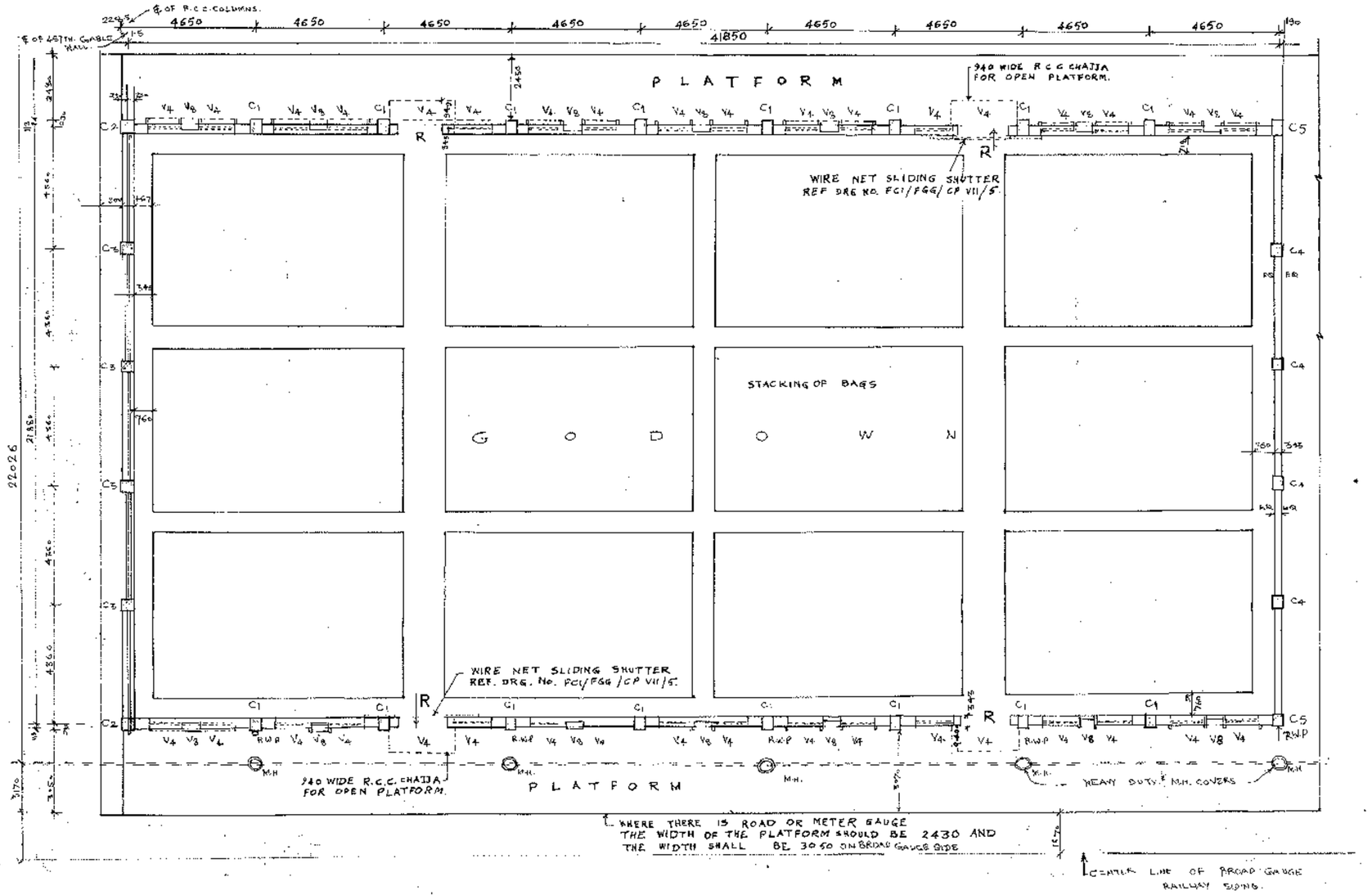
ELEVATION GABLE END WALL.



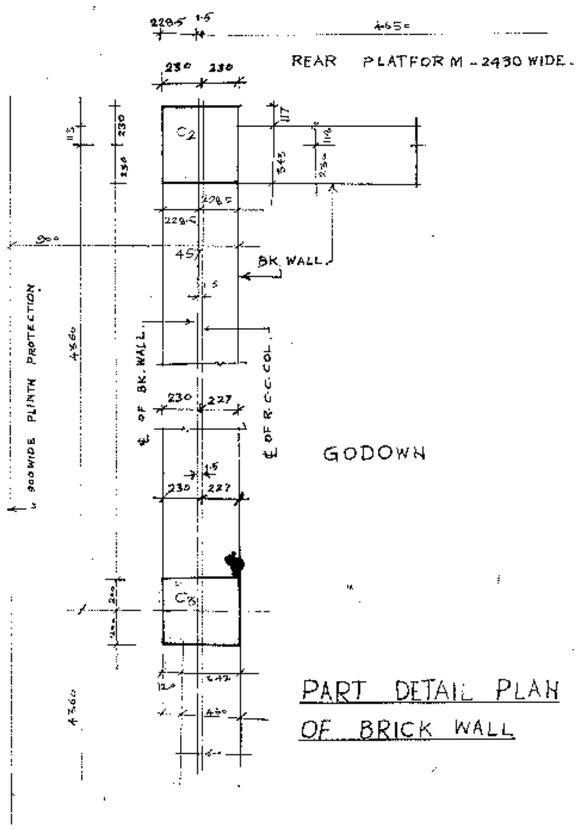
FRONT ELEVATION



SECTION AT A-B



PART PLAN



PART DETAIL PLAN OF BRICK WALL

NOTES:-

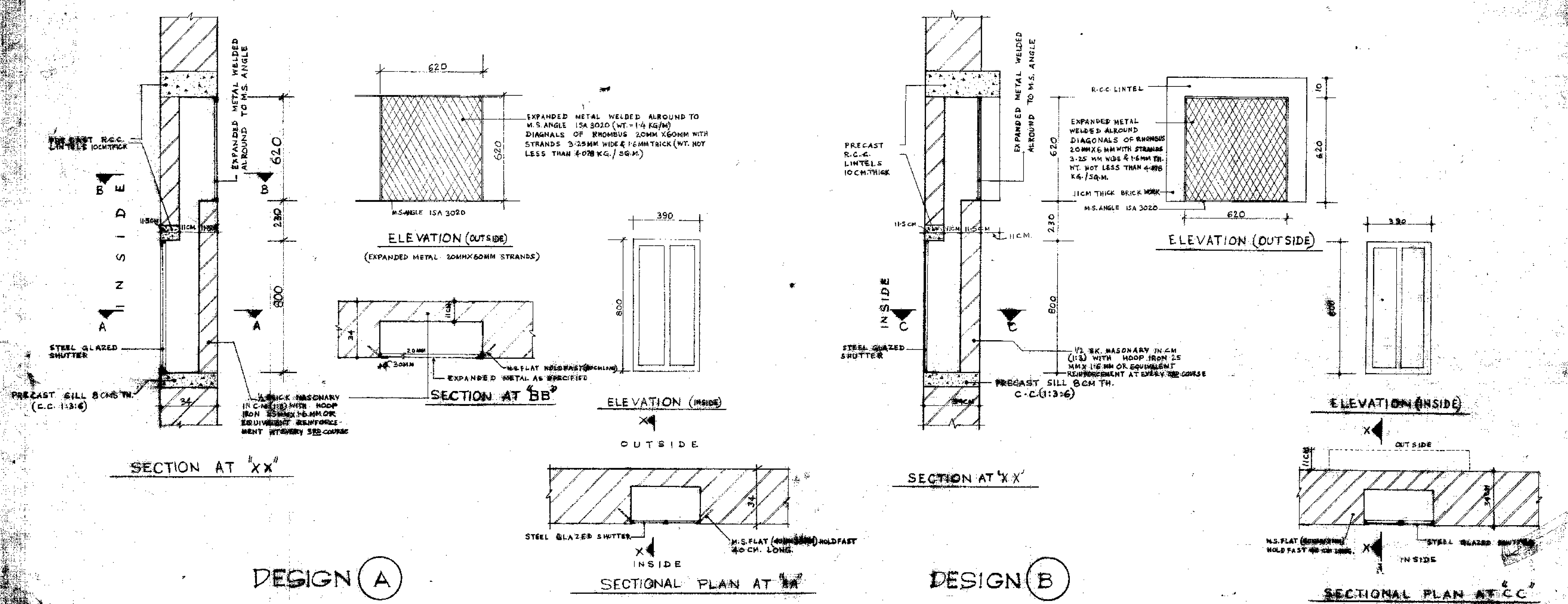
1. FOR STRUCTURE DETAILS OF R.C.C. COLUMNS FOOTINGS LINTELS BANDS AND BRICK WALLS & FOOTINGS REFER DRG NO FCI/FGG/CP-VII/1. AND FOR STONE MASONARY REFER DRG NO. FCI/FGG/CP-VII/2.
2. ALL DIMENSIONS ARE IN MILIMETERS.
3. COVERED PLATFORMS ARE TO BE PROVIDED ONLY ON RAIL SIDES. ON ROAD SIDES PLATFORMS ARE ONLY TO BE COVERED IF THE RAIN FALL IS 50" OR ABOVE ANNUALLY.
4. WIRE NET SLIDING SHUTTERS ARE TO BE PROVIDED ALONG WITH ROLLING SHUTTERS ON ALTERNATIVE DOORS REFER DRG NO FCI/FGG/CP-VII/5
5. FOR MAIN TRUSS DETAIL REFER DRG NO. FCI/FGG/CP VIII 1-76-77. AND FCI/FGG/CP VIII/2.76-77. AND CP VIII/3.76-77.
6. FOR DETAILS OF TOP VENTILATORS DRG NO. FCI/FGG/CP VII/6
7. FOR DETAILS OF BOTTOM VENTILATORS DRG NO FCI/TP/21.
8. FOR ELECTRICAL LAY-OUT REFER J.M.(ELECT.) DRG NO. FCI/EL/1-A.
9. CLEAR DIMENSIONS SHALL BE MAINTAINED WHILE MAKING ADJUSTMENT FOR 254 m.m. BRICK SIZE.

THE FOOD CORPORATION OF INDIA:
ENGG-DIVISION. ZONAL OFFICE NORTH.

TYPE DESIGN OF FOOD GRAIN GODOWN SPAN-21800 m.m. WORKING - DRAWING

SCALE 1:100 · 1:20 1:1000. | DRG. NO FCI/E-P/1.

MUKANDRAM TRACER.			
G.S.SHARMA DMAN(C) G.I.	B.P.AGGARWAL A.M.(CIVIL)	D.K. BASU D.M.(C)ENGG.	S.C.DHALL J.M.(C)(ENGG)



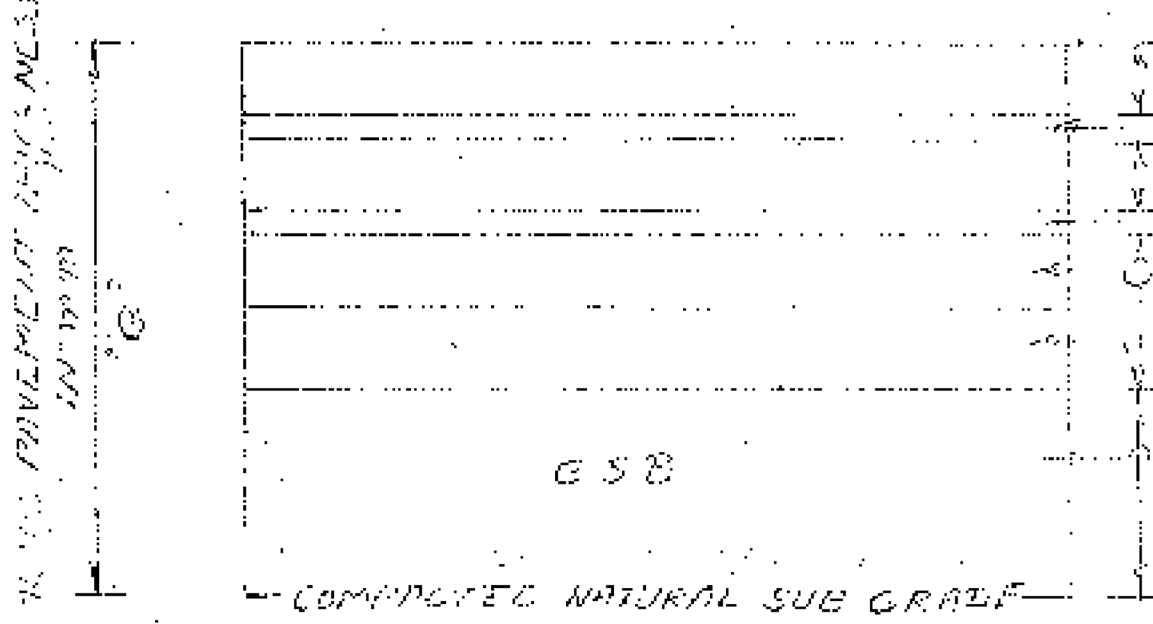
NOTES:-

- DESIGN (A) IS TO BE ADOPTED FOR COVERED PLATFORMS.
- DESIGN (B) IS TO BE ADOPTED FOR UNCOVERED PLATFORMS.
- REFER DRG. NO FCI/FGG/CP VII/6 FOR ORIGINAL DRAWINGS OF V_8. THIS DESIGN IS TO BE ADOPTED FOR ALL NEW WORKS.

TRACED:-	COMPARED:-		
DRAFTSMAN (C)	JR. ENGINEER (C)	ASSTT. MANAGER	DY. MANAGER (C.E.)

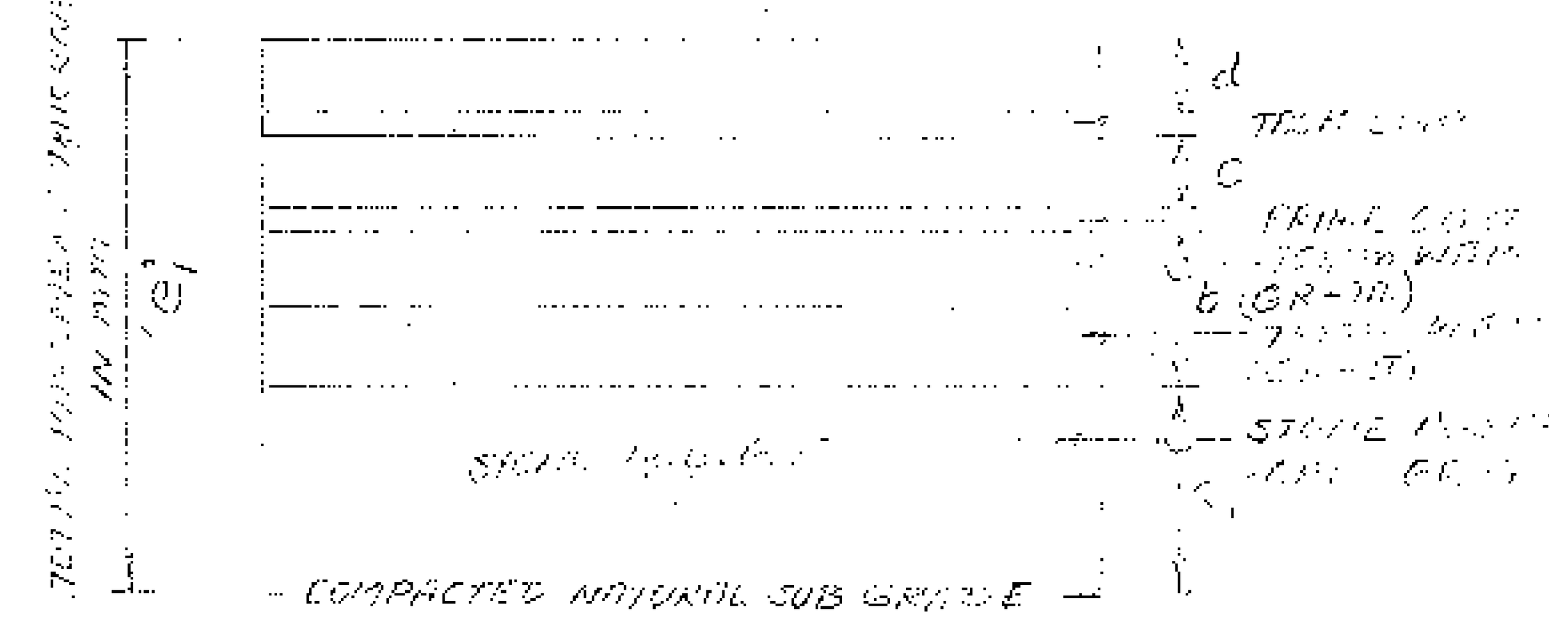
THE FOOD CORPORATION OF INDIA
ENGINEERING DIVISION
CONSTRUCTION OF 5,000 TONNES CAPACITY
21.6M. SPAN.
ALTERNATE DESIGNS FOR VENTIL[illegible]
V_8

DRG. NO. [illegible]



CROSS-SEC OF ROAD SHOWING THICKNESS AND COMPOSITION AS PER TABLE NO.-I ON ... (WHEN GSB IS USED IN SUB-BASE)

FIGURE-I)



CROSS-SEC OF ROAD SHOWING THICKNESS AND COMPOSITION AS PER TABLE ... ON ... (WHEN STONE ... IS USED IN SUB-BASE)

FIGURE-II

TABLE-I

SR. NO	CBR	GRANULAR SUB-BASE (mm)	STONE AGGREGATE SUB-BASE (mm) K	BASE (mm)	BITUMINOUS SURFACING: BINDER COURSE (mm)	BITUMINOUS SURFACING: WEARING COURSE (mm)	TOTAL THICKNESS IN MM: WITH GSB SUB-BASE	TOTAL THICKNESS IN MM: WITH STONE AGGREGATE SUB-BASE	REMARKS
		a	a1	b	c	d	e	e1	
1.	2	425 (GSB)	500 (WBM)	150 (WBM)	60 (DBM)	25 (SDBC)	660	735	K STONE AGGREGATE ... IN SUB-BASE ... GSB ... NOT ... WITH ... MEDIUM ... IN THE SHAPE OF A ... COURSE ... AS PER ...
2.	4	245 (GSB)	300 (WBM)	150 (WBM)	60 (DBM)	25 (SDBC)	480	[illegible]	
3.	6	155 (GSB)	200 (WBM)	150 (WBM)	60 (DBM)	25 (SDBC)	390	435	
4.	8	150 (GSB)	200 (WBM)	150 (WBM)	50 (DBM)	25 (SDBC)	375	425	
5.	10	150 (GSB)	200 (WBM)	150 (WBM)	50 (DBM)	25 (SDBC)	375	425	

GRADING REQUIREMENT OF STONE AGGREGATE

GRADING NUMBER	SIZE RANGE	SIEVE DESIGNATION	% BY WEIGHT PASSING THE SIEVE
1.	90 mm TO 45 mm	125 mm 90 mm 63 mm 45 mm 22.4 mm	100 90-100 25-60 0-15 0-5
2.	63 mm TO 45 mm	90 mm 63 mm 53 mm 45 mm 22.4 mm	100 90-100 25-75 0-15 0-5
3.	53 mm TO 22.4 mm	63 mm 53 mm 45 mm 22.4 mm 11.2 mm	100 95-100 65-90 0-10 0-5

GRADING REQUIREMENT OF SCREENINGS

GRADING NUMBER	SIZE RANGE	SIEVE DESIGNATION	% BY WEIGHT PASSING THE SIEVE
A	13.2 mm	13.2 mm 11.2 mm 5.6 mm 180 MICRON	100 95-100 15-35 0-10
B	11.2 mm	11.2 mm 5.6 mm 180 MICRON	100 90-100 15-35

SCHEDULE OF MATERIAL ... PER 10 SQ. M AREA

GRADING NO.	SIZE	COMPACTED LAYER THICKNESS	QTY. OF AGGREGATE	SIZE OF SCREENING	QTY. OF SCREENING	QTY. OF BINDING MATERIAL
1. GRADING-1	90 mm - 45 mm	[illegible] mm	1.21 M^3	13.2 mm	0.27 M^3	0.08 M^3
2. GRADING-2	63 mm - 45 mm	75 mm	0.91 M^3	13.2 mm	0.12 M^3	0.06 M^3
3. GRADING-3	53 mm - 22.4 mm	75 mm	0.91 M^3	11.2 mm	0.10 M^3	0.06 [illegible]

NOTES

...

NOTES

B. ... COTTON SOIL AREA

1. ... COURSE ... BLANKET COURSE OF AT LEAST ... SHOULD BE PROVIDED ... SOIL SUB-GRADE ... AS AN EFFECTIVE INTRUSION BARRIER ... COARSE/MEDIUM SAND ... IT SHOULD EXTEND ... FORMATION WIDTH.

...

IN EXPANSIVE SOILS ... DESIGN ... USED ...

...

... STONE AGGREGATE ...

CLASS ... ... CONSTRUCTION

SCALE: NOT TO SCALE

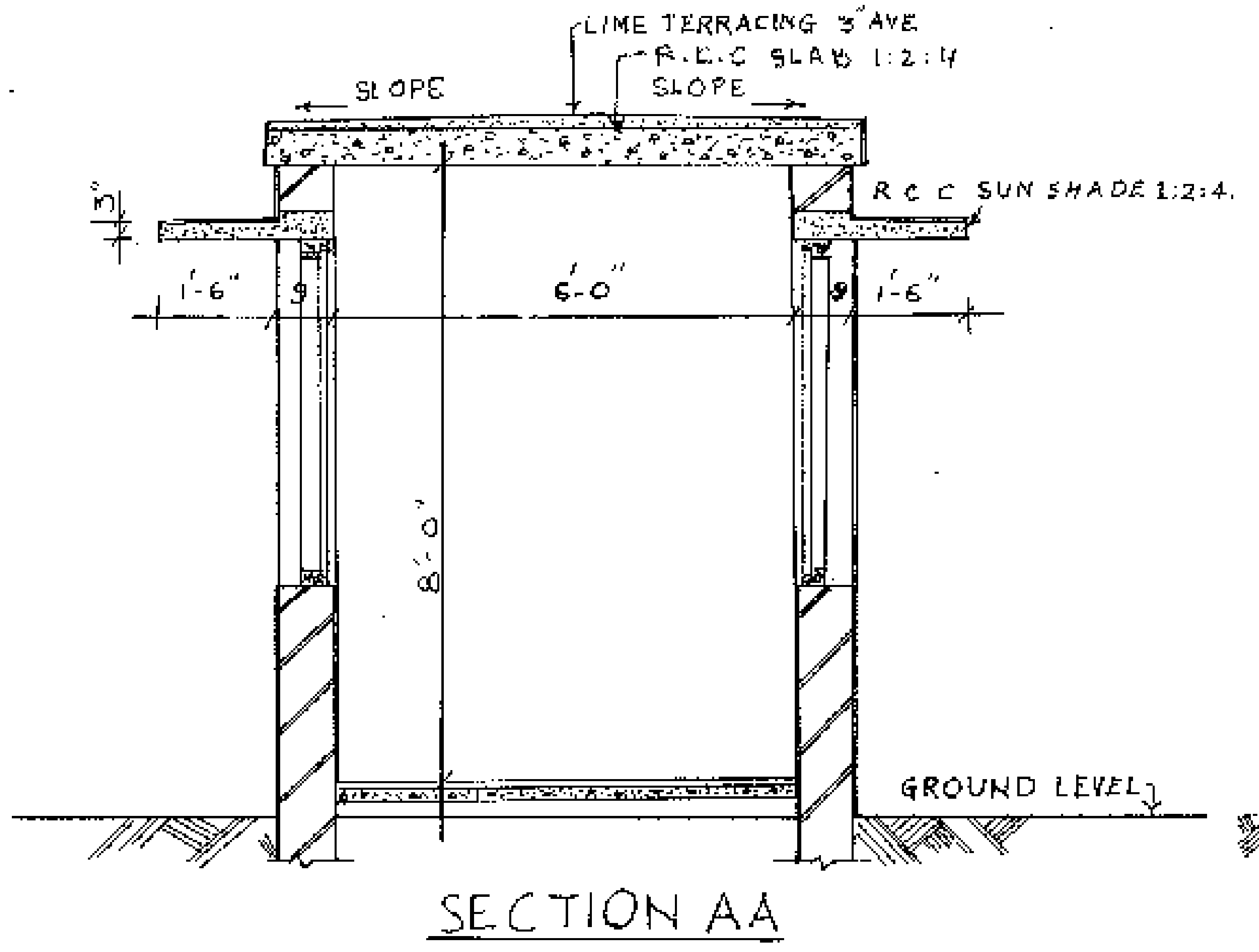
PREPARED BY

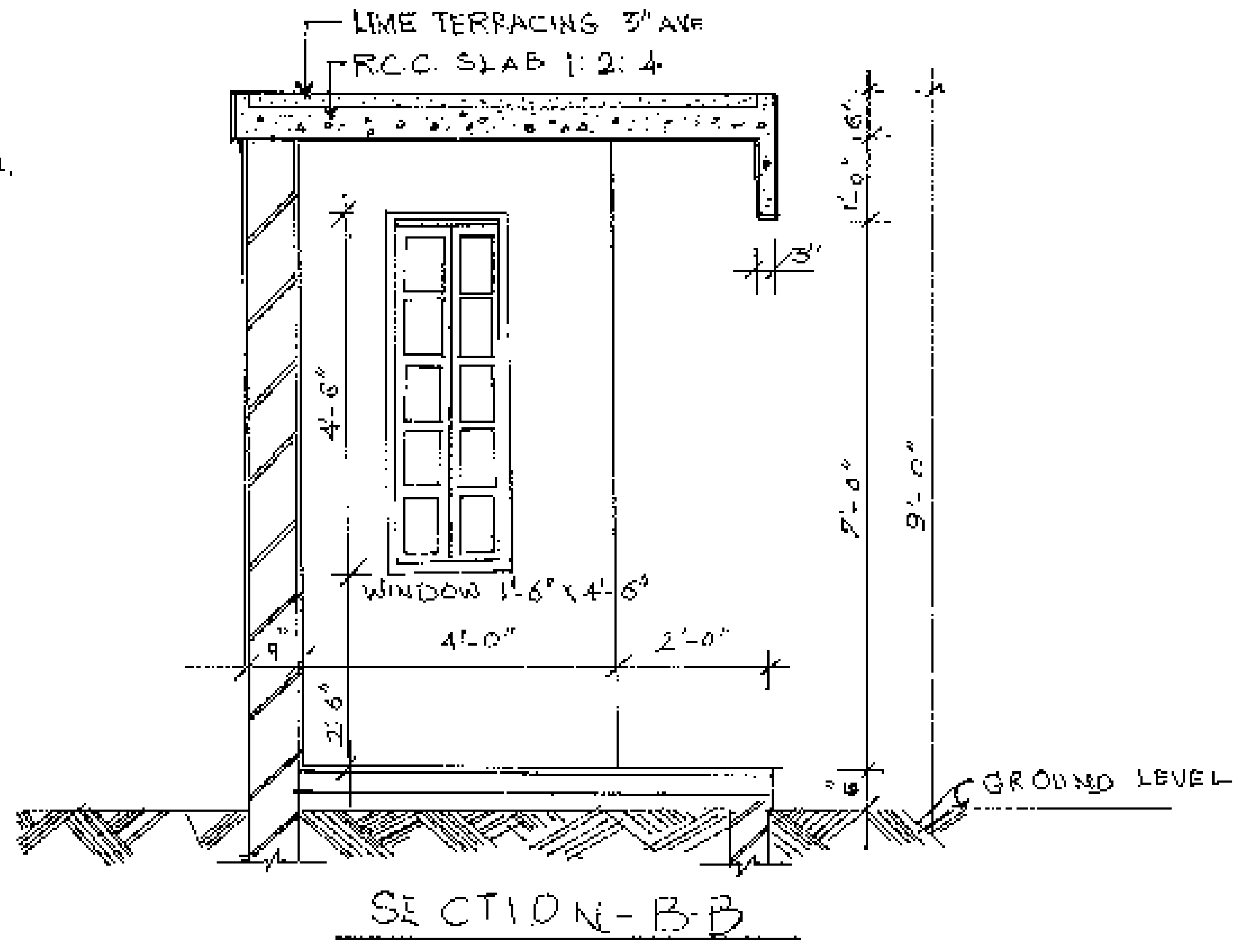
CHECKED BY

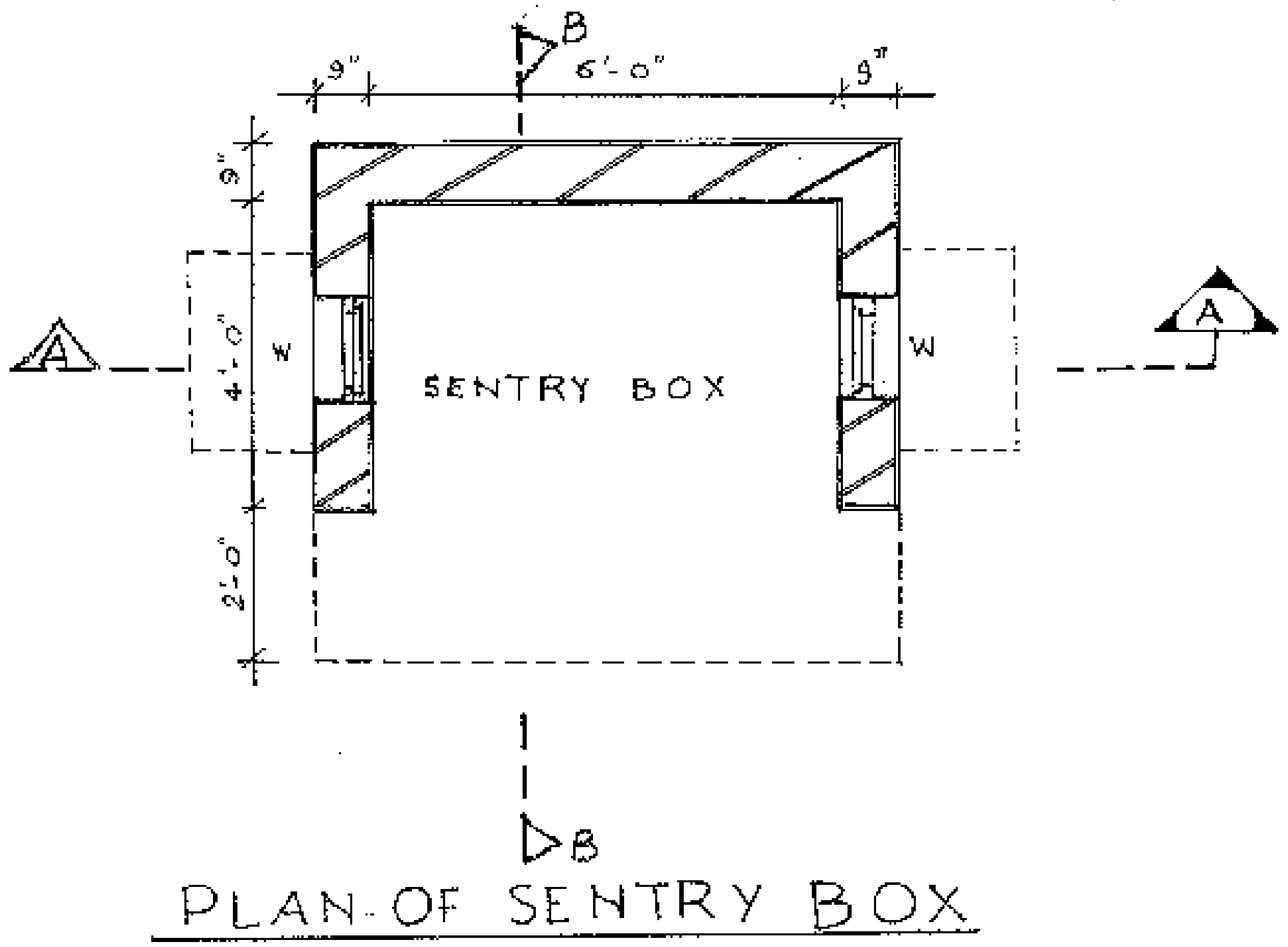
DETAILS OF ROAD ... ORDINARY SOIL ... SOIL

K. ... (A)

S. K. ...







NOTES.

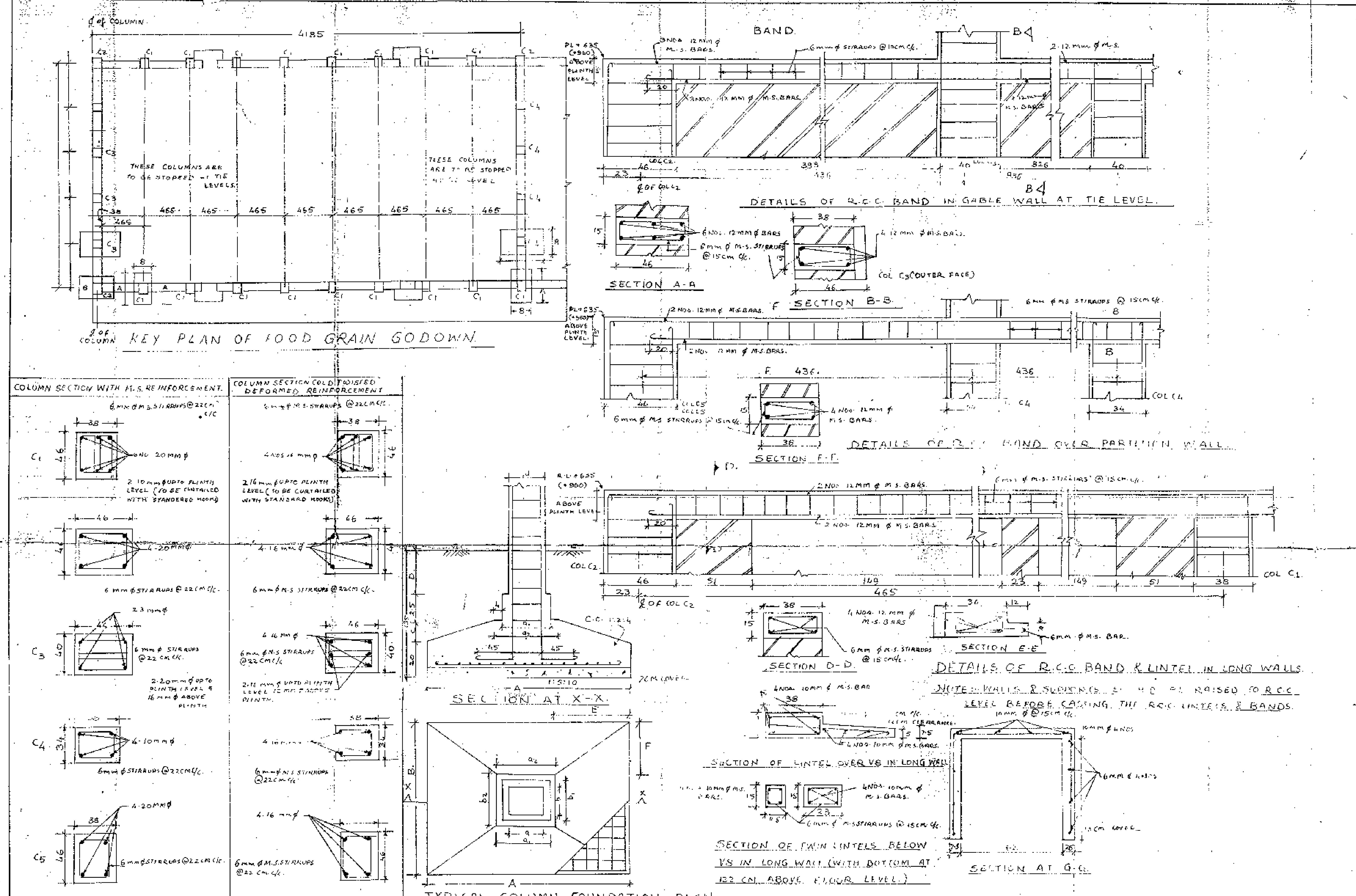
1. WINDOW TO BE SINGLE LEAF GLAZED 1'-6" X 4'-6"

THE FOOD CORPORATION OF INDIA

ENGG-DIVISION. ZONAL OFFICE NORTH.

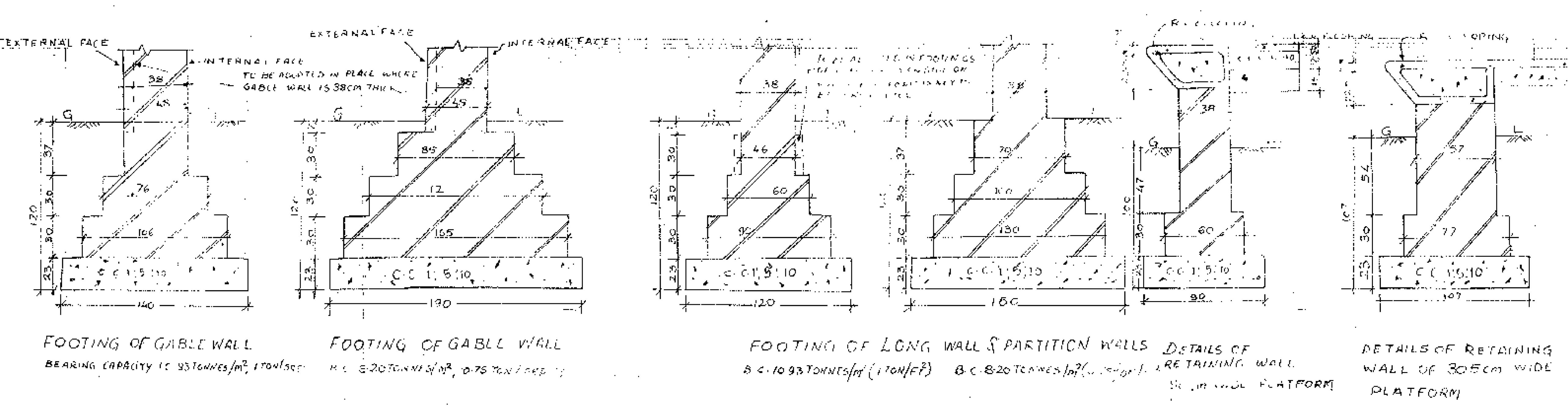
TYPE DESIGN OF SENTRY BOX FOR FOOD GRAIN STORAGE DEPOTS.

SCALE — 1/2" : 1'-0"	DRG NO FCI/TP 9.			
Sd/ 24-5-72 J.M SEHDEY D.M. (C)	Sd/ 30-5-72 R.L. MASIH S.A.M. ENGG.	Sd/ — JITENDER PRAKASH EX. ENGG (P)	Sd/ 1-6-72 P.S. KRISHNAMURTHY J.M. (C) ENGG	Sd/ 2-6-72 N.V. RAO. MANAGER (ENGG)
MUKAND RAM. TRACER	DEEP CHAND D.M. (C) II	G.S. SHARMA D/MAN (C) G-I	B.P. AGGARWAL G.M. CIVIL	D.K. BASU D.M. (ENGG)



DETAILS OF R.C.C. COLUMN FOUNDATIONS IN SOIL OF BEARING CAPACITY 10·93 TONNES/SQ.M., 1 TON/SQ.FT																	
													WHEN M.S. BARS ARE USED		WHEN COLD TWISTED BARS ARE USED		
COLUMN	A	B	C	D	E	F	G	a1	a2	b	b1	b2	REINFORCEMENT PARALLEL TO A	REINFORCEMENT PARALLEL TO B	REINFORCEMENT PARALLEL TO A	REINFORCEMENT PARALLEL TO B	REMARKS
C1	160	100	10	67.5	59	23	46	54	62	38	46	54	12 mm ø BARS @ cm c/c.	12 mm ø BARS @ cm c/c.	12 mm ø BARS @ 20 cm c/c.	12 mm ø BARS @ 20 cm c/c	
C2	170	130	10	67.5	54	34	46	54	62	46	54	62	12 mm ø BARS @ cm c/c.	12 mm ø BARS @ 15 cm c/c.	12 mm ø BARS @ 20 cm c/c	12 mm ø BARS @ 20 cm c/c	
C3	250	120	20	57.5	94	32	46	54	62	40	48	56	12 mm ø BARS @ cm c/c.	12 mm ø BARS @ 14 cm c/c.	12 mm ø BARS @ cm c/c.	12 mm ø BARS @ 18 cm c/c.	C3 ARE TO BE STOPPED AT TIE LEVEL
C4	150	100	10	67.5	48	25	38	46	54	34	42		12 mm ø BARS @ cm c/c.	12 mm ø BARS @ 15 cm c/c.	12 mm ø BARS @ 20 cm c/c	12 mm ø BARS @ 20 cm c/c	C4 ARE TO BE STOPPED AT TIE LEVEL
C5	190	120	10	67.5	64	3	46	34	62	38	46		12 mm ø BARS @ cm c/c.	12 mm ø BARS @ cm c/c.	12 mm ø BARS @ 15 cm c/c	12 mm ø BARS @ 15 cm c/c	

DETAILS OF R.C.C. COLOUMN FOUNDATION ON SOIL OF BEARING CAPACITY 8·20 TONNES/SQ.M (0·75 TON/SQ.FT.)																	
													WHEN M.S. BARS ARE USED		WHEN COLD TWISTED BARS ARE USED		
	A	B	C	D	E	F	a	a1	a2	b	b1	b2	REINFORCEMENT PARALLEL TO A	REINFORCEMENT PARALLEL TO B	REINFORCEMENT PARALLEL TO A	REINFORCEMENT PARALLEL TO B	REMARKS
C1	200	120	10	67.5	69	33	46	54	62	3	46	51	12 mm ø BARS @ 20 cm c/c.	12 mm ø BARS @ 20 cm c/c.	12 mm ø BARS @ 20 cm c/c.	12 mm ø BARS @ 20 cm c/c.	FOOTING USE PREFERABLY M.S. DESIGN FOR FOOTING.
C2	220	140	[illegible]	67.5	79	39	45	54	62	4	64	62	12 mm ø BARS @ 12 cm c/c	12 mm ø BARS @ 12 cm c/c	12 mm ø BARS @ 20 cm c/c.	12 mm ø BARS @ [illegible]	
C3	300	140	20	59.5	119	42	46	54	62	4	48	54	12 mm ø BARS @ 8 cm c/c.	12 mm ø BARS @ 8 cm c/c.	12 mm ø BARS @ 12 cm c/c.	12 mm ø BARS @ [illegible]	C3 ARE TO BE STOPPED AT TIE LEVEL.
C4	230	110	10	67.5	88	38	38	46	54	3	42	54	12 mm ø BARS @ 12 cm c/c.	12 mm ø BARS @ 12 cm c/c.	12 mm ø BARS @ 20 cm c/c.	12 mm ø BARS @ [illegible]	C4 ARE TO BE STOPPED AT TIE LEVEL.
C5	270	130	15	62.5	114	38	46	54	62	3	46	54	12 mm ø BARS @ 7.5 cm c/c	12 mm ø BARS @ 7.5 cm c/c	12 mm ø BARS @ 12 cm c/c.	12 mm ø BARS @ [illegible]	



NOTES:-

1 THIS DRAWING IS TO BE FOLLOWED FOR CONSTRUCTION OF GODOWNS IN ZONE HAVING MAXIMUM WIND PRESSURE OF 150 KG/SQ.M.
2 THIS DRAWING IS TO ADOPTED FOR SOILS HAVING SAFE BEARING OF 10·93 TONNES/SQ.M AND 8·20 TONNES/SQ.M AT A DEPTH OF 1·35 M BELOW G.L.
3 ALL DIMENSIONS ARE IN CENTIMETERS UNLESS OTHERWISE SPECIFIED.
4 ALL R.C.C. WORK WILL BE IN CEMENT CONCRETE 1:2:4 (1 CEMENT PLUS TWO SAND AND [illegible] STONE BALLAST 20 MM NOMINAL SIZE.
5 i) MILD STEEL CONFIRMING TO IS 432-1964 GRADE HAVING HIGH YIELD STRESS 2600 KG/CM² SHALL BE USED. THE LAP LENGTH SHALL BE 59 d WHERE 'd' IS THE DIAMETER OF THE BAR WHERE NO HOOKS ARE USED WITH USE OF STANDARD HOOKS LAP LENGTH SHALL BE 42 d.
ii) COLD TWISTED DEFORMED BARS OF HIGH YIELD STRENGTH CONFIRMING TO IS 1786-1966, AND HAVING YIELD STRESS OF 4250 KG/CM² SHALL BE USED. THE LAP LENGTH WILL BE [illegible] 'd' WHERE 'd' IS THE DIAMETER OF THE BAR WHERE WORKERS ARE USED WITH USE OF STANDARD HOOKS LAP LENGTH SHALL BE 53 d.
iii) CONCENTRATION OF LAPS IN BARS IS TO BE STRICTLY AVOIDED.
6 i) R.C.C. FOOTINGS SHALL HAVE A CLEAN COVER OF FOR BOTTOM REINFORCEMENT NON REINFORCEMENT BARS IN COLUMNS SHALL HAVE A CLEAR COVER OF
ii) CLEAR COVER OF 2.5 CM SHALL BE ADOPTED FOR MAIN STEEL R.C.C. BANDS AND LINTELS
7 REDUCED [illegible] IN THE DRAWING ARE FOR RAIL-FED GODOWNS WHERE AS THE FIGURES SHOWN IN BRACKETS ARE FOR ROAD FED GODOWNS.
8 i) ALL STONE MASONRY WALLS WILL BE IN CEMENT CONCRETE 1:6 (1 CEMENT - 6 COARSE SAND)
ii) IN THE CASE OF ANY STATION WHERE COARSE SAND IS NOT SUFFICIENTLY COARSE OR THERE IS [illegible] THE MORTAR MIX OF THE MASONRY AND PLASTER SHOULD BE PROPERLY CHANGED AND ADOPTED TO SUIT THE MATERIAL AT HAND.
iii) IN BLACK COTTON SOIL AREA THE EXCAVATED SOIL SHOULD NOT BE USED FOR RE-FILLING OF FOUNDATION TRENCHES AND GOOD NON PLASTIC MOORUM [illegible] USED FOR REFILLING TRENCHES IN SUCH AREA A BAND AT 75 CM BELOW P.L. OF GODOWN MAY BE PROVIDED WITH REINFORCEMENT AT 1·5 OF THE R.C.C. AREA AT THE TOP & BOTTOM TOGETHER.
9 THE [illegible] AND SHUTTERING FOR R.C.C. LINTELS AND CHAJJA SHALL NOT BE REMOVED TILL THE SIDE DROP WALLS AND EAST END WALL IN STONE MASONRY RAISED UP TO THE BOTTOM OF VENTILATOR V4 [illegible]
10 VENTILATORS IN GABLE WALL HAVE BEEN OMITTED WHERE VENTILATOR IS TO BE PROVIDED THE BAND MAY BE DESIGNED AS A LINTEL WITH ADEQUATE REINFORCEMENT.
11 THIS DESIGN ASSUMES GROUND LEVEL SAME AS FOR LEVEL AND [illegible] 80 M
[illegible] SITE OR PART OF SITE THE HEIGHT [illegible] PLINTH LEVEL AND EXISTING GROUND LEVEL IS NOT [illegible] THAN HEIGHT OF INDIVIDUAL STEPS IN FOUNDATION MAY BE [illegible] SUITABLY. THE EXTRA [illegible] IS TO BE [illegible] BY INCREASING HEIGHT OF THE FOUNDATION STEPS AND NOT [illegible] THE WALL ABOVE THE LAST STEP. IN CASE OF DOUBT [illegible] MANAGER (ENGG.) F.C.I. H.Q. NEW DELHI.

REVISIONS/ADDITIONS:-

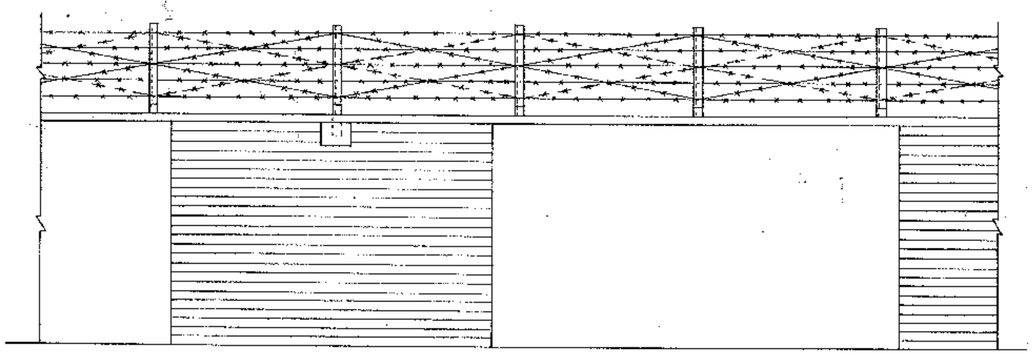
1) THE CONTINUOUS PLATFORMS ARE TO BE PROVIDED [illegible] GODOWN ON BOTH SIDES 3·05 M (10'-0") WIDE FOR RAIL SIDE & 2·43 (8'-0") WIDE FOR ROAD SIDE FOR RAIL-FED GODOWNS & 2·43 (8'-0") WIDE ON BOTH SIDES FOR ROAD-FED GODOWNS.
2) PLATFORMS ARE TO BE COVERED FOR THE PARTS WHERE [illegible] IS 50" OR ABOVE ANNUALLY.
3) ABOVE MENTIONED ADDITIONS ARE INCORPORATED ON THE PLAN ON 14-3-78 ON THE BASIS OF DESIGN TAKEN ON FILE NO: ENGG/CE/25(1-1) SLEEPER.

THE FOOD CORPORATION OF INDIA
(ENGINEERING DIVISION)

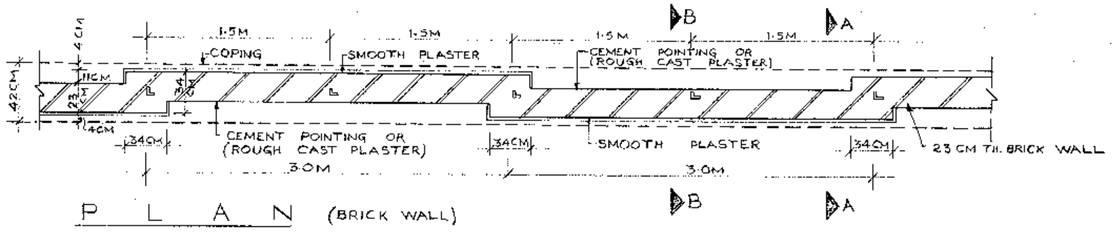
STRUCTURAL DETAILS OF R.C.C. COLUMNS LINTEL BANDS AND STONE MASONRY WALLS (FOUNDATION [illegible] 1·50 Ms) FOR CONSTRUCTION OF FOOD GRAIN GODOWNS (CLEAR SPAN 21·84 M)

TRACED BY - E. P. R. U. K. A. N. T [illegible] 1976

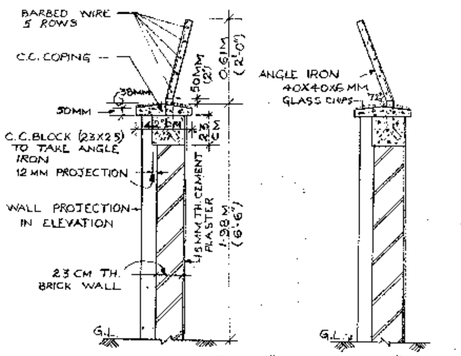
Sd/- VIRENDER KUMAR D.M.(C.E.)	Sd/- R.I. MASIH A.M.(C)	Sd/-	Sd/-	DRG. NO. FCI/FGG/CPVII/2
Sd/- C.M. PRAKASH A.D.(C.)	Sd/- B.C. DHALL	A. MUKHARJEE JT. MANAGER (ENG)	P.S. KRISHNAMURTHY MANAGER (ENGG)	Traced at P.P.S.



ELEVATION



P L A N (BRICK WALL)

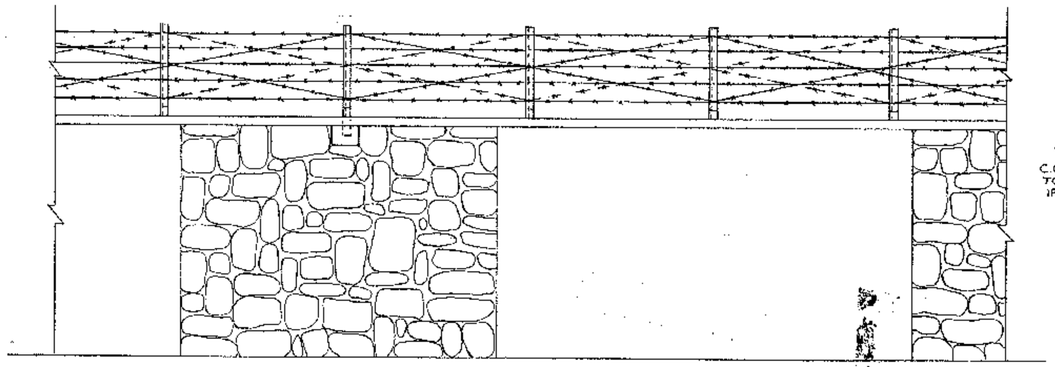


SECTION "A-A"
(FOR BRICK MASONRY WALL)

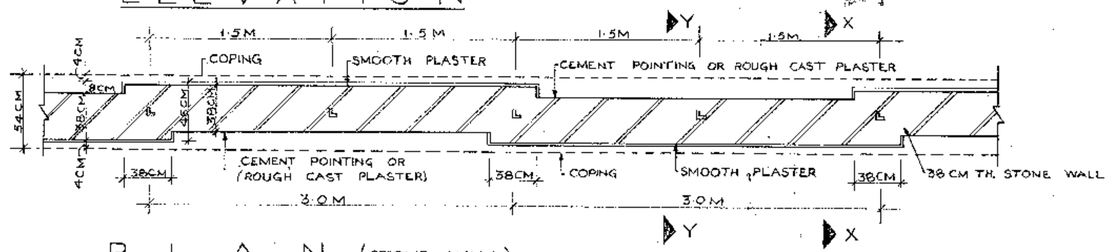
SEC. "B-B"

NOTES :-

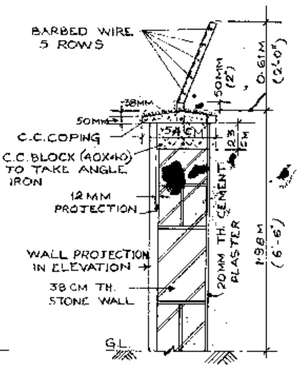
1. THIS DRAWING SUPERSEDES EARLIER DRAWING NO-FCI/TP/31.
2. STONE MASONRY OR BRICK MASONRY WILL BE ADOPTED DEPENDING UPON THE LOCAL AVAILABILITY OF BUILDING MATERIAL.
3. WHERE GOOD QUALITY OF BRICKS ARE NOT AVAILABLE, ROUGH CAST PLASTER MAY BE ADOPTED IN PLACE OF C.M. POINTING.
4. FOR STEEL GATE DETAILS REFER DRAWING NO-FCI/TP/39.
5. ALTERNATIVE ANGLE IRON POSTS ARE BENT TOWARDS OUTSIDE AND INSIDE OF COMPOUND WALL RESPECTIVELY AS SHOWN IN THE DRAWING.
6. THERE SHALL BE TWO ROWS OF BARBED WIRE CONSISTING OF FIVE LINES IN EACH ROW WITH DIAGONALS.
7. IN CASE OF EXPOSED BRICK WORK OR EXPOSED RR MASONRY, THE CEMENT CONCRETE BLOCKS FOR EMBEDDING ANGLE IRON SHALL PROJECT 12 MM FROM THE FACE OF THE WALL. CEMENT CONCRETE BLOCKS SHALL FLUSH WITH WALL PANELS HAVING PLASTER FINISH.



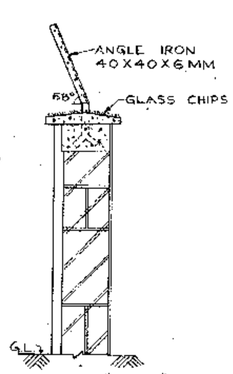
ELEVATION



P L A N (STONE WALL)



SECTION "X-X"
(FOR STONE MASONRY WALL)



SEC. "Y-Y"

TRUE COPY

FOOD CORPORATION OF INDIA
(ENGINEERING DIVISION : HEAD OFFICE)

TYPE PLAN OF COMPOUND WALL FOR FOOD GRAIN GODOWNS (BRICK/ STONE MASONARY)

SCALE :- 1:25

Sd/- 7/11/78 VIRENDER KUMAR D/MAN GR.I	Sd/- 7/11/78 K.G.KRISHNAMURTHY D.M(ENGG.)II	Sd/- 7/11/78 A.MUKHERJEE J.M(ENGG.)	Sd/- 7/11/78 P.S.KRISHNAMURTHY MANAGER(ENGG.)	DRAWING NO. FCI/TP/31/1
Sd/- 7/11/78 OM. PARKASH H.D/MAN				

CHECKED