

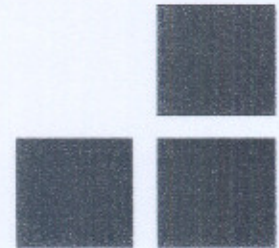
Name of the State ..JAMMU & KASHMIR

Capital City ..SRINAGAR.....

Seismic Zone ..IV..V.....

EMERGENCY OPERATIONS CENTRE
ARCHITECTURAL, STRUCTURAL & COMMUNICATION PLAN

STATE LEVEL EOC



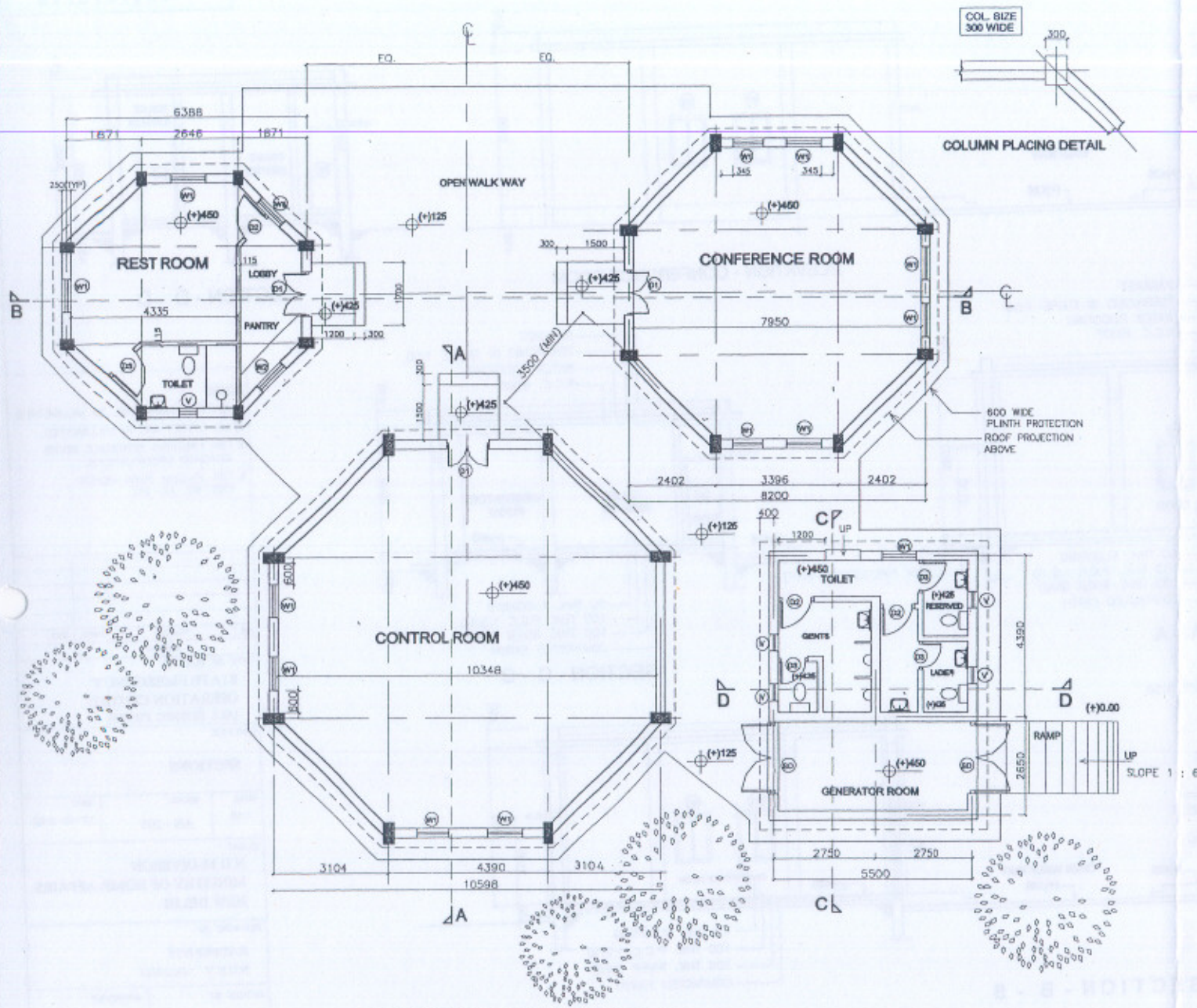
Capital Town/City in Seismic Zone IV

- Part A : Architectural & Structural Drawings, Suggestive Layout of EOC
- Part B : Cost Estimates of Civil Construction Works
- Part C : Equipment Details

Prepared under GoI-UNDP Disaster Risk Management Programme

Part: A
Architectural & Structural Drawings,
Suggestive Layout of EOC

* Part A : Architectural & Structural Drawings, Suggestive layout of EOC
* Part B : Cost Estimate of Civil Construction Work
* Part C : Equipment Details
Prepared under G.Ot-UNEP Director Risk Management Programme



GROUND FLOOR LAYOUT PLAN

THE PLACING OF BLOCKS IS SUGGESTIVE, THE SAME MAY BE MODIFIED TO SUIT SITE.
 LEVEL OF CENTRAL WALKWAY TO BE 125 ABOVE HICHEST G.L. TAKEN AS 0.00

SCHEDULE OF OPENINGS

DOORS

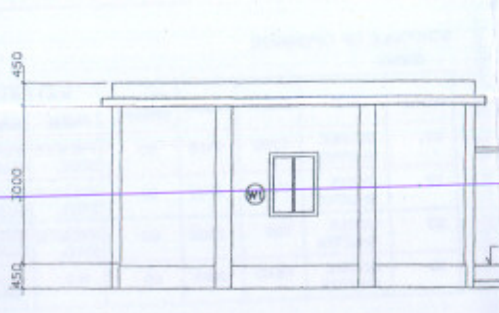
MARKS	TYPE	WIDTH	HEIGHT	CILL HEIGHT	MATERIAL	
					FRAME	SHUTTER
D1	DOUBLE SHUTTER	1200	2100	00	PRESSED STEEL	WOODEN FLUSH
D2	SINGLE SHUTTER	900	2100	00	PRESSED STEEL	WOODEN FLUSH
D3	SINGLE SHUTTER	750	2000	00	PRESSED STEEL	WOODEN FLUSH
S0	DOUBLE SHUTTER	1940	2885	00	M.S	M.S GRILLED

WINDOWS

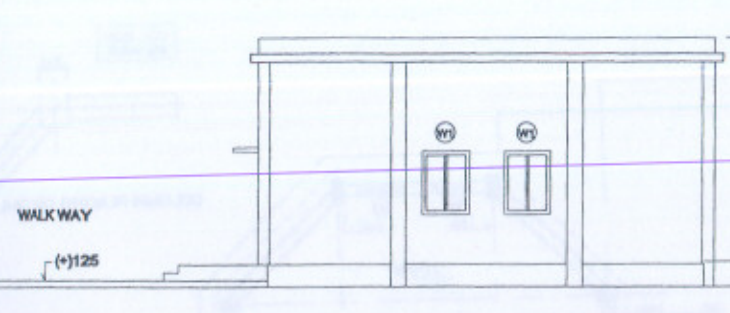
MARKS	TYPE	WIDTH	HEIGHT	CILL HEIGHT	MATERIAL	
					FRAME	SHUTTER
W1	DOUBLE SHUTTER	900	1200	900	M.S. TUBES	WOODEN
W2	DOUBLE SHUTTER	900	900	1200	M.S. TUBES	WOODEN
V	SINGLE SHUTTER TOP HUNG	600	450	1650	M.S. TUBES	WOODEN

- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. ALL LEVELS ARE IN MILLIMETRES
 3. ALL THE ROOMS ARE STRUCTURALLY INDEPENDANT.
 4. CENTRAL WALKS CAN BE COVERED WITH SUITABLE LOCAL MATERIALS.
 5. FOR FINISHING SCHEDULE REFER ATTACHED SPECIFICATIONS
 6. FOR SECTIONS REFER DRG.NO.AS-201
 7. FOR TOILET DETAILS REF.SEP.DRG.

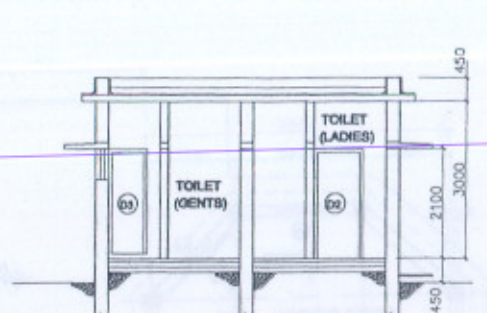
NO.	REVISION	DATE	SIGN.
REVISION			
TYPE OF BUILDING			
STATE EMERGENCY OPERATION CENTRE (ALL SEEMC ZONES)			
DRG.TITLE			
FLOOR PLANS			
SCALE	DRG.NO.	DATE	
1:50	AS - 101	17-12-2003	
CLIENT			
N D M-DIVISION MINISTRY OF HOME AFFAIRS NEW DELHI			
PLANNING BY			
JOYDEEP ROY NUN V ARCHITECT			
DETAILS BY		APPROVED	
<i>R. Gogia</i>		<i>Manga</i> 6.1.04	
R.GOGIA CHIEF CONSULTANT		DR. A.S. ARYA CSA-CVR (MHA-UNOP)	



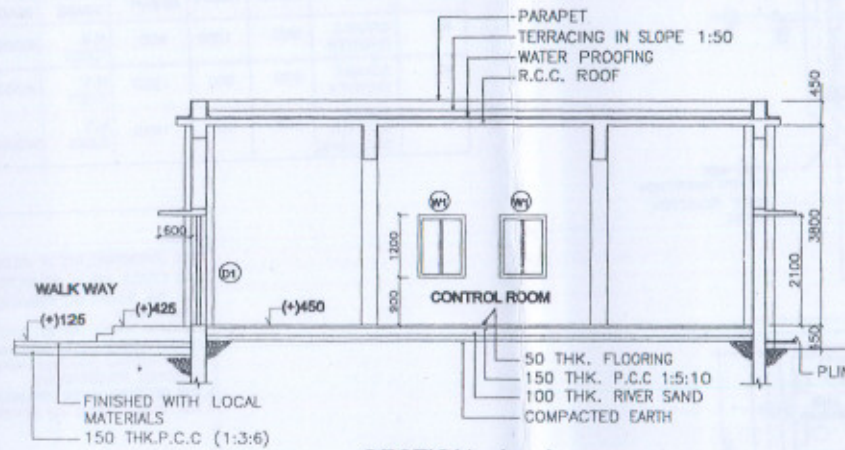
ELEVATION - REST ROOM



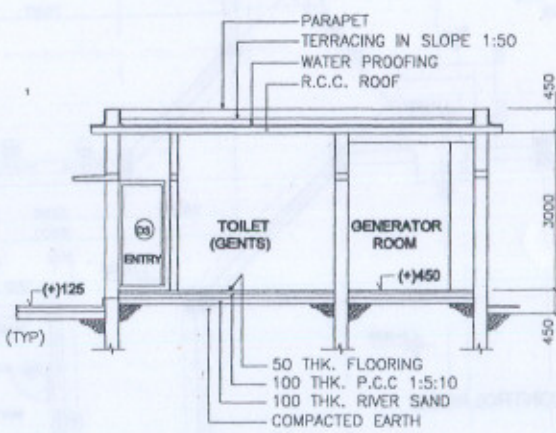
ELEVATION - CONFERENCE ROOM



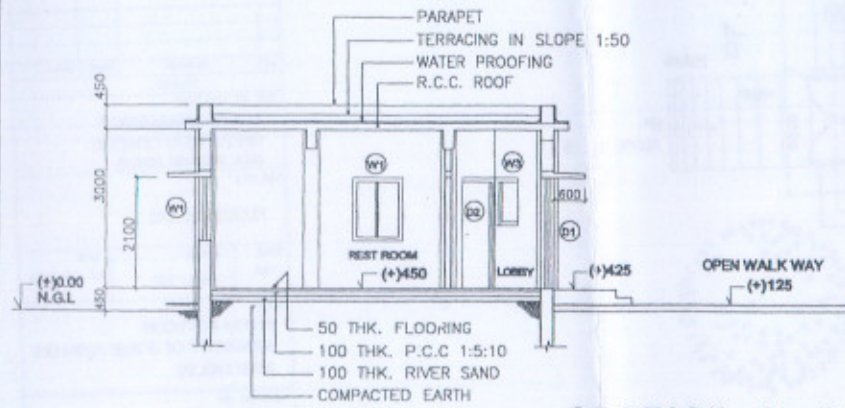
SECTION - D - D



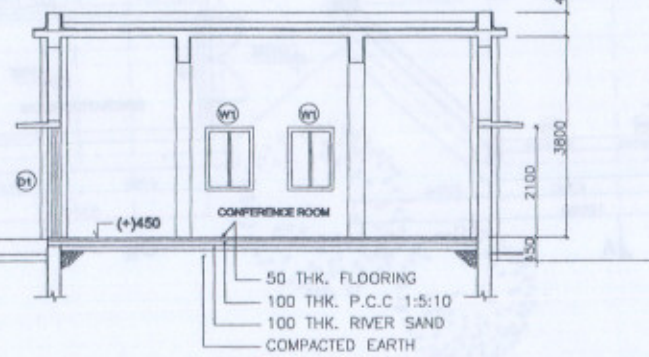
SECTION - A - A



SECTION - C - C



SECTION - B - B



NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL LEVELS ARE IN MILLIMETRES
3. FOR FINISHING SCHEDULE REFER ATTACHED SPECIFICATIONS
4. FOR FLOOR PLAN REFER DRG. NO. AS-101

NO.	REVISION	DATE	SIGN.

TYPE OF BUILDING
**STATE EMERGENCY
 OPERATION CENTRE
 (ALL SEISMIC ZONES)**

DRG. TITLE
SECTIONS

SCALE	DRG. NO.	DATE
1:50	AS - 201	17-12-2003

CLIENT
**N D M-DIVISION
 MINISTRY OF HOME AFFAIRS
 NEW DELHI**

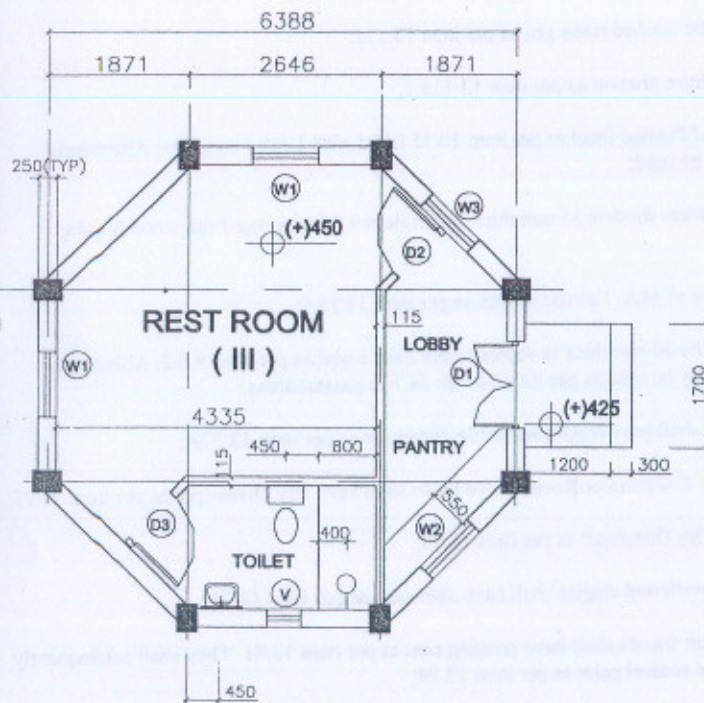
PLANNING BY
**JOYDEEP ROY
 NUNV ARCHITECT**

DETAILS BY	APPROVED
<i>R. Gokha</i>	<i>Dr. A. Arya</i>
R. GOKHA CHIEF CONSULTANT	DR. A. ARYA CBA-EVR (MHA-UNOP)

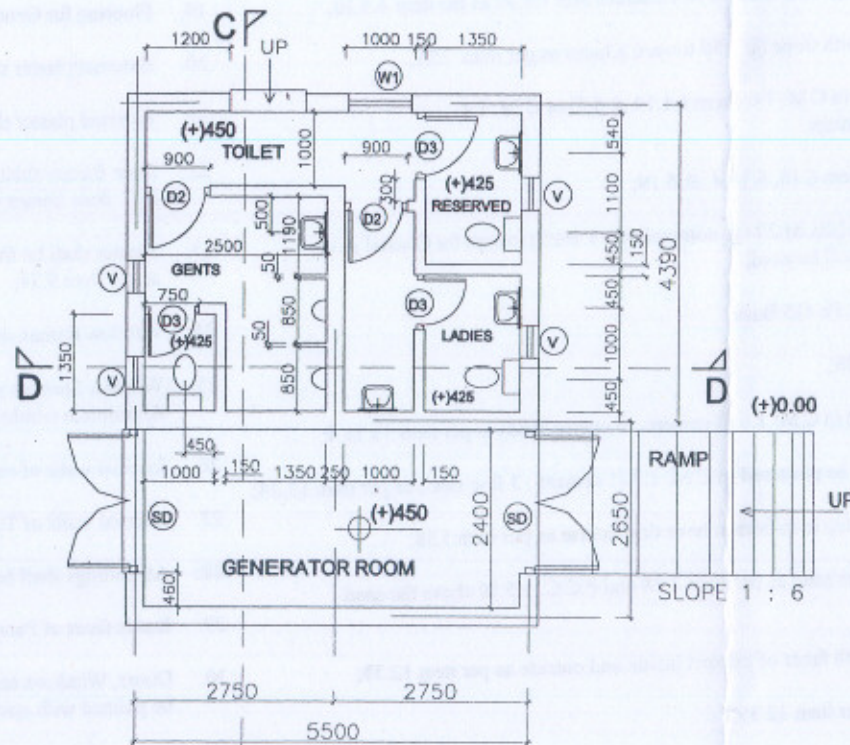
RESTRICTED

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL LEVELS ARE IN MILLIMETRES
3. FOR FINISHING SCHEDULE REFER ATTACHED SPECIFICATIONS
4. FOR SECTIONS REFER DRG.NO.AS-201
5. W.C. SEAT TO BE PLACED SUCH THAT SEAT COVER STAYS UPRIGHT.



REST ROOM PLAN



TOILET PLAN

NO.	REVISION	DATE	SIGN.

TYPE OF BUILDING
**STATE EMERGENCY
 OPERATION CENTRE
 (ALL SEISMIC ZONES)**

DRG. TITLE
**REST ROOM AND
 TOILET DETAILS**

SCALE	DRG. NO.	DATE
1:50	AS - 301	17-12-2003

CLIENT
**N D M-DIVISION
 MINISTRY OF HOME AFFAIRS
 NEW DELHI**

PLANNING BY
**JOYDEEP ROY
 N U N V ARCHITECT**

DETAILS BY	APPROVED
<i>R. Gogia</i>	<i>Manya</i>
R. GOGIA CHIEF CONSULTANT	DR. A.S.ARYA CBA-EVR (MHA-UNDP)

CONSTRUCTION OF STATE LEVEL EMERGENCY OPERATION CENTRE

C.P.W.D. SPECIFICATIONS-LATEST, SHALL BE FOLLOWED

ITEMS SHALL CONFORM TO DELHI SCHEDULE OF RATES (D.S.R.) (SUITABLY MODIFIED AS PER LOCAL S.O.R. RELEVANT TO STATE OF CONSTRUCTION)

A. CIVIL

1. P.C.C. below R.C.C. works shall be in Concrete Mix 1:4:8 as per item 4.5.8;
2. P.C.C. below Masonry works and in plinths shall be in Concrete Mix 1:5:10 as per item 4.5.10;
3. Terracing shall be Brick Bat Coba with slope @ 1:50 toward Khurra as per item 25.8;
4. Single Brick Masonry work shall be in C.M. 1:6 (item 6.1.14 & 6.3) or C.M. 1:4 (item 6.1.12 & 6.3) as noted in Drawings;
5. Half Brick Masonry shall be as per item 6.18, 6.18.4 & 6.19;
6. All R.C.C. work shall be in Concrete Mix M 20 (or nominal mix 1:1½:3) except for Coastal Areas where M25 (or nominal mix 1:1:2) shall be used;
7. All Reinforcement shall TOR STEEL Fe 415 Bars;
8. D.P.C. shall be as per item 4.24 & 4.26;
9. Inside plastering shall be 12 mm thick in C.M. 1:6 (1 cement : 6 coarse sand) as per item 13.11.4;
10. Roof and other R.C.C. members shall be plastered in C.M. 1:3 (1 cement : 3 fine sand) as per item 13.24;
11. All edges of R.C.C. horizontal projecting members to have drip course as per item 5.38;
12. Sub floor shall have 100 mm thick river sand as per item 2.28 and P.C.C. 1:5:10 above the sand layer as per item 4.5.10;
13. Gola on Roofs shall be provided on both faces of parapet inside and outside as per item 12.38;
14. Khurra shall be provided on roofs as per item 12.39;
15. Plinth protection to be as per item 16.1;
16. Flooring for all rooms and toilets shall be in Ceramic Tiles as per item 11.74. Alternately, mosaic tiles as per item 11.29A may be used;
17. Skirting shall be 100 high as per item 11.73. Alternately, mosaic tiles as per item 11.31 may be used;
18. Dado in toilets shall be 2100 high as per item 11.73. Dado in generator room shall be 1500 high;
19. Flooring for Generator Room shall be C.C. floor as per item 11.4.3;
20. External plaster shall be washed stone grit as per item 13.112;
21. External plaster shall have grooves as per item 13.113.1;
22. Door frames shall be of Pressed Steel as per item 10.15 filled with 1:1.5:3 concrete. Alternately R.C. door frames may be used;
23. Shutter shall be flush doors shutters 35 mm thick as per item 9.25.2 having Teak wood lipping as per item 9.34;
24. Window frames shall be of M.S. Tubular frames as per item 10.15A;
25. Window Shutters shall be 30 mm thick in second class Teak wood as per item 9.6.3. Alternately Aluminium windows may be used as per item 24.1 & 24.3 in coastal areas;
26. Internal walls of rooms shall have acrylic washable distemper as per item 13.77A;
27. Internal walls of Toilets & Generator Room above Dado shall have Dry Distemper as per item 13.75;
28. All ceilings shall have Dry Distemper as per item 13.75;
29. Inside faces of Parapet walls and chajjas shall have snowcem as per item 13.79;
30. Doors, Windows and their frames shall have priming coat as per item 13.81. They shall subsequently be painted with synthetic enamel paint as per item 13.94;
31. ISI mark fittings and fixtures of first quality shall be provided and fixed to Doors & windows as required.
32. Open areas e.g. walkway and entrances to be finished with local paving stones.

Banga
6.1.04

RESTRICTED

GENERAL NOTES

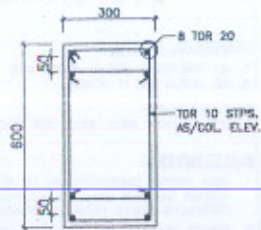
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL LEVELS ARE IN METRES.

REFERENCES

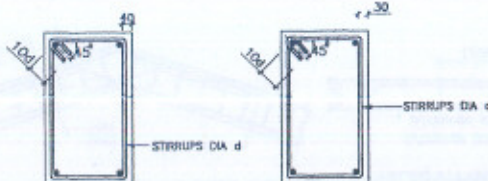
1. REF. RELEVANT ARCH. DRGS. FOR CONTROL ROOM
2. FOUNDATIONS DESIGNED FOR S.B.C. (NETT.) OF 11T/SGM. AT A DEPTH OF 1.50 M.B. HAVING WATER TABLE OVER 8.00 M. BELOW N.G.L. IN THE EVENT THAT THIS CAPACITY IS NOT AVAILABLE THE ENGINEER-IN-CHARGE WILL MODIFY FOUNDATIONS ACCORDINGLY.

R.C.C. NOTES

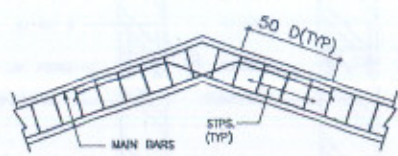
1. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS SCALED FROM THE DRAWING.
2. CEMENT CONCRETE MIX SHALL BE CONCRETE MIX M - 20 UNLESS NOTED.
3. REINFORCEMENT SHALL CONFORM TO I.S. 1786-LATEST AND SHALL HAVE CONCRETE COVER (EXCLUSIVE OF PLASTER OR OTHER DECORATIVE FINISH) AS FOLLOWS:
 - a) FOOTINGS = 50 MM. b) COLUMNS = 40 MM.
 - c) BEAMS = 30 MM
4. LAP/DEVELOPMENT LENGTH (L_d) FOR MAIN REIN. BARS SHALL BE AS FOLLOWS:
 - a) FOR CONCRETE MIX M - 20 = 50 D WHERE (D=DIAM FOR BAR)
5.
 - i) LAPS SHALL BE STAGGERED AND THE C/C DISTANCE BETWEEN LAPS SHALL NOT BE LESS THAN $1.3 \times L_d$ WHERE (L_d = DEVELOPMENT LENGTH)
 - ii) LAPS SHALL NOT BE PROVIDED :
 - a) AT SUPPORTS
 - b) WITHIN 2d FROM JOINT FACE WHERE d = DEPTH OF MEMBER
 - c) WITHIN END QUARTERS OF SPAN OF MEMBER
 - iii) NOT MORE THAN 50% OF THE BARS SHALL BE SPLICED AT ONE SECTION



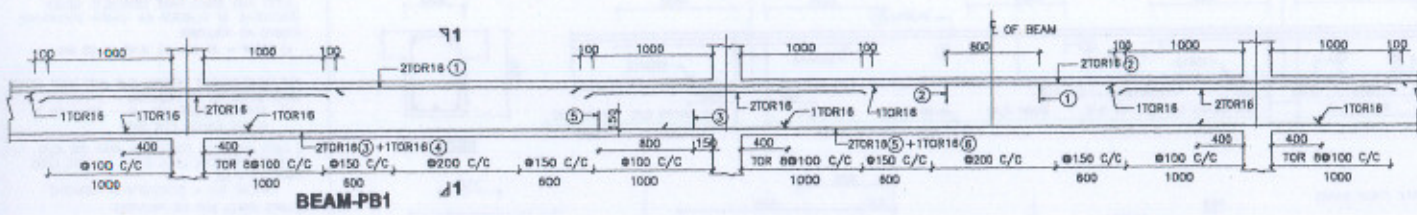
COLUMN - C1



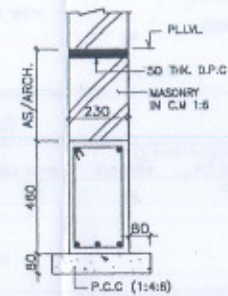
STIRRUP DETAILS



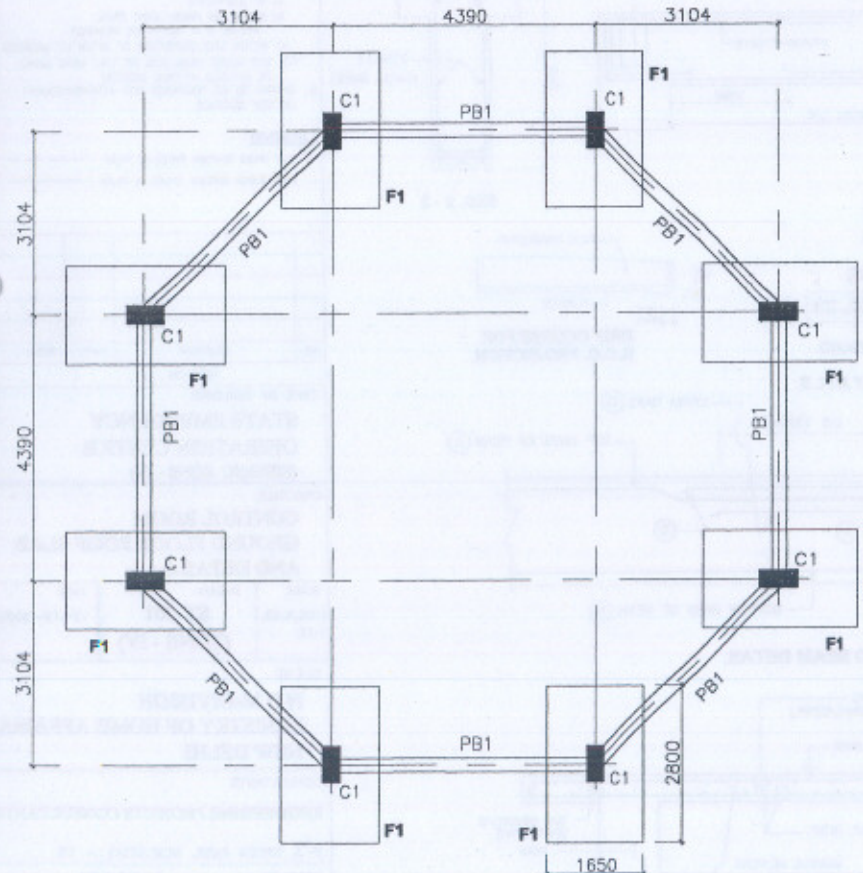
TYP. REINF. DET. OF BEAM (IN PLAN)



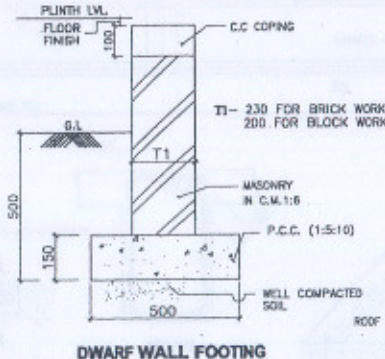
BEAM-PB1



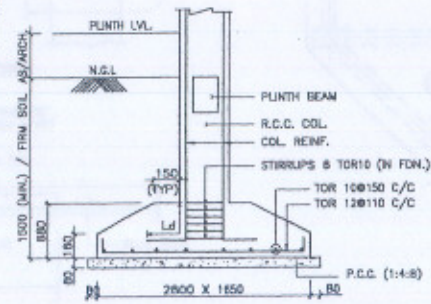
SECTION 1-1



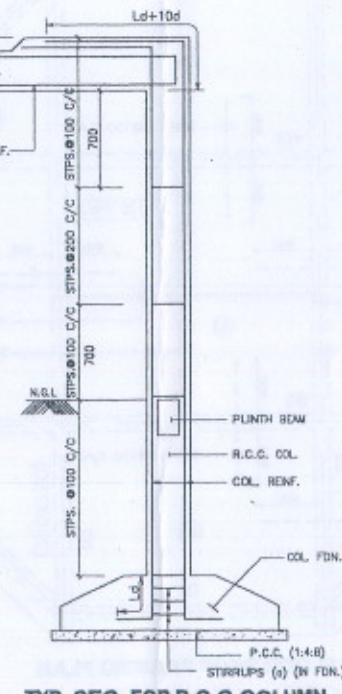
FOUNDATION PLAN



DWARF WALL FOOTING



TYP. SEC. FOR COLUMN FOOTING F1



TYP. SEC. FOR R.C.C COLUMN

NO.	REVISION	DATE	SIGN.
REVISION			

TYPE OF BUILDING
**STATE EMERGENCY
 OPERATION CENTRE
 (SEISMIC ZONE - IV)**

DRG. TITLE
**CONTROL ROOM
 FOUNDATION PLAN & DETAILS**

SCALE	DRG. NO.	DATE
1:50, 1:25, 1:10	ST-101 (ZONE - IV)	17-12-2003

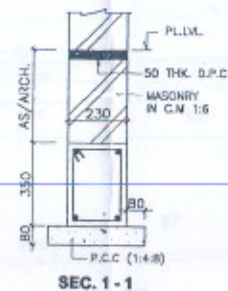
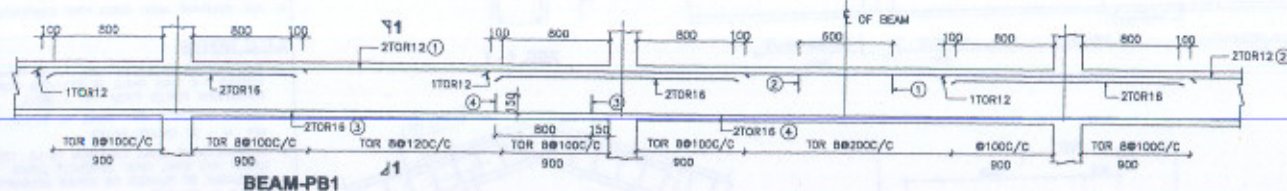
CLIENT
**N D M-DIVISION
 MINISTRY OF HOME AFFAIRS
 NEW DELHI**

CONSULTANTS
ENGINEERING PROJECTS CONSULTANTS
 Y-3, GREEN PARK, NEW DELHI - 16

CHECKED
R. Gogia
R. GOGIA
 CHIEF CONSULTANT

APPROVED
A. S. Arya
DR. A.S. ARYA
 CBA-EVR
 (MHA-LINDP)

RESTRICTED



SEC. 1-1

GENERAL NOTES

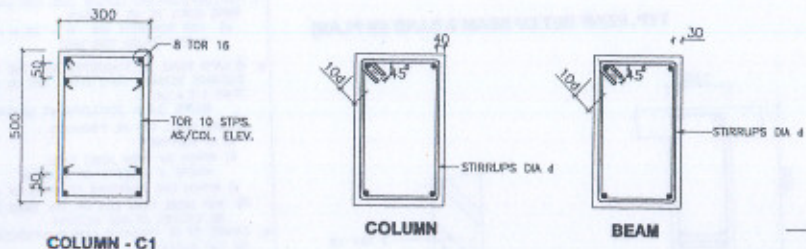
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2. ALL LEVELS ARE IN METRES.

REFERENCES

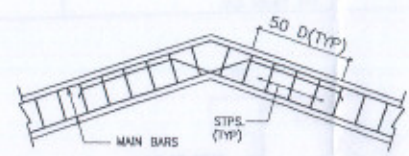
1. REF. RELEVANT ARCH. DRGS. FOR CONFERENCE HALL
2. FOUNDATIONS DESIGNED FOR S.B.C. (NETT.) OF 11T/SQ.M. AT A DEPTH OF 1.20 M. & HAVING WATER TABLE OVER 8.00 M. BELOW N.G.L. IN THE EVENT THAT THIS CAPACITY IS NOT AVAILABLE THE ENGINEER-IN-CHARGE WILL MODIFY FOUNDATIONS ACCORDINGLY

R.C.C. NOTES

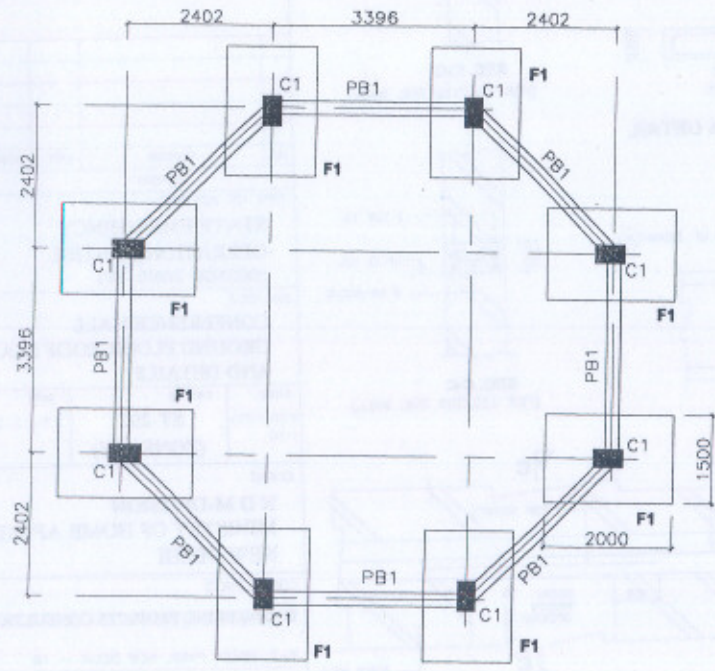
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2. CEMENT CONCRETE MIX SHALL BE CONCRETE MIX M - 20 UNLESS NOTED.
3. REINFORCEMENT SHALL CONFORM TO I.S. 1786-LATEST AND SHALL HAVE CONCRETE COVER (EXCLUSIVE OF PLASTER OR OTHER DECORATIVE FINISH) AS FOLLOWS:
 - a) FOOTINGS = 50 MM, b) COLUMNS = 40 MM, c) BEAMS = 30 MM
4. LAP/DEVELOPMENT LENGTH (Ld) FOR MAIN REINF. BARS SHALL BE AS FOLLOWS:
 - a) FOR CONCRETE MIX M - 20 = 50 D WHERE (D=DIAM FOR BAR)
5. i) LAPS SHALL BE STAGGERED AND THE C/C DISTANCE BETWEEN LAPS SHALL NOT BE LESS THAN 1.3 x Ld WHERE (Ld = DEVELOPMENT LENGTH)
- ii) LAPS SHALL NOT BE PROVIDED:
 - a) AT SUPPORTS
 - b) WITHIN 2d FROM JOINT FACE WHERE d = DEPTH OF MEMBER
 - c) WITHIN END QUARTERS OF SPAN OF MEMBER
- 6) NOT MORE THAN 50% OF THE BARS SHALL BE SPLICED AT ONE SECTION



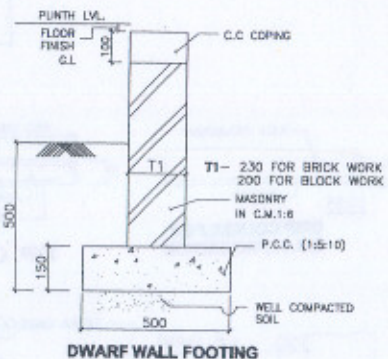
STIRRUP DETAILS



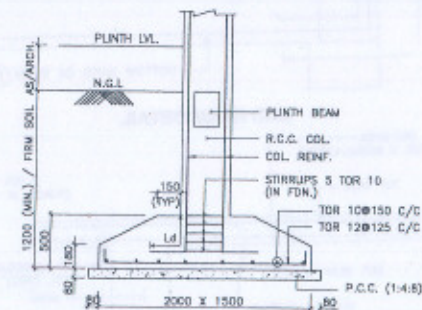
TYP. REINF DET. OF BEAM (IN PLAN)



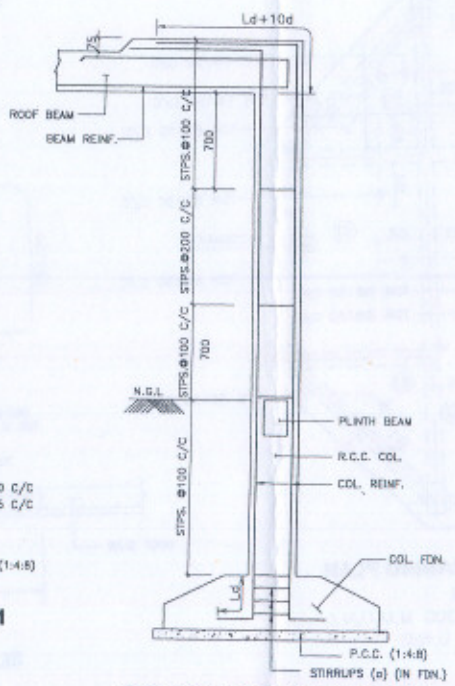
FOUNDATION PLAN



DWARF WALL FOOTING



TYP. SEC. FOR COLUMN FOOTING F1



TYP. SEC. FOR R.C.C COLUMN

NO.	REVISION	DATE	SIGN.

TYPE OF BUILDING
STATE EMERGENCY OPERATION CENTRE (SEISMIC ZONE - IV)

DRG. TITLE
CONFERENCE HALL FOUNDATION PLAN & DETAILS

SCALE	DRG. NO.	DATE
1:50, 1:25, 1:10	ST-102 (ZONE - IV)	17-12-2003

CLIENT
N D M-DIVISION MINISTRY OF HOME AFFAIRS NEW DELHI

CONSULTANTS
ENGINEERING PROJECTS CONSULTANTS
 Y-3, GREEN PARK, NEW DELHI - 18

CHECKED
R.Goglia
R.GOGLIA
 CHIEF CONSULTANT

APPROVED
M.Arya
DR. AS.ARYA
 CBA-EVR
 (MHA-UNDE)

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL LEVELS ARE IN METRES.

REFERENCES

1. REF. RELEVANT ARCH. DRGS. FOR CONFERENCE HALL

R.C.C. NOTES

1. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS SCALED FROM THE DRAWING.
2. CEMENT-CONCRETE MIX - SHALL BE CONCRETE MIX M - 20 UNLESS NOTED.
3. REINFORCEMENT SHALL CONFORM TO I.S. 1786-LATEST AND SHALL HAVE CONCRETE COVER (EXCLUSIVE OF PLASTER OR OTHER DECORATIVE FINISH) AS FOLLOWS:
 - a) BEAM = 30 MM, b) SLAB = 25 MM
4. LAP/DEVELOPMENT LENGTH (L_d) FOR MAIN REINF. BARS SHALL BE AS FOLLOWS:
 - a) FOR CONCRETE MIX M - 20 = $50 D$ WHERE (D = DIA FOR BAR)
5. i) LAPS SHALL BE STAGGERED AND THE C/C DISTANCE BETWEEN LAPS SHALL NOT BE LESS THAN $1.3 \times L_d$ WHERE (L_d = DEVELOPMENT LENGTH)
 - ii) LAPS SHALL NOT BE PROVIDED:
 - a) AT SUPPORTS
 - b) WITHIN $2d$ FROM JOINT FACE WHERE d = DEPTH OF MEMBER
 - c) WITHIN END QUARTERS OF SPAN OF MEMBER
 - iii) NOT MORE THAN 50% OF THE BARS SHALL BE SPICED AT ONE SECTION
6. CHAIRS TO BE PROVIDED FOR REINFORCEMENT ON TOP SURFACE

LEGEND

TOP BARS SHOWN THUS IN PLAN - - - - -
 BOT. BARS SHOWN THUS IN PLAN - - - - -

NO.	REVISION	DATE	SIGN.
REVISION			

TYPE OF BUILDING
**STATE EMERGENCY
 OPERATION CENTRE
 (SEISMIC ZONE - IV)**

DRG. TITLE
**CONFERENCE HALL
 GROUND FLOOR ROOF SLAB
 AND DETAILS**

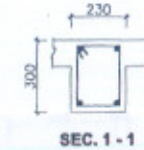
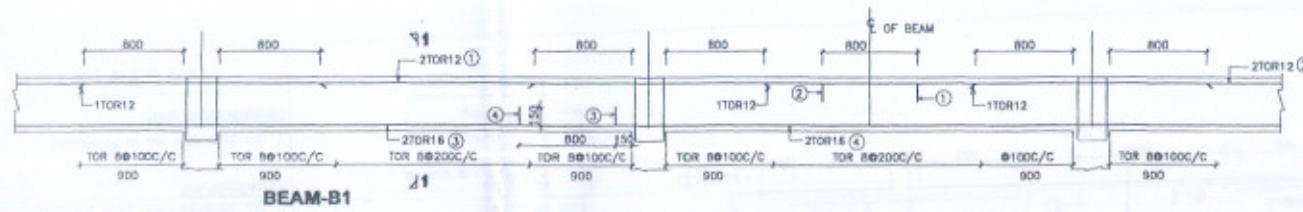
SCALE	DRG. NO.	DATE
1:50, 1:25, 1:10	ST-202 (ZONE - IV)	17-12-2003

CLIENT
**N D M-DIVISION
 MINISTRY OF HOME AFFAIRS
 NEW DELHI**

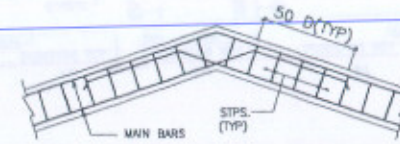
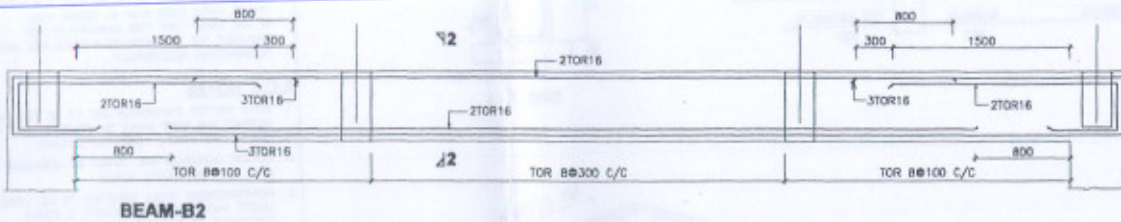
CONSULTANTS
ENGINEERING PROJECTS CONSULTANTS

Y-3, GREEN PARK, NEW DELHI - 16

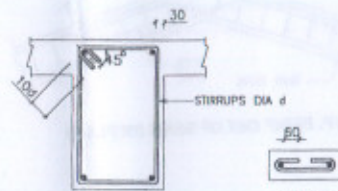
CHECKED <i>R.Gogia</i> R.GOGIA CHIEF CONSULTANT	APPROVED <i>DR. A.SARYA</i> DR. A.SARYA CBA-EVR (MHA-UNDP)
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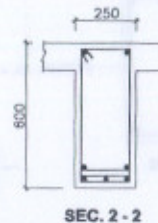
SEC. 1-1



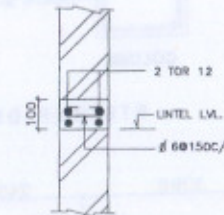
TYP. REINF DET. OF BEAM & BAND (IN PLAN)



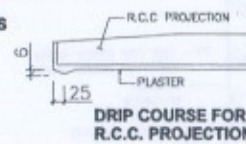
BEAM STIRRUP DETAILS



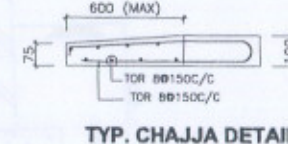
SEC. 2-2



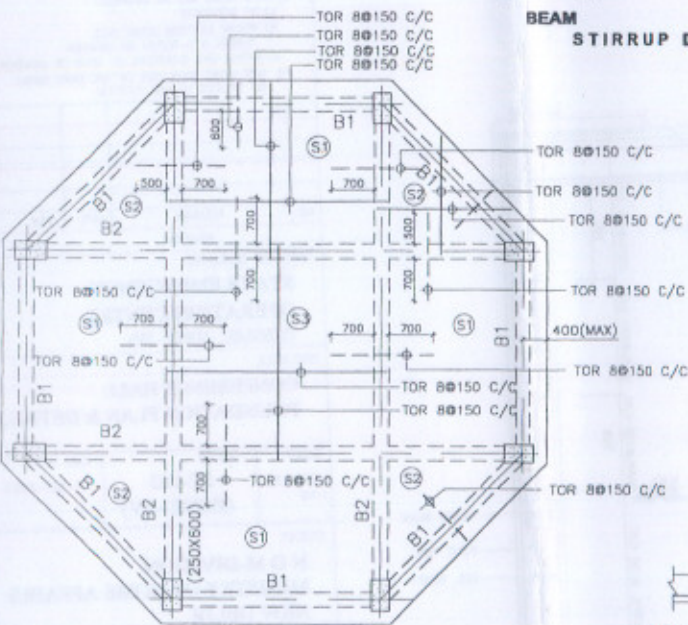
SEC. C-C
(FOR 115/100 THK. WALL)



DRIP COURSE FOR R.C.C. PROJECTION

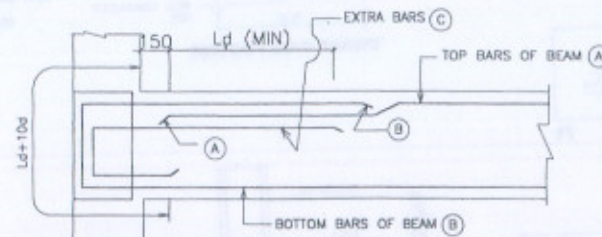


TYP. CHAJJA DETAIL

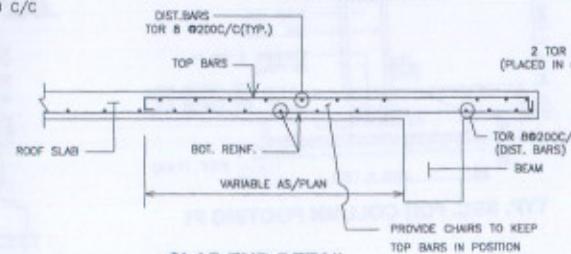


GROUND FLOOR ROOF FRAMING PLAN

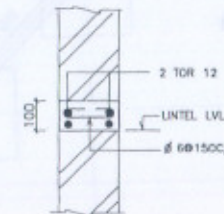
SLAB THICKNESS = 115 M.M
 ALL BEAM SIZE ARE 230 X 300 M.M.U.N.O
 DIST. STEEL TOR 8@200 C/C U.N.O



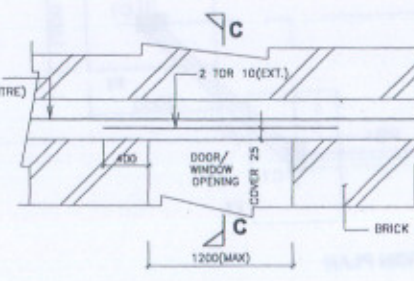
END BEAM DETAIL



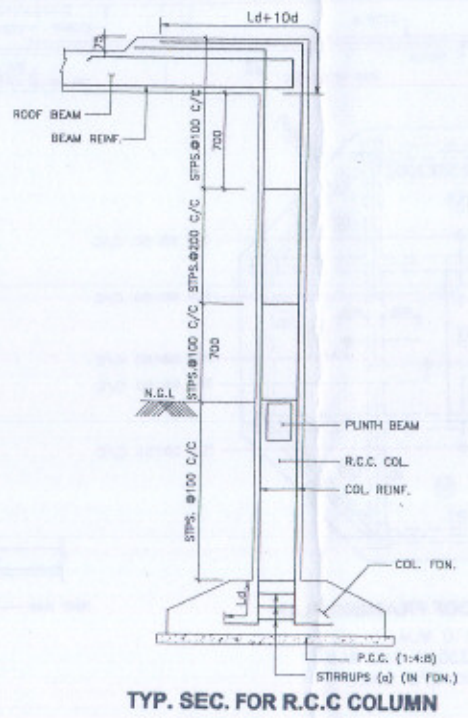
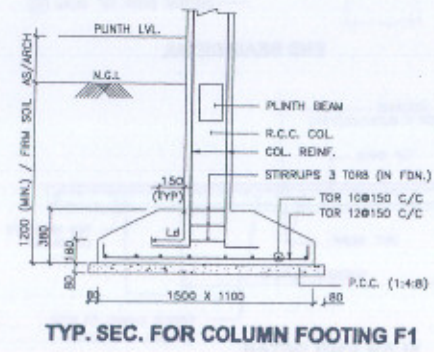
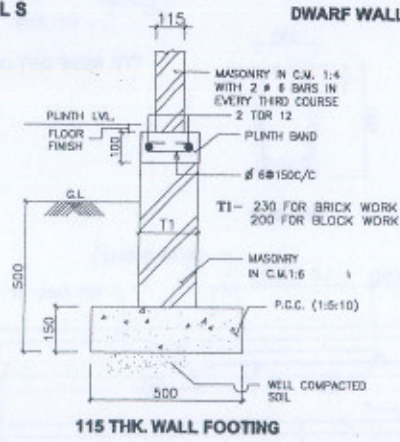
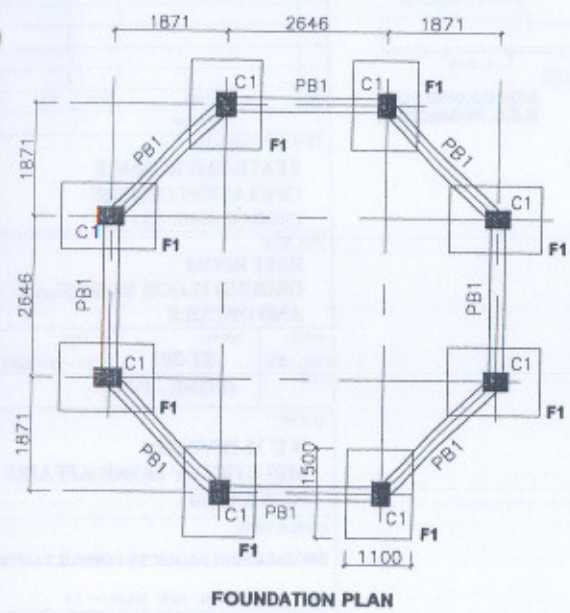
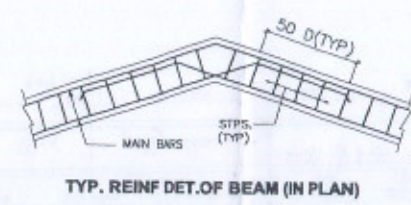
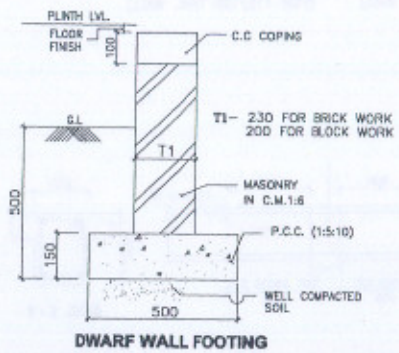
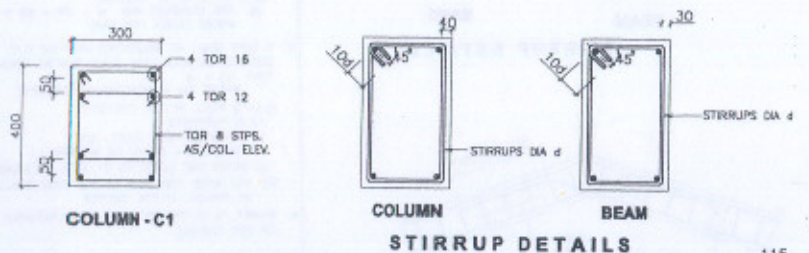
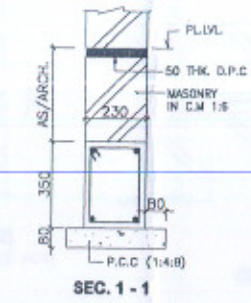
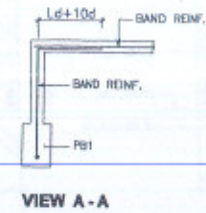
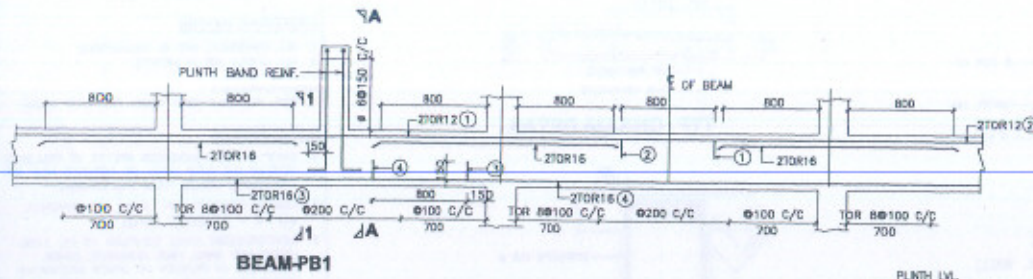
SLAB END DETAIL



SEC. C-C
(FOR 230/200 THK. WALL)



TYP. LINTEL BAND



- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. ALL LEVELS ARE IN METRES.
- REFERENCES**
1. REF. RELEVANT ARCH. DRGS. FOR REST ROOM
 2. FOUNDATIONS DESIGNED FOR S.B.C. (NETT.) OF 11T/50M. AT A DEPTH OF 1.20 M. & HAVING WATER TABLE OVER 5.00 M. BELOW N.G.L. IN THE EVENT THAT THIS CAPACITY IS NOT AVAILABLE THE ENGINEER-IN-CHARGE WILL MODIFY FOUNDATIONS ACCORDINGLY

- R.C.C. NOTES**
1. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS SCALED FROM THE DRAWING.
 2. CEMENT CONCRETE MIX SHALL BE CONCRETE MIX M - 20 UNLESS NOTED.
 3. REINFORCEMENT SHALL CONFORM TO I.S. 1786 - LATEST AND SHALL HAVE CONCRETE COVER (EXCLUSIVE OF PLASTER OR OTHER DECORATIVE FINISH) AS FOLLOWS:
 - a) FOOTINGS = 50 MM, b) COLUMNS = 40 MM, c) BEAMS = 30 MM
 4. LAP/DEVELOPMENT LENGTH (Ld) FOR MAIN REINF. BARS SHALL BE AS FOLLOWS:
 - a) FOR CONCRETE MIX M - 20 = 50 D WHERE (D=DIAM FOR BAR)
 5. LAPS SHALL BE STAGGERED AND THE C/C DISTANCE BETWEEN LAPS SHALL NOT BE LESS THAN 1.3 X Ld WHERE (Ld = DEVELOPMENT LENGTH)
 - a) LAPS SHALL NOT BE PROVIDED:
 - i) AT SUPPORTS
 - ii) WITHIN 3d FROM JOINT FACE WHERE d = DEPTH OF MEMBER
 - iii) WITHIN END QUARTERS OF SPAN OF MEMBER
 - ii) NOT MORE THAN 50% OF THE BARS SHALL BE SPLICED AT ONE SECTION

NO.	REVISION	DATE	SIGN.

TYPE OF BUILDING
STATE EMERGENCY OPERATION CENTRE (SEISMIC ZONE - IV)

ORG. TITLE
REST ROOM FOUNDATION PLAN & DETAILS

SCALE	DRG. NO.	DATE
1:50, 1:25, 1:10	ST-103 (ZONE - IV)	17-12-2003

CLIENT
N D M-DIVISION MINISTRY OF HOME AFFAIRS NEW DELHI

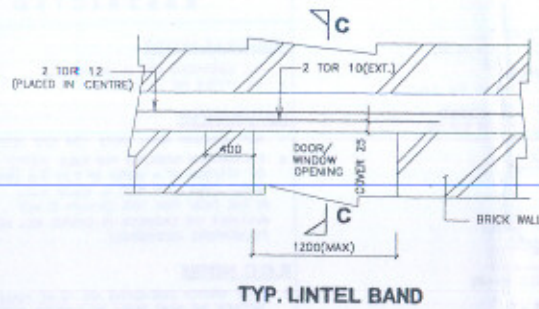
CONSULTANTS
ENGINEERING PROJECTS CONSULTANTS

Y-3, GREEN PARK, NEW DELHI - 16

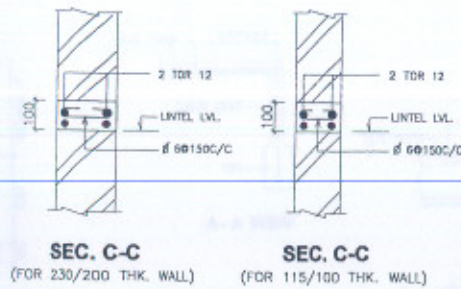
CHECKED
 R. GOGIA
 CHIEF CONSULTANT

APPROVED
 DR. A.S. ARYA
 CBA-EVR (MHA-UNDP)

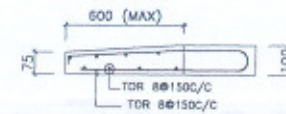
RESTRICTED



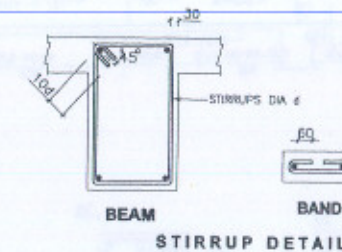
TYP. LINTEL BAND



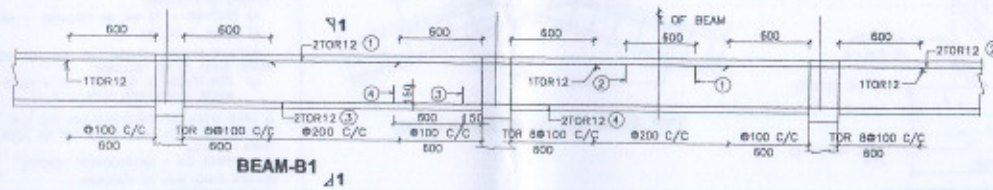
SEC. C-C (FOR 230/200 THK. WALL) SEC. C-C (FOR 115/100 THK. WALL)



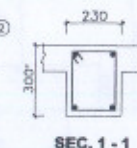
TYP. CHAJJA DETAIL



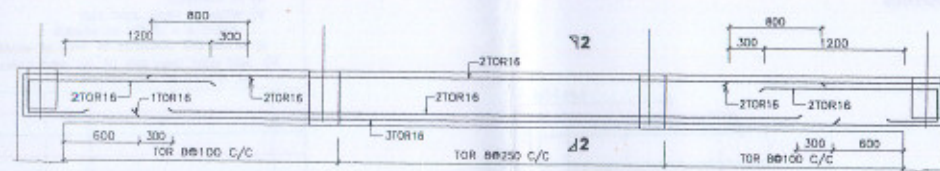
BEAM STIRRUP DETAILS



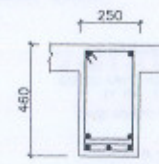
BEAM-B1



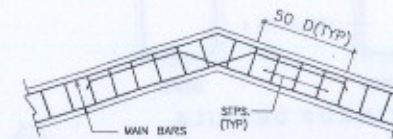
SEC. 1-1



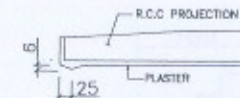
BEAM-B2



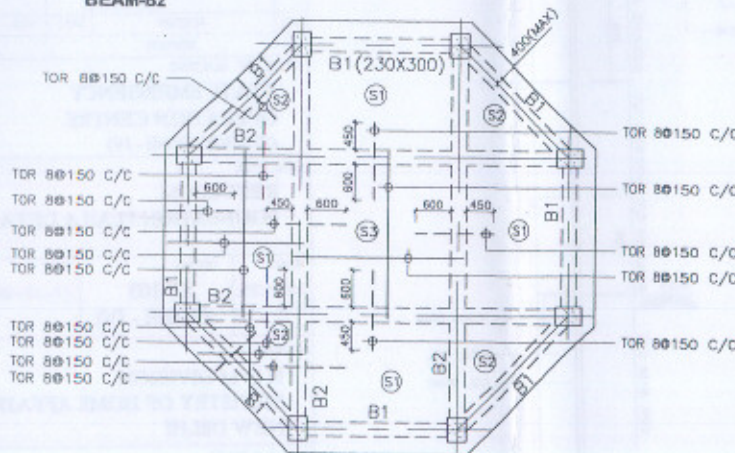
SEC. 2-2



TYP. REINF DET. OF BEAM & BAND (IN PLAN)

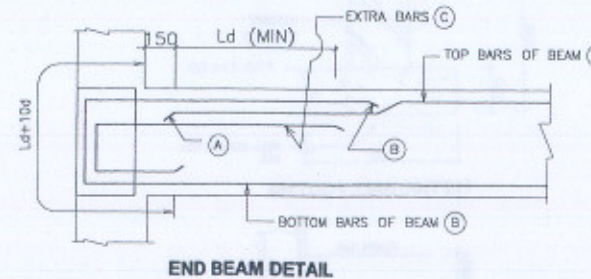


DRIP COURSE FOR R.C.C. PROJECTION

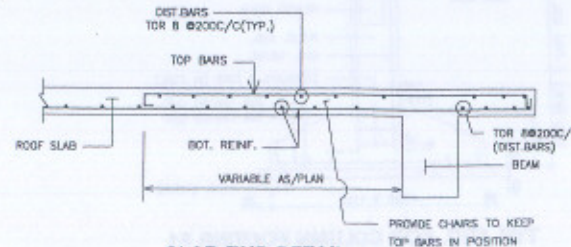


GROUND FLOOR ROOF FRAMING PLAN

SLAB THICKNESS = 110 M.M
ALL BEAM SIZE ARE 250 X 300 M.M
DIST. STEEL TOR 8@200 C/C U.N.O



END BEAM DETAIL



SLAB END DETAIL

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL LEVELS ARE IN METRES.

REFERENCES

1. REF. RELEVANT ARCH. DRGS. FOR REST ROOM

R.C.C. NOTES

1. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS SCALED FROM THE DRAWING.
2. CEMENT CONCRETE MIX SHALL BE CONCRETE MIX M - 20 UNLESS NOTED.
3. REINFORCEMENT SHALL CONFORM TO I.S. 1786-LATEST AND SHALL HAVE CONCRETE COVER (EXCLUSIVE OF PLASTER OR OTHER DECORATIVE FINISH) AS FOLLOWS:
a) BEAM = 30 MM, b) SLAB = 25 MM
4. LAP/DEVELOPMENT LENGTH (Ld) FOR MAIN REINF. BARS SHALL BE AS FOLLOWS:
a) FOR CONCRETE MIX M - 20 = 50 D WHERE (D=DIAM FOR BAR)
5. i) LAPS SHALL BE STAGGERED AND THE C/C DISTANCE BETWEEN LAPS SHALL NOT BE LESS THAN 1.3 x Ld WHERE (Ld = DEVELOPMENT LENGTH)
ii) LAPS SHALL NOT BE PROVIDED:
a) AT SUPPORTS
b) WITHIN 2d FROM JOINT FACE WHERE d = DEPTH OF MEMBER
c) WITHIN END QUARTERS OF SPAN OF MEMBER
iii) NOT MORE THAN ONE SIDE OF THE BARS SHALL BE SPICED AT ONE SECTION
6. CHAIRS TO BE PROVIDED FOR REINFORCEMENT ON TOP SURFACE

LEGEND

- TOP BARS SHOWN THUS IN PLAN
- ROT. BARS SHOWN THUS IN PLAN

NO.	REVISION	DATE	SIGN.
	REVISION		

TYPE OF BUILDING
STATE EMERGENCY OPERATION CENTRE (SEISMIC ZONE - IV)

DRG. TITLE
REST ROOM GROUND FLOOR ROOF SLAB AND DETAILS

SCALE	DRG. NO.	DATE
1:50, 1:25, 1:10	ST-203 (ZONE - IV)	17-12-2003

CLIENT
N D M-DIVISION MINISTRY OF HOME AFFAIRS NEW DELHI

CONSULTANTS
ENGINEERING PROJECTS CONSULTANTS

Y-3, GREEN PARK, NEW DELHI - 16

CHECKED <i>R. Gogia</i> R. GOGIA CHIEF CONSULTANT	APPROVED <i>R. Gogia</i> DR. A.S. ARYA CBA-EVR (MHA-UNDP)
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RESTRICTED

GENERAL NOTES

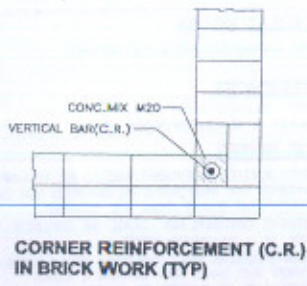
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL LEVELS ARE IN METRES.

REFERENCES

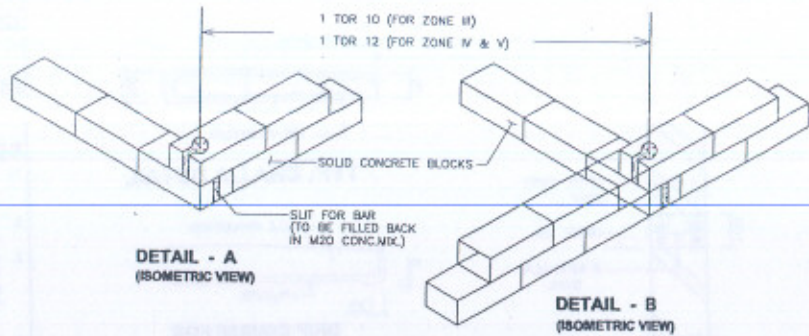
1. REF. RELEVANT ARCH. DRGS. FOR TOILET & GENERATOR BLOCK
2. S.B.C. (NETT) OF SOL. HAS BEEN TAKEN AS 87/50M.(NETT) AT A DEPTH OF 800 MM FROM N.G.L. IN THE EVENT THAT THIS CAPACITY IS NOT AVAILABLE THE ENGINEER-IN-CHARGE WILL MODIFY FOUNDATIONS ACCORDINGLY

R.C.C. NOTES

1. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS SCALED FROM THE DRAWING.
2. CEMENT CONCRETE MIX SHALL BE CONCRETE MIX M - 20 UNLESS NOTED.
3. REINFORCEMENT SHALL CONFORM TO I.S. 1786-LATEST AND SHALL HAVE CONCRETE COVER (EXCLUSIVE OF PLASTER OR OTHER DECORATIVE FINISH) AS FOLLOWS:
 - a) BEAM - 30 MM, b) SLAB - 25 MM
4. LAP/DEVELOPMENT LENGTH (Ld) FOR MAIN REINF. BARS SHALL BE AS FOLLOWS:
 - a) FOR CONCRETE MIX M - 20 = 50 D WHERE (D=Ø-DIA FOR BAR)
5. R.C.C. JAMBS TO BE CAST WITH TIGHTENING IN WALLS
6. C.C. BLOCKS USED FOR MASONRY TO HAVE MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 50KG/SQ.CM.
7. BRICKS TO HAVE MIN. CRUSHING STRENGTH OF 50KG/SQ.CM.



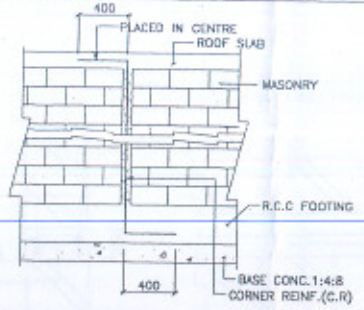
CORNER REINFORCEMENT (C.R.) IN BRICK WORK (TYP)



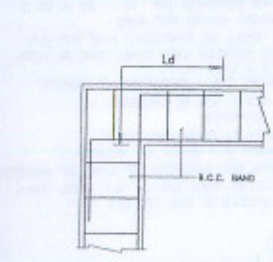
DETAIL - A (ISOMETRIC VIEW)

DETAIL - B (ISOMETRIC VIEW)

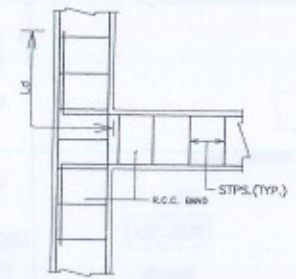
VIEW FOR VERTICAL BAR (C.R.) IN BLOCK WORK



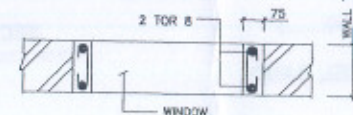
EXTENDED ELEVATION OF CORNER AND WALL INTERSECTION REINF. PLACING



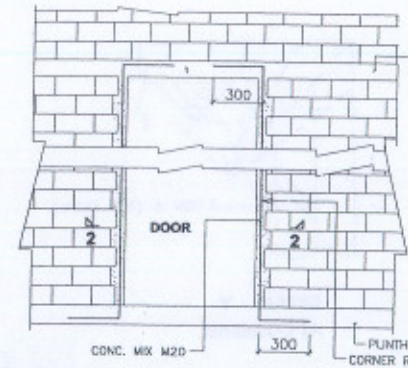
DETAIL OF BAND AT ENDS



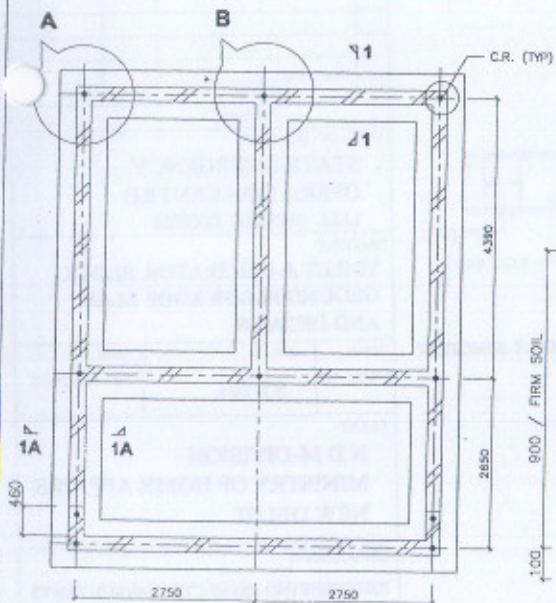
DETAIL OF BAND AT JUNCTION



SECTION 2-2

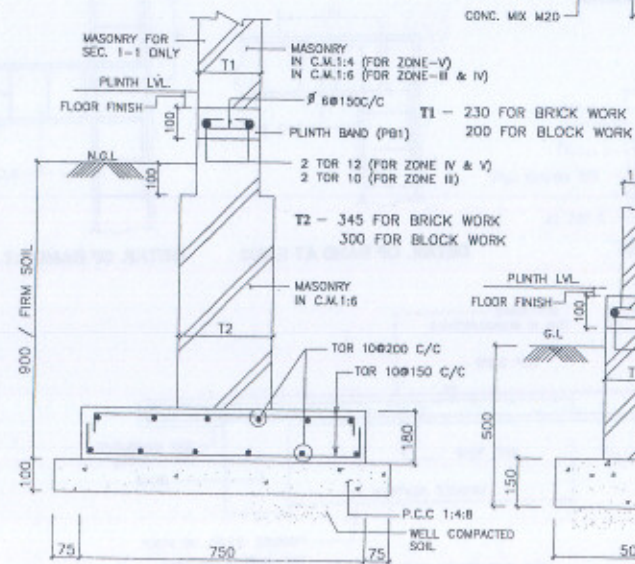


REINFORCING DETAILS AT JAMBS

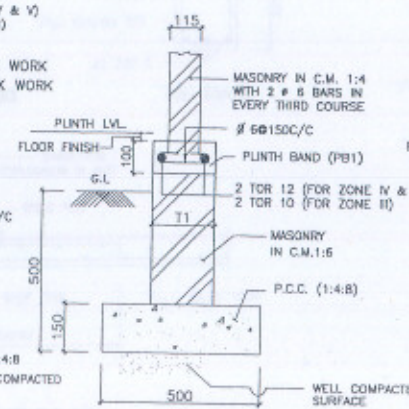


FOUNDATION PLAN

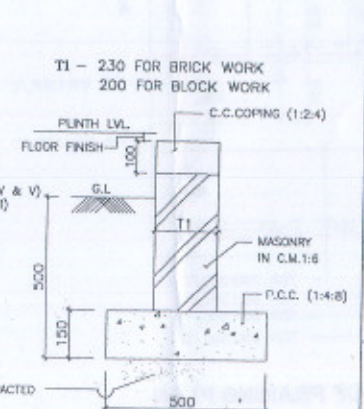
R.C.C. JAMBS TO BE PROVIDED FOR DOORS & WINDOWS
115 THK. WALLS NOT SHOWN



**SECTION 1-1
SECTION 1A-1A SIMILAR U.N.O**



115 THK. WALL FOOTING



DWARF WALL FOOTING (WHERE REQD.)

NO.	REVISION	DATE	SIGN.

TYPE OF BUILDING
STATE EMERGENCY OPERATION CENTRE (ALL SEISMIC ZONES)

DRG. TITLE
TOILET & GENERATOR BLOCK FOUNDATION PLAN & DETAILS

SCALE	DRG. NO.	DATE
1:50, 1:10	ST-101	18-12-2003

CLIENT
**N D M-DIVISION
MINISTRY OF HOME AFFAIRS
NEW DELHI**

CONSULTANTS
ENGINEERING PROJECTS CONSULTANTS

Y-3, GREEN PARK, NEW DELHI - 16

CHECKED <i>R. Gogia</i> R. GOGIA CHIEF CONSULTANT	APPROVED <i>A. S. Arya</i> G. 1. 04 DR. A.S. ARYA CBA-EVR (MHA-UNDP)
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GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.

REFERENCES

1. REF. RELEVANT ARCH. DRGS. FOR TOILET & GENERATOR BLOCK

R.C.C. NOTES

- ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS SCALED FROM THE DRAWING.
- CEMENT CONCRETE MIX SHALL BE CONCRETE MIX M - 20 UNLESS NOTED.
- REINFORCEMENT SHALL CONFORM TO I.S. 1786-LATEST AND SHALL HAVE CONCRETE COVER (EXCLUSIVE OF PLASTER OR OTHER DECORATIVE FINISH) AS FOLLOWS:
 - a) BEAM = 30 MM, b) SLAB = 25 MM
- LAP/DEVELOPMENT LENGTH (L_d) FOR MAIN REINF. BARS SHALL BE AS FOLLOWS:
 - a) FOR CONCRETE MIX M - 20 = $50 D$ WHERE (D =DIA FOR BAR)
- LAPS SHALL BE STAGGERED AND THE C/C DISTANCE BETWEEN LAPS SHALL NOT BE LESS THAN $1.3 \times L_d$ WHERE (L_d = DEVELOPMENT LENGTH)
 - a) AT SUPPORTS
 - b) WITHIN $2d$ FROM JOINT FACE WHERE d = DEPTH OF MEMBER
 - c) WITHIN END QUARTERS OF SPAN OF MEMBER
- NOT MORE THAN 50% OF THE BARS SHALL BE SPLICED AT ONE SECTION

LEGEND

TOP BARS SHOWN THUS IN PLAN ---
 BOT. BARS SHOWN THUS IN PLAN ———

NO.	REVISION	DATE	SIGN.

TYPE OF BUILDING
STATE EMERGENCY OPERATION CENTRE (ALL SEISMIC ZONES)

DRG. TITLE
TOILET & GENERATOR BLOCK GROUND FLOOR ROOF SLAB AND DETAILS

SCALE	DRG. NO.	DATE
1:50, 1:10	ST-201	18-12-2003

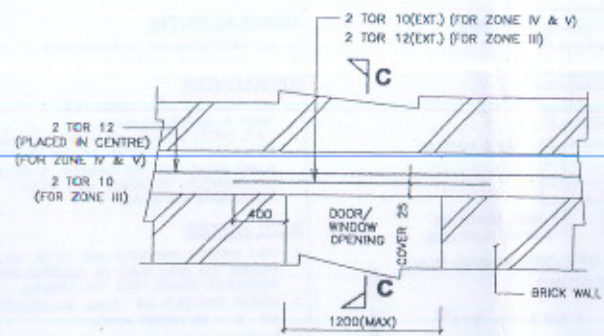
CLIENT
**N D M-DIVISION
 MINISTRY OF HOME AFFAIRS
 NEW DELHI**

CONSULTANTS
ENGINEERING PROJECTS CONSULTANTS

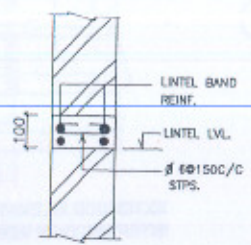
Y-3, GREEN PARK, NEW DELHI - 16

CHECKED
R.GOGIA
 CHIEF CONSULTANT

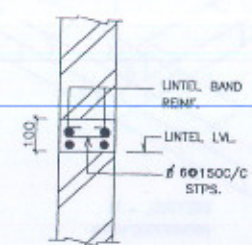
APPROVED
DR A.SARYA G.I.06
 CBA-EVR
 (MHA-UNDE)



TYP. LINTEL BAND



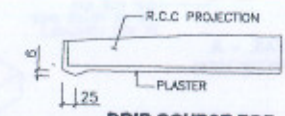
SEC. C-C
 (FOR 230/200 THK WALL)



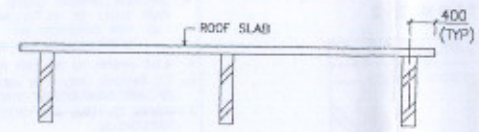
SEC. C-C
 (FOR 115/100 THK WALL)



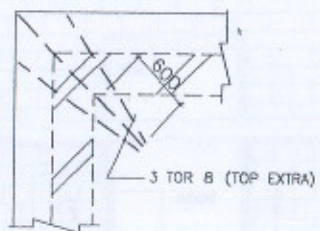
TYP. CHAJJA DETAIL



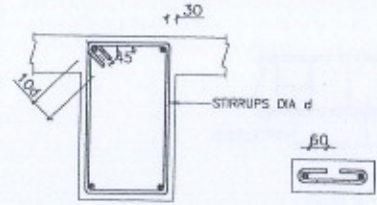
DRIP COURSE FOR R.C.C. PROJECTION



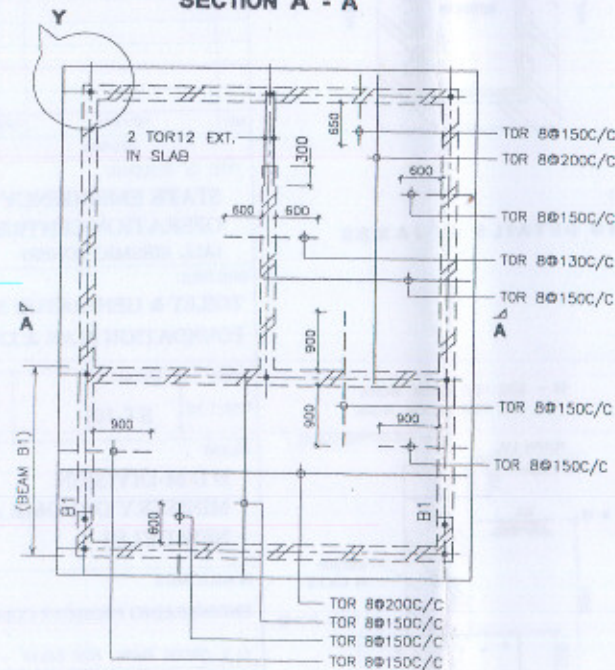
SECTION A - A



DETAIL - Y AT CORNERS

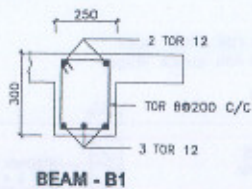


STIRRUP DETAILS

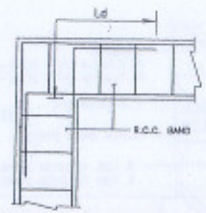


GROUND FLOOR ROOF FRAMING PLAN

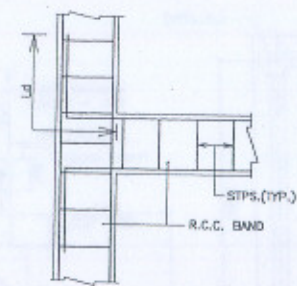
SLAB THICKNESS = 115 M.M
 PROVIDE DST. STEEL TOR 8@200 C/C WHEREVER REQD. BUT NOT SHOWN



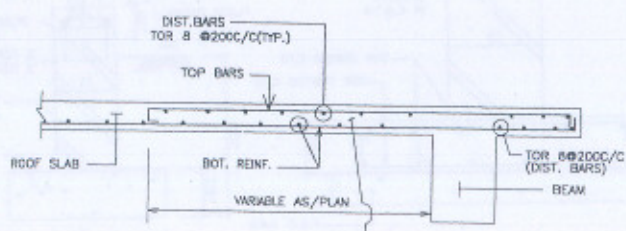
BEAM - B1



DETAIL OF BAND AT ENDS

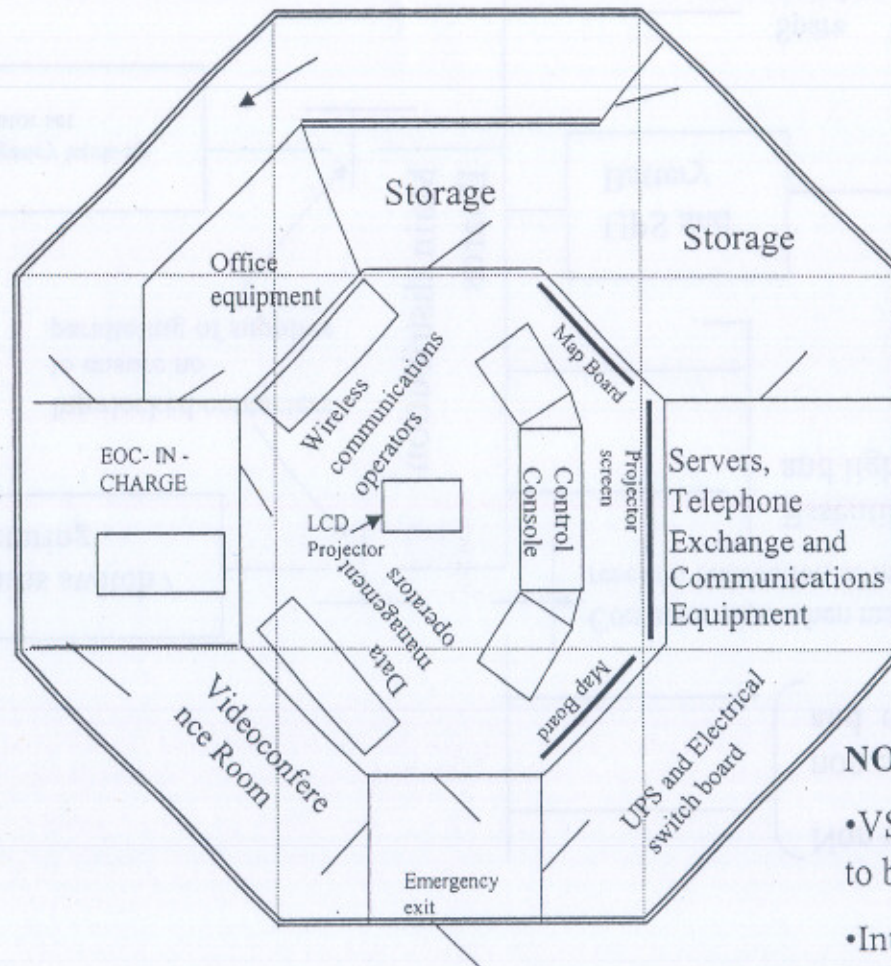


DETAIL OF BAND AT JUNCTION



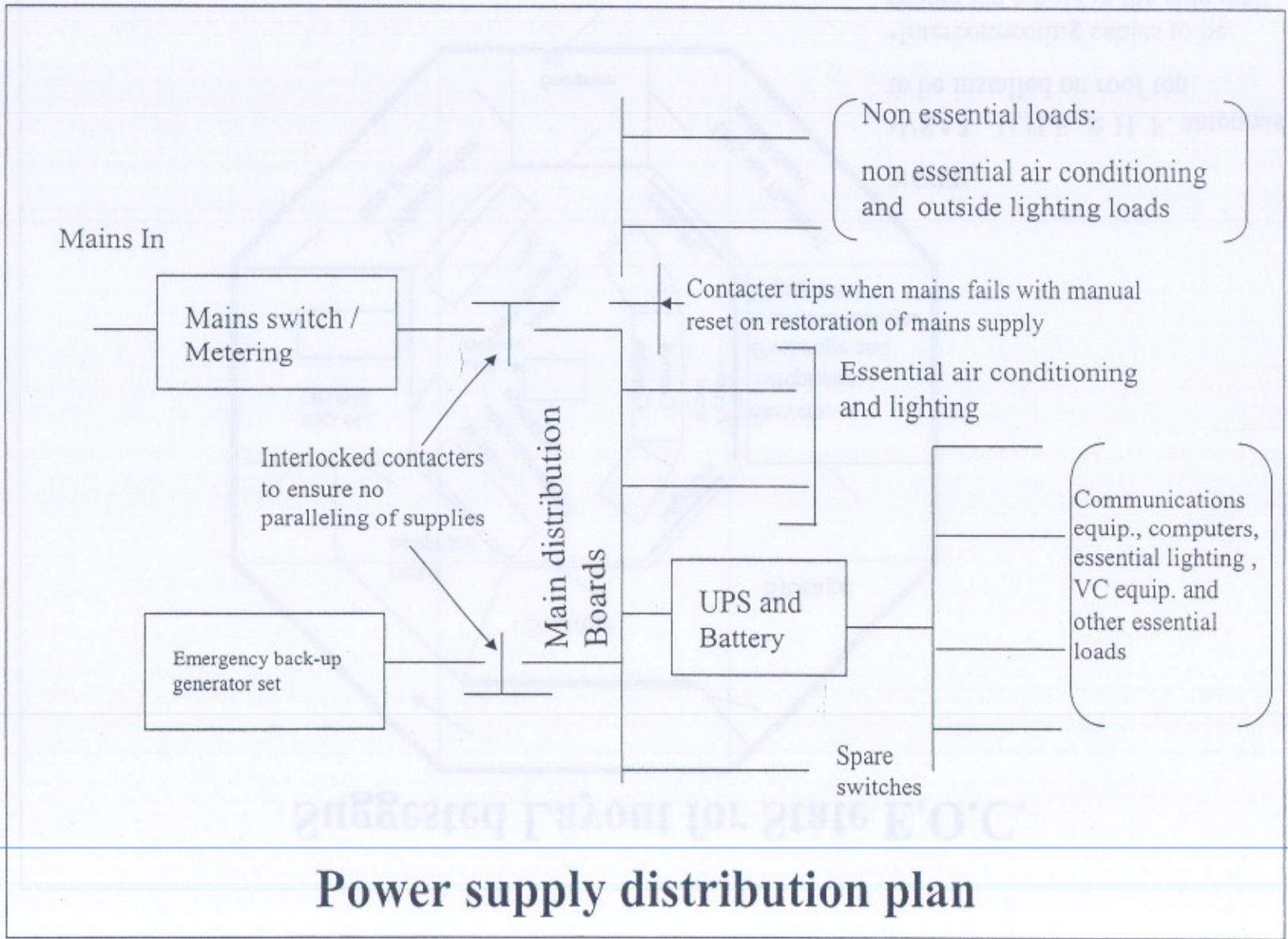
SLAB END DETAIL

Suggested Layout for State E.O.C.



NOTE;

- VSAT , U.H.F. & H. F. antennas to be installed on roof top
- Interconnecting cables to be routed via a hole in the side wall



LIST OF ITEMS
ESTIMATED SCHEDULE OF RATES (S.O.R.)

Sl. No.	Description	Unit	Rate
1.0	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	10.00
1.1	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	11.00
1.2	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	12.00
1.3	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	13.00
1.4	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	14.00
1.5	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	15.00
1.6	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	16.00
1.7	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	17.00
1.8	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	18.00
1.9	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	19.00
1.10	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	20.00
1.11	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	21.00
1.12	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	22.00
1.13	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	23.00
1.14	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	24.00
1.15	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	25.00
1.16	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	26.00
1.17	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	27.00
1.18	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	28.00
1.19	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	29.00
1.20	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	30.00
1.21	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	31.00
1.22	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	32.00
1.23	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	33.00
1.24	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	34.00
1.25	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	35.00
1.26	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	36.00
1.27	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	37.00
1.28	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	38.00
1.29	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	39.00
1.30	Excavation and backfilling of concrete work 1.2 m x 1.2 m x 1.2 m	m ³	40.00

Part: B
Cost Estimates of Civil Construction Work

LIST OF ITEMS**AS PER DELHI SCHEDULE OF RATES (D.S.R.) - 2002**

S.NO.	DSR NO.	DESCRIPTION	RATE	UNIT
1.0	2.0	EARTH WORK		
1.1	2.6	Earth work in excavation over areas (exceeding 30 cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed.		
1.1.1	2.6.1	All kinds of soil	91.50	Cum
1.2	2.8	Earth work in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.		
1.2.1	2.8.1	All kinds of soil	93.55	Cum
1.3	2.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundation etc, in layers not exceeding 20 cm in depth; consolidating each deposited layer by ramming and watering, lead upto 50 m and lift upto 1.5 m	30.25	Cum
1.4	2.28	Supplying and filling river sand under floors including, watering, ramming consolidating and dressing complete.	213.30	Cum
2.0	4.0	CONCRETE WORK		
2.1	4.5	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level.		
2.1.1	4.5.3	1:2:4 (1 cement : 2 coarse sand : 4 grade stone aggregate 20 mm nominal size)	1843.00	Cum
2.1.2	4.5.8	1:4:8 (1 cement : 4 coarse sand : 8 grade stone aggregate 40 mm nominal size)	1404.70	Cum
2.1.3	4.5.10	1:5:10 (1 cement : 5 coarse sand : 10 grade stone aggregate 40 mm nominal size)	1289.15	Cum
2.2	4.9	Centring and shuttering including strutting, propping etc. and removal of form work for		
2.2.1	4.9.1	Foundations, footings, bases of columns	61.10	Sqm
2.3	4.24	Providing and laying damp-proof course 40 mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5 mm nominal size).	84.60	Sq.m
2.4	4.26	Extra for providing and mixing water proofing material 'Impermo' or equivalent in cement concrete work @ 1 kg per 50 kg of cement. (per bag of 50 kg of cement used in the mix)	19.25	Kg.
3.0	5.0	REINFORCED CEMENT CONCRETE		
3.1	5.2	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts, etc. upto floor five level excluding cost of centring, shuttering, finishing and reinforcement.		
3.1.1	5.2.2	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	2351.35	Cum
3.2	5.14	Centring and shuttering including strutting, propping etc. and removal of form for:		
3.2.1	5.14.1	Foundations, footings, bases of columns etc. for mass concrete.	61.10	Sqm
3.2.2	5.14.2	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses	106.40	Sqm
3.2.3	5.14.3	Suspended floors, roofs landings, balconies and access platform.	111.20	Sqm
3.2.4	5.14.4	Shelves & Counters (Cast in situ)	111.20	Sqm
3.2.5	5.14.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	87.95	Sqm
3.2.6	5.14.6	Columns, pillars, piers, abutments, posts and struts.	135.80	Sqm
3.2.7	5.14.17	Edges of slabs and breaks in floors and walls.		
3.2.7.1	5.14.17.1	Under 20 cms wide	29.90	Metre
3.2.8	5.14.20	Weather shade, chajjas, corbels etc. including edges.	134.45	Sqm

S.NO.	DSR NO	DESCRIPTION	RATE	UNIT
3.3	5.16	Extra for additional height in centring, shuttering where ever required with adequate bracing propping etc. including cost of de-shuttering and decentring at all levels, over a height of 3.5 m for every additional height of 1 meter or part thereof (Plain area to be measured)		
3.3.1	5.16.1	Suspended floors, roofs, landing, beams and balconies (Plan area to be measured).	45.90	Sqm
3.4	5.29	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.		
3.4.1	5.29.1	Mild steel and medium tensile steel bars	21.45	Kg.
3.4.2	5.29.3	Cold twisted bars	21.85	Kg.
3.5	5.38	Add for plaster drip course/groove in plastered surface or moulding to R.C.C. projections.	8.50	Metre
3.6	5.42	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering, finishing and reinforcement including admixtures in recommended proportions. (as per IS 9103) to accelerate, retard setting of concrete improve workability without impairing strength and durability as per direction of Engineering-in-charge- M-20 grade reinforced cement concrete.		
3.6.1	5.42.1	All work upto plinth level	2284.05	Cum
3.6.2	5.42.2	All work from plinth level upto floor five level		
3.6.2.1	5.42.2.1	Walls, columns, pillars, posts and struts	2411.40	Cum
3.6.2.2	5.42.2.2	Beams, plinth beams, girders, bressumers, cantilevers, Suspended floors lintels roofs and staircases including spiral staircases, shelves etc.	2518.25	Cum
4.0	6.0	BRICK WORK		
4.1	6.1	Brick work with bricks of class designation 75 in foundation and plinth in:		
4.1.1	6.1.12	Cement mortar 1:4 (1 cement : 4 coarse sand)	1478.40	Cum
4.1.2	6.1.14	Cement mortar 1:6 (1 cement : 6 coarse sand)	1384.50	Cum
4.2	6.3	Extra for superstructure above plinth level upto floor V level	206.40	Cum
4.3	6.18	Half brick masonry with bricks of class designation 75 in foundations and plinth in:		
4.3.1	6.18.4	Cement mortar 1:4 (1 cement : 4 coarse sand)	174.85	Sqm
4.5	6.19	Extra for in superstructure above plinth level upto V level.	22.00	Sqm
4.6	6.20(A)	Extra for providing and placing in position 2 Nos. 6 mm dia M.S. bars at every third course of half brick masonry (with F.P.S. bricks)	23.65	Sqm
5.0	9.0	WOOD WORK		
5.1	9.6	Providing and fixing glazed shutters for doors, windows and clerestory windows using 10 kg/square Metre (4 mm thick) glass panes including black enamelled ISI marked M.S. butt hinges with necessary screws.		
5.1.1	9.6.3	Second class teak wood 30 mm thick	1182.15	Sqm
5.2	9.25	Providing and fixing ISI marked flush door shutters non-decorative type, core of block board construction with frame of first class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of		
5.2.1	9.25.2	35 mm thick including Stainless Steel butt hinges with necessary screws.	825.90	Sqm
5.3	9.34	Extra for providing lipping with second class teak wood battens 25 mm minimum depth on all edges of shutters (over all area of door shutter to be measured) over DSR item.	222.20	Sqm
5.4	9.82	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. all complete.		
5.4.1	9.82.1	Fixed to steel windows by welding	34.00	Kg.

S.NO.	DSR NO.	DESCRIPTION	RATE.	UNIT
6.0	10.0	STEEL WORK		
6.1	10.7	Providing and fixing 1 mm thick M.S. sheet door with frame of 40 x 40 x 6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.		
6.1.1	10.7.1	Using M.S. angels 40 x 40 x 6 mm for diagonal braces	986.55	Sqm
6.2	10.15	Providing and fixing pressed steel door frames manufactured from commercial mild steel sheet of 1.25 mm thickness including hinges jamb, jock jamb bead and if required angle threshold of mild steel angle of section 50x25 mm, or base ties of 1.25 mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with split end tail to each jamb including steel butt hinges 2.5 mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after per-treatment of the surface as directed by Engineer-in-charge:		
6.2.1	10.15.2	Profile B	177.50	Metre
6.3	10.15A	Providing and fixing M.S. Tubular frames for doors, windows, and ventilators with L-Type section made of 1.60 mm thick M.S. sheet, joints mitred and welded and grinded finish with 15 x 3 mm lugs 10 cm long embedded in cement concrete blocks 15 x 10 x 10 cm of 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) or with wooden plugs and screws or rawl plugs and screws or with fixing clips or with bolts and nuts as required including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primers.		
6.3.1	10.15A.	Profile of size 39 x 29 x 35 mm (for window frames)	52.00	Kg.
7.0	11.0	FLOORING		
7.1	11.4	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete.		
7.1.1	11.4.3	50 mm thick with 20 mm nominal size stone aggregate	133.60	Sqm
7.2	11.73	Providing and fixing first quality ceramic glazed tiles conforming to IS:13753 of minimum thickness 5 mm of approved make like NITCO, ORIENT, SOMANY KAJARIA, or equivalent make in all colours, shades except begundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	373.30	Sqm
7.3	11.74	Providing and laying ceramic glazed floor tiles 300 x 300 mm (thickness to be specified by the manufacture) of first quality conforming to IS : 13755 of NITCO, ORIENT, SOMANY KAJARIA, or equivalent make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including pointing the joints with white cement and matching pigment etc. complete.	478.90	Sqm
8.0	12.0	ROOFING		
8.1	12.38	Providing gola 75 x 75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design:		
8.1.1	12.38.1	In 75 x 75 mm deep chase	43.00	Metre
8.2	12.39	Making khurras 45 x 45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x 1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement rounding the edges and making and finishing the outlet complete.	68.50	Each

S.NO.	DSR NO	DESCRIPTION	RATE	UNIT
9.0	13.0	FINISHING		
9.1	13.11	12 mm cement plaster of mix:		
9.1.1	13.11.4	1:6 (1 cement : 6 coarse sand)	46.60	Sqm
9.2	13.12	15 mm cement plaster on the rough side of single or half brick wall of mix:		
9.2.1	13.12.4	1:6 (1 cement : 6 coarse sand)	60.60	Sqm
9.3	13.24	6 mm cement plaster of mix:		
9.3.1	13.24.1	1:3 (1 cement : 3 fine sand)	40.00	Sqm
9.4	13.75	Distempering with dry distemper of approved brand and manufacture (two or more coats) and of required shade on new work, over and including priming coat of whitening to give an even shade.	19.05	Sqm
9.5	13.77A	Distempering with first quality acrylic washable distemper (ready made) of approved manufacturer and or required shade and colour complete as per manufacturer's specification.		
		a) Two or more coats on new work	16.20	Sqm
9.6	13.79	Finishing walls with waterproofing cement paint snowcem-plus of M/s. Snowcem India Ltd. or equivalent of required shade.		
9.6.1	13.79.1	New work (three or more coats applied @ 3.84 kg/10 sqm)	23.10	Sqm
9.7	13.81	Applying priming coat:		
9.7.1	13.81.1	With ready mixed pink or grey primer of approved brand and manufacture on wood work (hard and soft wood)	11.75	Sqm
9.7.2	13.81.4	With ready mixed zinc chromate yellow primer of approved brand and manufacture on steel work (second coat)	4.90	Sqm
9.8	13.93	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:		
9.8.1	13.93.1	Two or more coats on new work	24.25	Sqm
9.9	13.112	Washed stone grit plaster on exterior walls of height upto 10M above level in two layers, under layer 12 mm cement plaster 1:4 (1 cement : 4 coarse sand) furrowing the under layer with scratching tool applying cement slurry on the under layer @ 2 kg of cement per square metre, top layer 15 mm cement plaster 1:1/2:2 (1 cement : 1/2 coarse sand : 2 stone chipping 10 mm nominal size) in panels with groove all around as per approved pattern including scrubbing and washing, the top layer with brushes and water to expose the stone chippings, complete as per specification and direction of Engineer-in-charge (Payment for providing grooves shall be made separately)	169.25	Sqm
9.10	13.113	Forming groove of uniform size in the top layer of washed stone grit plaster as per approved pattern using wooden battens nailed to the under layer including removal of wooden battens, repair to the edges of panels and finishing the groove complete as per specifications and direction of the Engineer-in-charge.		
9.10.1	13.113.1	15 mm wide and 15 mm deep groove	9.50	Metre

S.NO.	DSR NO	DESCRIPTION	RATE	UNIT
10.0	25.0	WATERPROOFING		
10.1	25.8	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc, consisting of following operations.		
		a) Applying and grouting a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with proprietary water proofing compound conforming to IS : 2645 over the R.C.C. slab including cleaning the surface before treatment.		
		b) Laying cement concrete using broken bricks/brick bats 25 mm to 100 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with proprietary water proofing compound conforming to IS : 2645 over 20 mm thick layer of cement mortar of mix 1:5 (1 cement : 5 coarse sand) admixed with proprietary waterproofing compound conforming to IS : 2645 to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.		
		c) After two days of proper curing applying a second coat of cement slurry admixed with proprietary water proofing compound conforming to IS : 2645		
		d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement : 4 coarse sand) admixed with proprietary waterproofing compound conforming to IS : 2645 and finally finishing the surface with trowel with neat cement slurry and making of 300x300 mm square.		
		e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-charge.		
10.1.1	25.8.1	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	282.80	Sqm

**COST ESTIMATE FOR STATE EMERGENCY OPERATION CENTRE (SEISMIC ZONE - IV)
BASED ON DELHI SCHEDULE OF RATES (D.S.R.) - 2002**

S.NO.	DSR NO	DESCRIPTION	RATE	UNIT	QTY.	AMOUNT (RS)
1.0	2.0	EARTH WORK				
1.1	2.6	Earth work in excavation				
1.1.1	2.6.1	All kinds of soil	91.50	Cum	126.00	11529.00
1.2	2.8	Earth work in foundation trenches				
1.2.1	2.8.1	All kinds of soil	93.55	Cum	47.00	4396.85
1.3	2.26	Filling available excavated earth	30.25	Cum	173.00	5233.25
1.4	2.28	Supplying and filling river sand	213.30	Cum	20.70	4415.31
					TOTAL	25574.41
2.0	4.0	CONCRETE WORK				
2.1	4.5	Providing cement concrete				
2.1.1	4.5.3	1:2:4	1843.00	Cum	0.80	1474.40
2.1.2	4.5.8	1:4:8	1404.70	Cum	13.80	19384.86
2.1.3	4.5.10	1:5:10	1289.15	Cum	27.00	34807.05
2.2	4.9	Centring and shuttering				
2.2.1	4.9.1	Foundations	61.10	Sqm	39.80	2431.78
2.3	4.24	Providing damp-proof course	84.60	Sq.m	18.00	1522.80
2.4	4.26	Extra for water proofing material	19.25	Kg.	6.00	115.50
					TOTAL	59736.39
3.0	5.0	REINFORCED CEMENT CONCRETE				
3.1	5.2	Reinforced cement concrete				
3.1.1	5.2.2	1:1.5:3	2351.35	Cum	0.31	728.92
3.2	5.14	Centring and shuttering				
3.2.1	5.14.1	Foundations	61.10	Sqm	101.10	6177.21
3.2.2	5.14.2	Walls	106.40	Sqm	10.80	1149.12
3.2.3	5.14.3	Suspended floors	111.20	Sqm	276.00	30691.20
3.2.4	5.14.4	Shelves & Counters	111.20	Sqm	1.20	133.44
3.2.5	5.14.5	Lintels, beams	87.95	Sqm	154.60	13597.07
3.2.6	5.14.6	Columns	135.80	Sqm	185.00	25123.00
3.2.7	5.14.17	Edges of slabs				
3.2.7.1	5.14.17.1	Under 20 cms wide	29.90	Metre	179.00	5352.10
3.2.8	5.14.20	Weather shade, chajjas	134.45	Sqm	24.10	3240.25
3.3	5.16	Extra for additional height				
3.3.1	5.16.1	Suspended floors	45.90	Sqm	278.00	12760.20
3.4	5.29	Reinforcement				
3.4.1	5.29.1	Mild steel	21.45	Kg.	101.00	2166.45
3.4.2	5.29.3	Cold twisted bars	21.85	Kg.	12550.0	274217.50
3.5	5.38	Add for plaster drip course	8.50	Metre	179.00	1521.50
3.6	5.42	Providing machine batched, design mix cement concrete				
3.6.1	5.42.1	Upto plinth level	2284.05	Cum	45.10	103010.66
3.6.2	5.42.2	Upto floor five level				
3.6.2.1	5.42.2.1	Walls, columns	2411.40	Cum	13.00	31348.20
3.6.2.2	5.42.2.2	Beams suspended floors	2518.25	Cum	52.40	131956.30
					TOTAL	643173.11

S.NO.	DSR NO	DESCRIPTION	RATE	UNIT	QTY.	AMOUNT (RS)
4.0	6.0	BRICK WORK				
4.1	6.1	Brick work in foundation.				
4.1.1	6.1.12	Cement mortar 1:4	1478.40	Cum	0.00	0.00
4.1.2	6.1.14	Cement mortar 1:6	1384.50	Cum	112.00	155064.00
4.2	6.3	Extra for superstructure	206.40	Cum	93.00	19195.20
4.3	6.18	Half brick masonry				
4.3.1	6.18.4	Cement mortar 1:4	174.85	Sqm	47.00	8217.95
4.5	6.19	Extra for superstructure	22.00	Sqm	47.00	1034.00
4.6	6.20(A)	Extra for 2 Nos. 6 mm dia	23.65	Sqm	47.00	1111.55
				TOTAL		184622.70
5.0	9.0	WOOD WORK				
5.1	9.6	Providing glazed shutters for windows				
5.1.1	9.6.3	Second class teak wood	1182.15	Sqm	16.00	18914.40
5.2	9.25	Providing flush door shutters				
5.2.1	9.25.2	35 mm thick	825.90	Sqm	18.60	15361.74
5.3	9.34	Extra for lipping	222.20	Sqm	18.60	4132.92
5.4	9.82	Providing M.S. grills				
5.4.1	9.82.1	Fixed to steel windows	34.00	Kg.	140.00	4760.00
				TOTAL		43169.06
6.0	10.0	STEEL WORK				
6.1	10.7	Providing 1 mm thick M.S. sheet				
6.1.1	10.7.1	M.S. angels 40 x 40 x 6 mm	986.55	Sqm	11.20	11049.36
6.2	10.15	Providing pressed steel door frames				
6.2.1	10.15.2	Profile B	177.50	Metre	50.90	9034.75
6.3	10.15A	Providing M.S. Tubular frames for windows				
6.3.1	10.15A.	Profile of size	52.00	Kg.	122.00	6344.00
				TOTAL		26428.11
7.0	11.0	FLOORING				
7.1	11.4	Cement concrete flooring				
7.1.1	11.4.3	50 mm thick	133.60	Sqm	13.00	1736.80
7.2	11.73	Providing ceramic glazed tiles	373.30	Sqm	124.70	46550.51
7.3	11.74	Providing ceramic glazed floor tiles	478.90	Sqm	194.70	93241.83
				TOTAL		141529.14
8.0	12.0	ROOFING				
8.1	12.38	Providing gola				
8.1.1	12.38.1	In 75 x 75 mm deep chase	43.00	Metre	246.00	10578.00
8.2	12.39	Making khurras	68.50	Each	5.00	342.50
				TOTAL		10920.50
9.0	13.0	FINISHING				
9.1	13.11	12 mm cement plaster of mix:				
9.1.1	13.11.4	1:6	46.60	Sqm	312.00	14539.20
9.2	13.12	15 mm cement plaster				
9.2.1	13.12.4	1:6	60.60	Sqm	89.00	5393.40
9.3	13.24	6 mm cement plaster of mix:				
9.3.1	13.24.1	1:3	40.00	Sqm	343.00	13720.00
9.4	13.75	Distemping with dry distemper	19.05	Sqm	290.00	5524.50
9.5	13.77A	Distemping with acrylic washable				
		a) Two or more coats	16.20	Sqm	344.00	5572.80

S.NO.	DSR NO.	DESCRIPTION	RATE	UNIT	QTY.	AMOUNT (RS)
9.6	13.79	Finishing walls with cement paint				
9.6.1	13.79.1	New work	23.10	Sqm	112.00	2587.20
9.7	13.81	Applying priming coat:				
9.7.1	13.81.1	With ready mixed grey primer	11.75	Sqm	71.00	834.25
9.7.2	13.81.4	With ready mixed yellow primer	4.90	Sqm	38.00	186.20
9.8	13.93	Painting with synthetic enamel paint				
9.8.1	13.93.1	Two or more coats	24.25	Sqm	109.00	2643.25
9.9	13.112	Washed stone grit plaster	169.25	Sqm	379.00	64145.75
9.10	13.113	Forming groove				
9.10.1	13.113.1	15 mm wide and 15 mm deep	9.50	Metre	1060.00	10070.00
				TOTAL		125216.55
10.0	25.0	WATERPROOFING				
10.1	25.8	Providing integral cement based water proofing				
10.1.1	25.8.1	With average thickness of 120 mm	282.80	Sqm	208.00	58822.40
				TOTAL		58822.40

SUMMARY FOR STATE EMERGENCY OPERATION CENTRE (SEISMIC ZONE - IV)

S.NO.	DSR NC	DESCRIPTION	AMOUNT (RS)
1.	2.0	EARTH WORK	25574.41
2	4.0	CONCRETE WORK	59736.39
3.	5.0	REINFORCED CEMENT CONCRETE	643173.11
4.	6.0	BRICK WORK	184622.70
5.	9.0	WOOD WORK	43169.06
6.	10.0	STEEL WORK	26428.11
7.	11.0	FLOORING	141529.14
8.	12.0	ROOFING	10920.50
9.	13.0	FINISHING	125216.55
10.	25.0	WATERPROOFING	58822.40
		SUB TOTAL	1319192.37
		ADD 10% FOR COST INDEX OVER D.S.R. 2002	131919.24
		TOTAL	1451111.61
		ADD 10% FOR ELECTRICAL & PLUMBING WORKS	145111.16
		GRAND TOTAL	1596222.77

ITEM NO.	QTY	UNIT	DESCRIPTION	PRICE	TOTAL
101	1	m ²	Plastering walls with cement lime	12.50	12.50
102	1	m ²	Plaster work	12.50	12.50
103	1	m ²	Applying priming coat	12.50	12.50
104	1	m ²	White wash mixed with pigment	12.50	12.50
105	1	m ²	White wash mixed yellow pigment	12.50	12.50
106	1	m ²	Plastering with synthetic washed sand	12.50	12.50
107	1	m ²	Plaster work	12.50	12.50
108	1	m ²	White wash mixed grey pigment	12.50	12.50
109	1	m ²	Plastering	12.50	12.50
110	1	m ²	Plaster work and 12 mm gap	12.50	12.50
111	1	m ²	TOTAL		125.00
112	1	m ²	WATERPROOFING	25.00	25.00
113	1	m ²	Providing output channel with proofing	25.00	25.00
114	1	m ²	With a slope of 1:10	25.00	25.00
115	1	m ²	TOTAL		50.00

FORMWORK FOR STATE BUREAU OF OPERATIONS (CENTRE OPERATIONAL ZONE - II)

ITEM NO.	QTY	UNIT	DESCRIPTION	PRICE	TOTAL
120	1	m ²	EARTH WORK	25.00	25.00
121	1	m ²	CONCRETE WORK	25.00	25.00
122	1	m ²	REINFORCED CONCRETE	25.00	25.00
123	1	m ²	WOOD WORK	25.00	25.00
124	1	m ²	STEEL WORK	25.00	25.00
125	1	m ²	PLUMBING	25.00	25.00
126	1	m ²	ROOFING	25.00	25.00
127	1	m ²	PAINTING	25.00	25.00
128	1	m ²	WATERPROOFING	25.00	25.00

Part: C
Equipment Details

129	1	m ²	GRAND TOTAL		1250.00
130	1	m ²	ADD FOR ELECTRICAL & PLUMBING WORK		125.00
131	1	m ²	TOTAL		1375.00
132	1	m ²	AND IMPROVE BODY OVER 1000		1375.00
133	1	m ²	GRAND TOTAL		2750.00

Equipments for Emergency Operation Centre

State Level

1.1 Communication Equipment

Equipment	Basic Requirement
Telephones	
▪ PSTN	2
▪ Internal	8
▪ VOIP	2
Mobile Phones	4
Satellite Phones	
• Inmarsat Mini M or Global mobile (Iridium / Thuraya)	2
Phone Units connected to State WAN (wherever possible)	4
• Hot Line communication line with district EOCs	
Fax machine	1
VSAT	1
Wireless / VHF central unit / switch	1
• Handsets (walkie-talkie)	4
Television set	2
H.F. Ham Radio set	1
Marine Warning Radio	1
Video conference unit (<i>to be compatible with the NIC video conferencing network</i>)	1
Inverter for Power back up	1
Portable Diesel/Petrol/K-Oil Generator set (15 KVA rating)	1
Vehicles:	
• <i>Two Wheelers</i>	1

1.2 Computer Hardware & other equipments

Desktop Computers (<i>preloaded with MS office</i>) with necessary peripherals (<i>modem, UPS, CVTs, CDRW</i>)	5
Printer, Scanner, Fax (<i>Multi utility machine</i>)	1
Camera [<i>Digital/Ordinary</i>]	1
GPs Unit [<i>Hand held</i>]	2
Overhead Projector/LCD Panel / Projector Screen	1

1.3 Software

GIS software (<i>Arc view</i>)	1
Designing software (<i>Adobe Photoshop, Dream river etc</i>)	1

1.4 Data bank

Maps of state (<i>Administrative/rail/road maps</i>)	
DMT plans at state and district levels	

1.5 Other necessary office peripherals

Necessary Office Stationery	
Min-Max Thermometer	1
CO ₂ Fire Extinguisher	4
White board (3ft*4ft)	1
Soft Boards for display of maps & charts (8ft*20ft, 6ft*6ft, 8ft*10ft)	2
Wooden Cabinet (2ft*1.5ft) with four drawers/Steel Almirah	
Emergency Lighting Facilities: <ul style="list-style-type: none"> • Search lights, • Torches, • LED Flashlights, • Chemical Light sticks & • Emergency Lighting] 	
Basic Hand & Machine Tools	
Public Address System	

1.6 Support to Manpower / Equipment needed for Staff Rest Room*

Emergency Survival Kits (according to the vulnerability nature of the area)	
Basic Medical Supplies [First Aid, Trauma Kits & All Purpose Medical First Aid Kit]	
Sleeping bag and blanket	
Umbrella / Raincoat	
Water Cooler with Purifier	1
Refrigerator	1
Room Heater	1
Electric Stove	1
Electric Kettle	1
Emergency Kit (Water Bottle, non-perishable Food etc)	

*As per the man power strength and area specific