

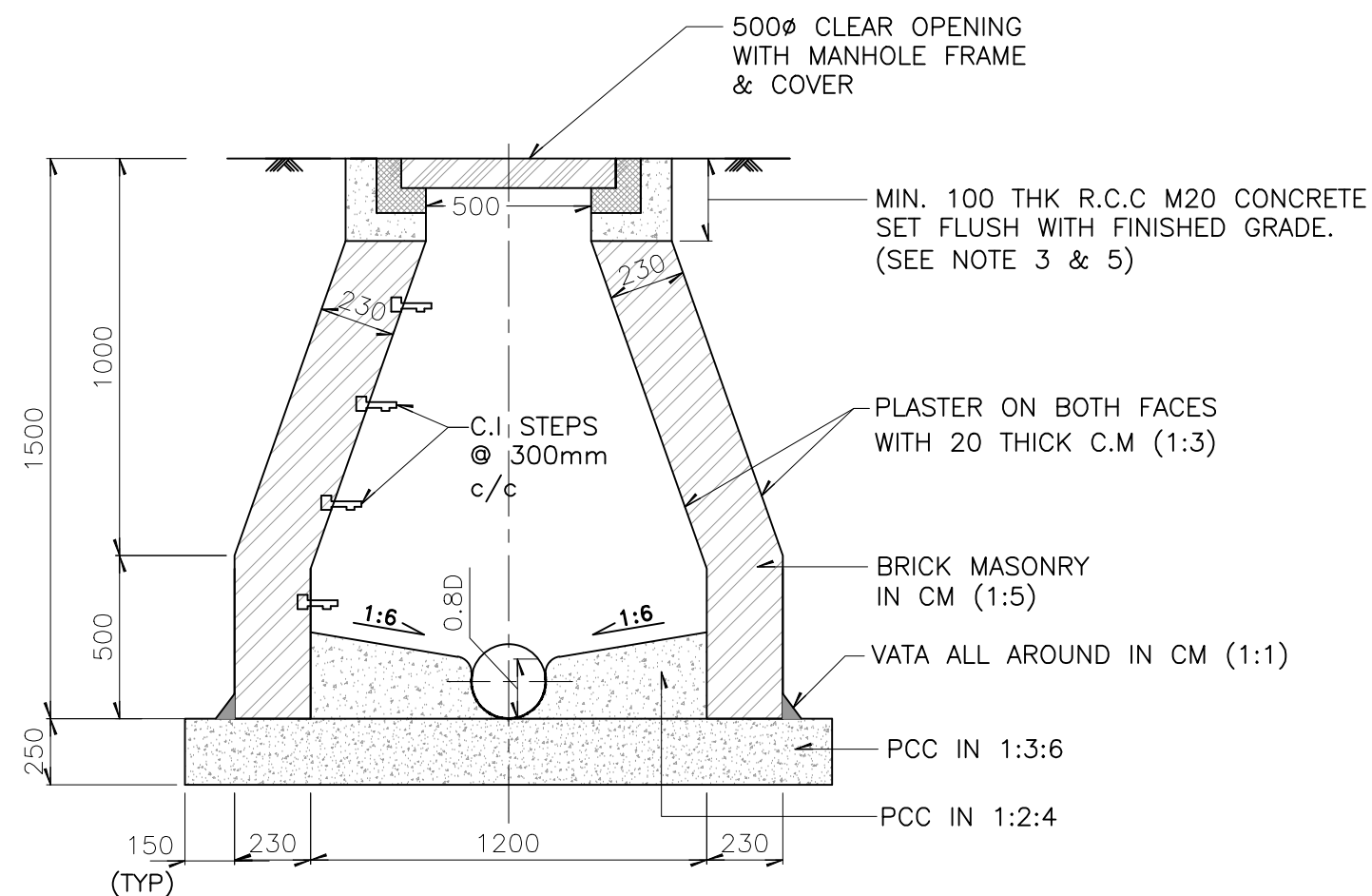
'A' TYPE CIRCULAR MANHOLE
FOR 150mmØ TO 600mmØ (Depth Up to 1.5M)

NOTES

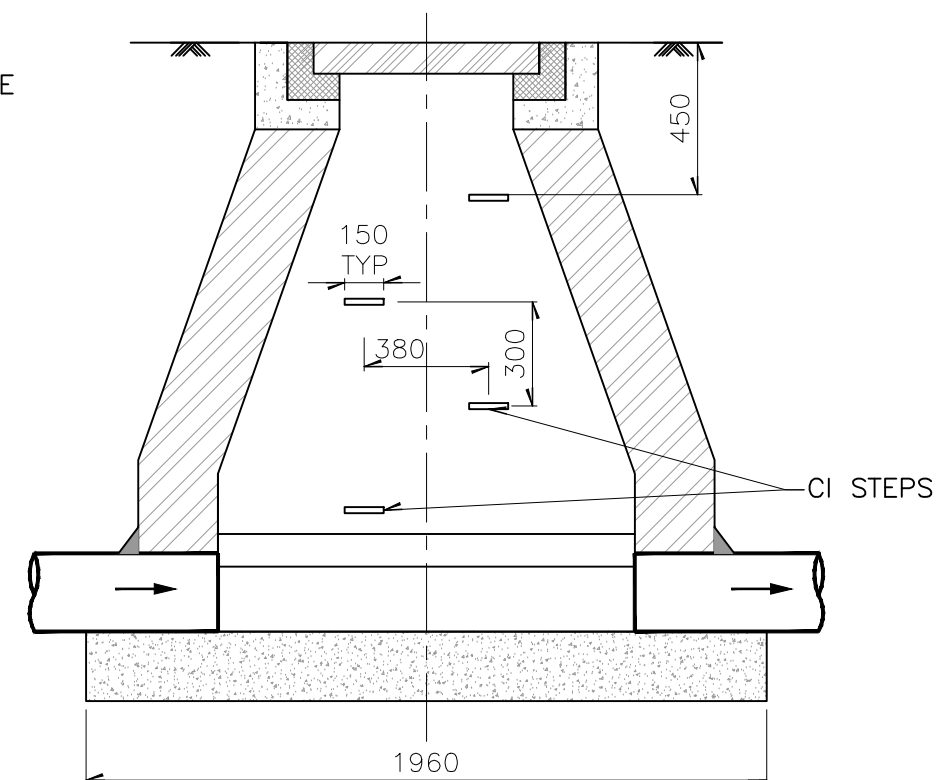
1. ALL DIMENSIONS ARE IN MM.
2. 'D' IS DIA. OF SEWER PIPELINE.
3. 100 THICKNESS OF CONCRETE CAN BE VARIED TO FLUSH MANHOLE COVER AND FRAME WITH ROAD SURFACE.
4. CI STEP FIXED WITH CEMENT MORTAR 1:3.
5. SFRC MANHOLE FRAME & COVER AS PER I.S.12592-2002.
6. THE BENCHING AT THE SIDE OF THE CHANNEL SHALL START FROM 0.8D FROM BASE AND THEN RISE WITH A SLOPE OF 1 IN 6 TOWARDS THE SIDE OF THE MANHOLE. SEMICIRCULAR PORTION WILL BE ACHIEVED IN CEMENT CONCRETE FINISHING ITSELF.
7. INTERNAL PLASTERING SHALL BE SULPHATE RESISTANT CEMENT (SRC).

LEGEND:

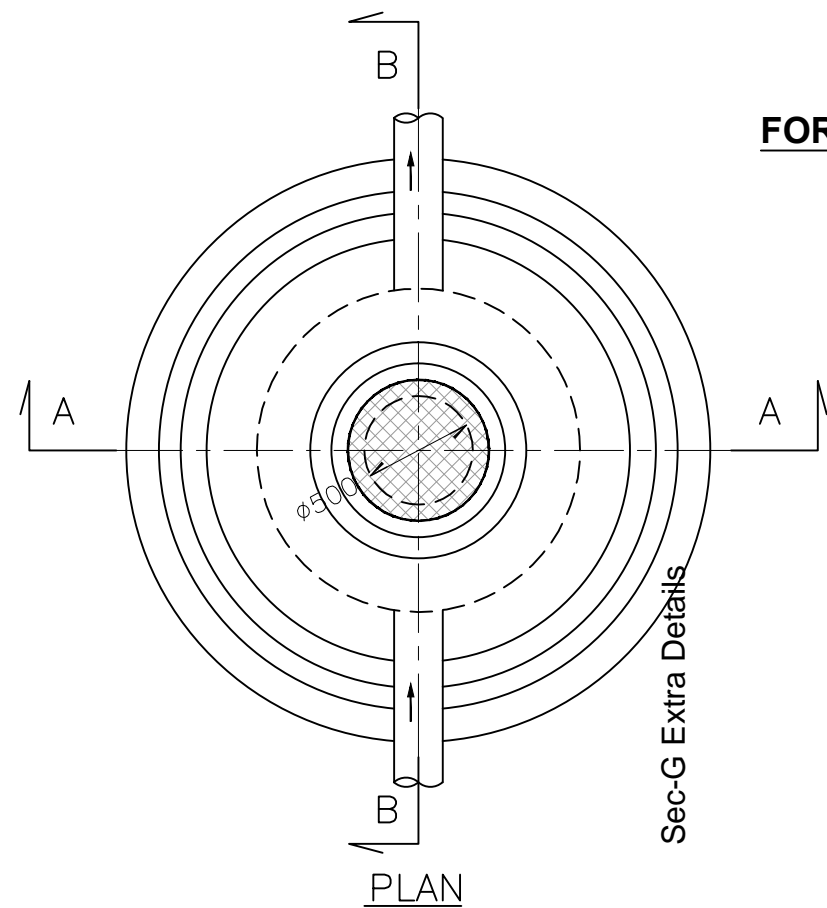
TYP	-----	TYPICAL
DIA	-----	DIAMETER
UN	-----	UNLESS NOTED
THK	-----	THICK
PCC	-----	PLAIN CEMENT CONCRETE
EQ	-----	EQUAL
C.I.	-----	CAST IRON
SFRC	-----	STEEL FIBRE REINFORCED CONCRETE



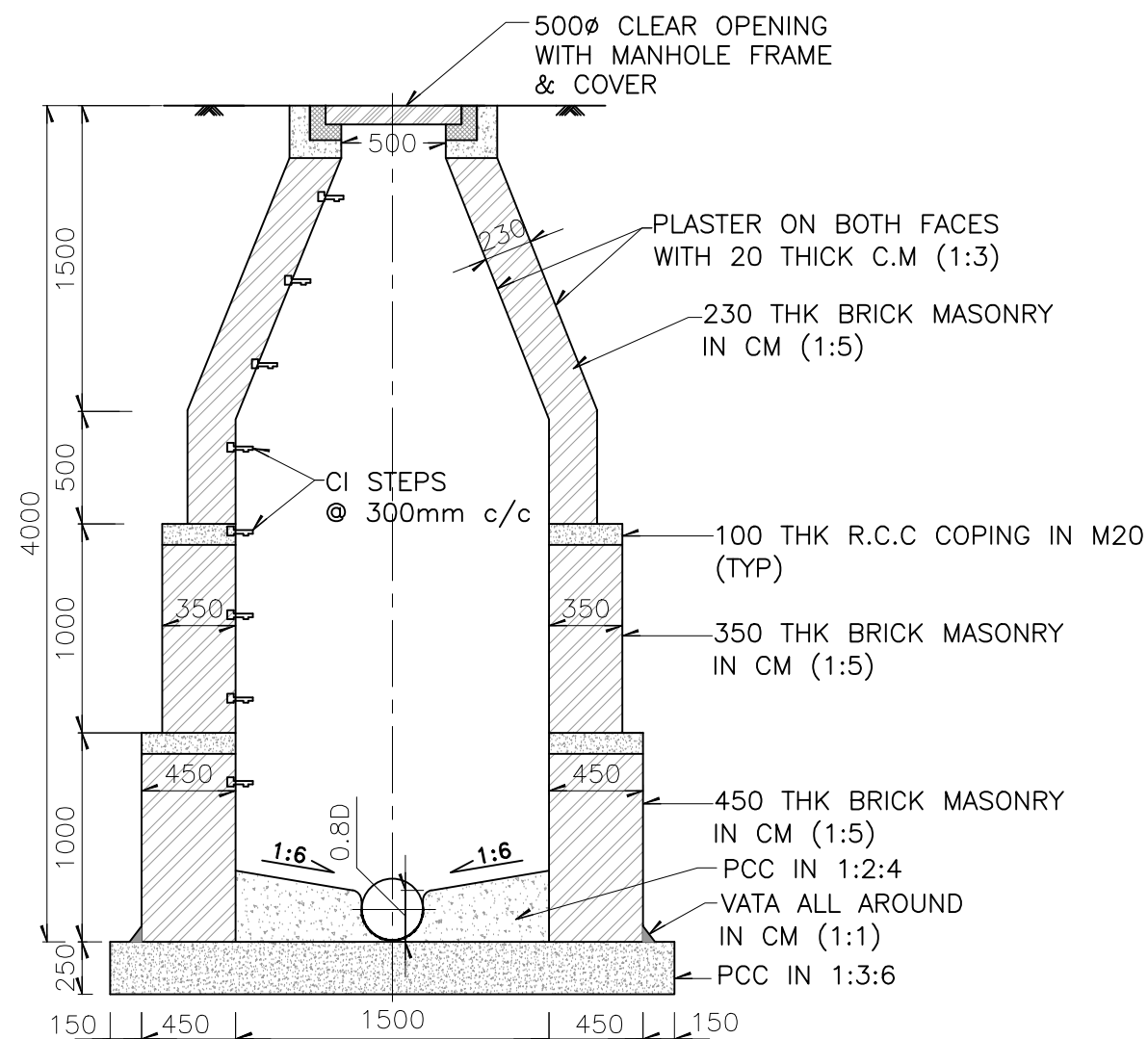
SECTION A-A



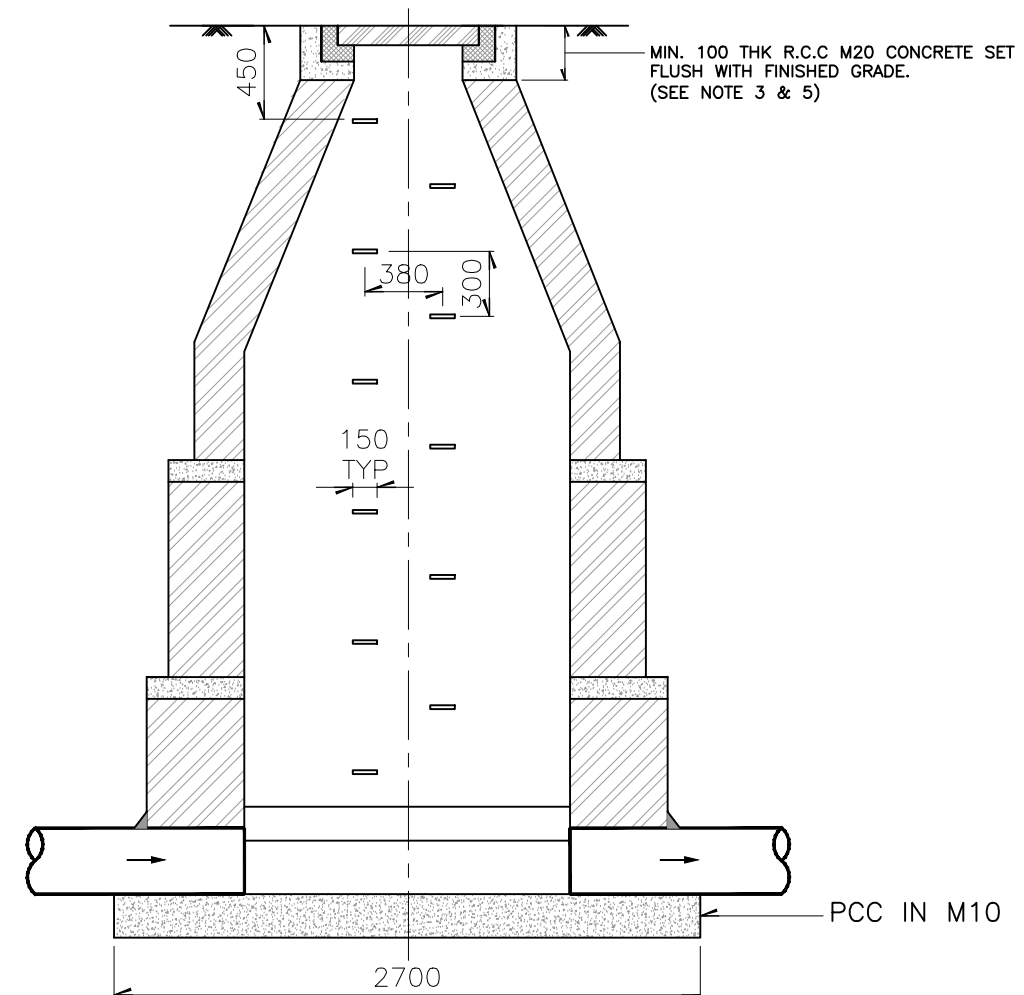
SECTION B-B



'B' TYPE CIRCULAR MANHOLE
FOR 150mmØ TO 600mmØ (Depth 1.5M To 4.0M)



SECTION A-A



SECTION B-B

NOTES

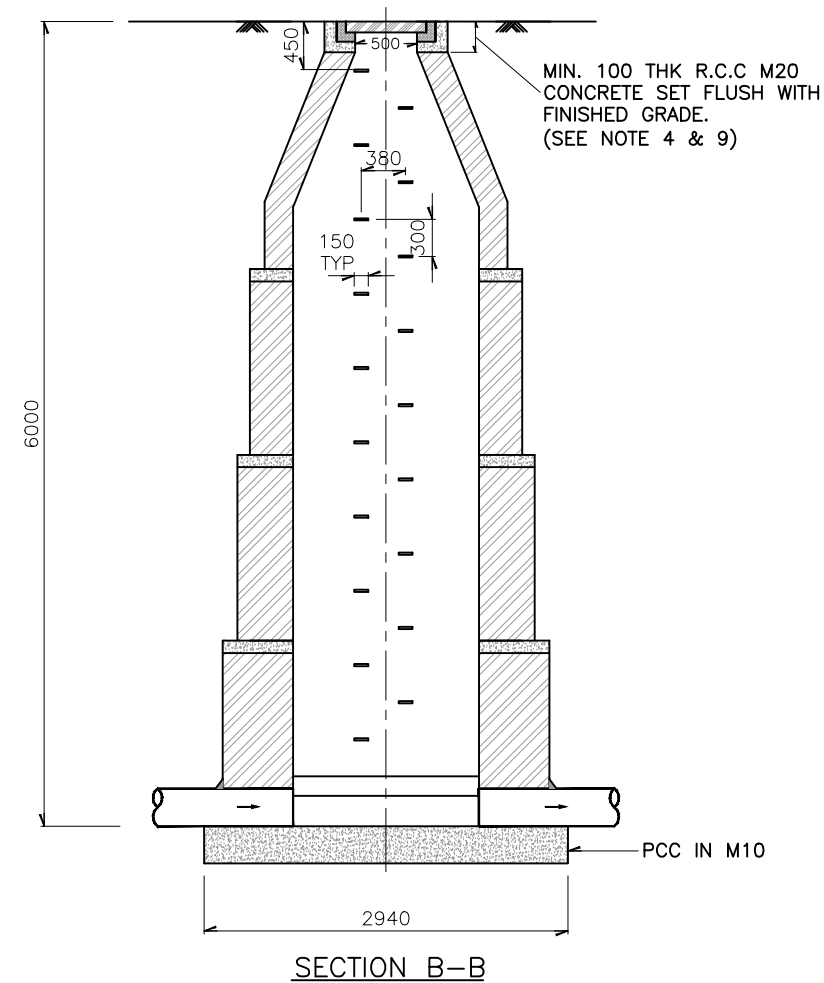
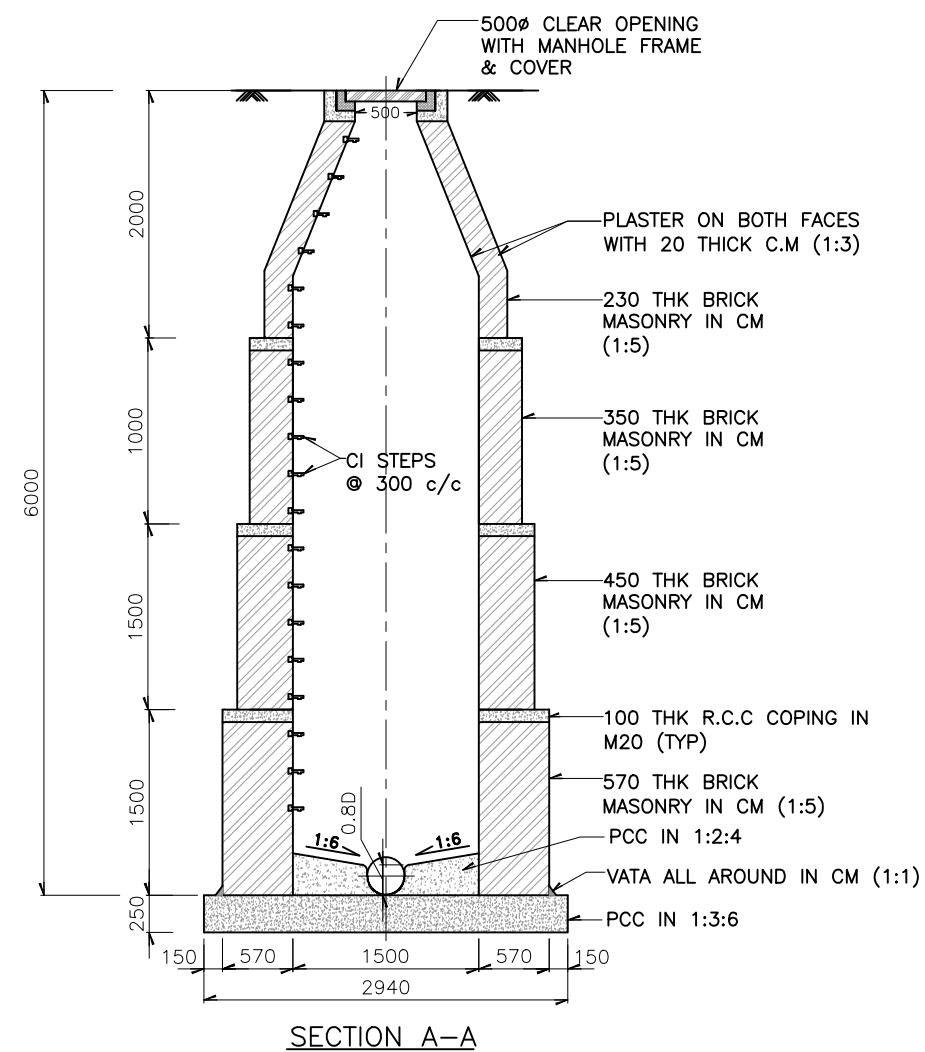
1. ALL DIMENSIONS ARE IN MM.
2. 'D' IS DIA. OF SEWER PIPELINE.
3. 100 THICKNESS OF CONCRETE CAN BE VARIED TO FLUSH MANHOLE COVER AND FRAME WITH ROAD SURFACE.
4. CI STEP FIXED WITH CEMENT MORTAR 1:3.
5. SFRC MANHOLE FRAME & COVER AS PER I.S.12592-2002.
6. THE BENCHING AT THE SIDE OF THE CHANNEL SHALL START FROM 0.8D FROM BASE AND THEN RISE WITH A SLOPE OF 1 IN 6 TOWARDS THE SIDE OF THE MANHOLE. SEMICIRCULAR PORTION WILL BE ACHIEVED IN CEMENT CONCRETE FINISHING ITSELF.
7. INTERNAL PLASTERING SHALL BE SULPHATE RESISTANT CEMENT (SRC).

LEGEND:

TYP	-----	TYPICAL
DIA	-----	DIAMETER
UN	-----	UNLESS NOTED
THK	-----	THICK
PCC	-----	PLAIN CEMENT CONCRETE
EQ	-----	EQUAL
C.I.	-----	CAST IRON
SFRC	-----	STEEL FIBRE REINFORCED CONCRETE

Sec-G Extra Details

The plan view shows a circular magnetic core with a central winding. The winding is represented by a shaded circular area with a diameter of $\phi 50$. Four radial slots are cut into the core, each containing a vertical bar with an upward-pointing arrow, indicating the direction of current flow. The slots are labeled 'A' at the top and bottom, and 'B' at the left and right. The word 'PLAN' is written below the diagram.



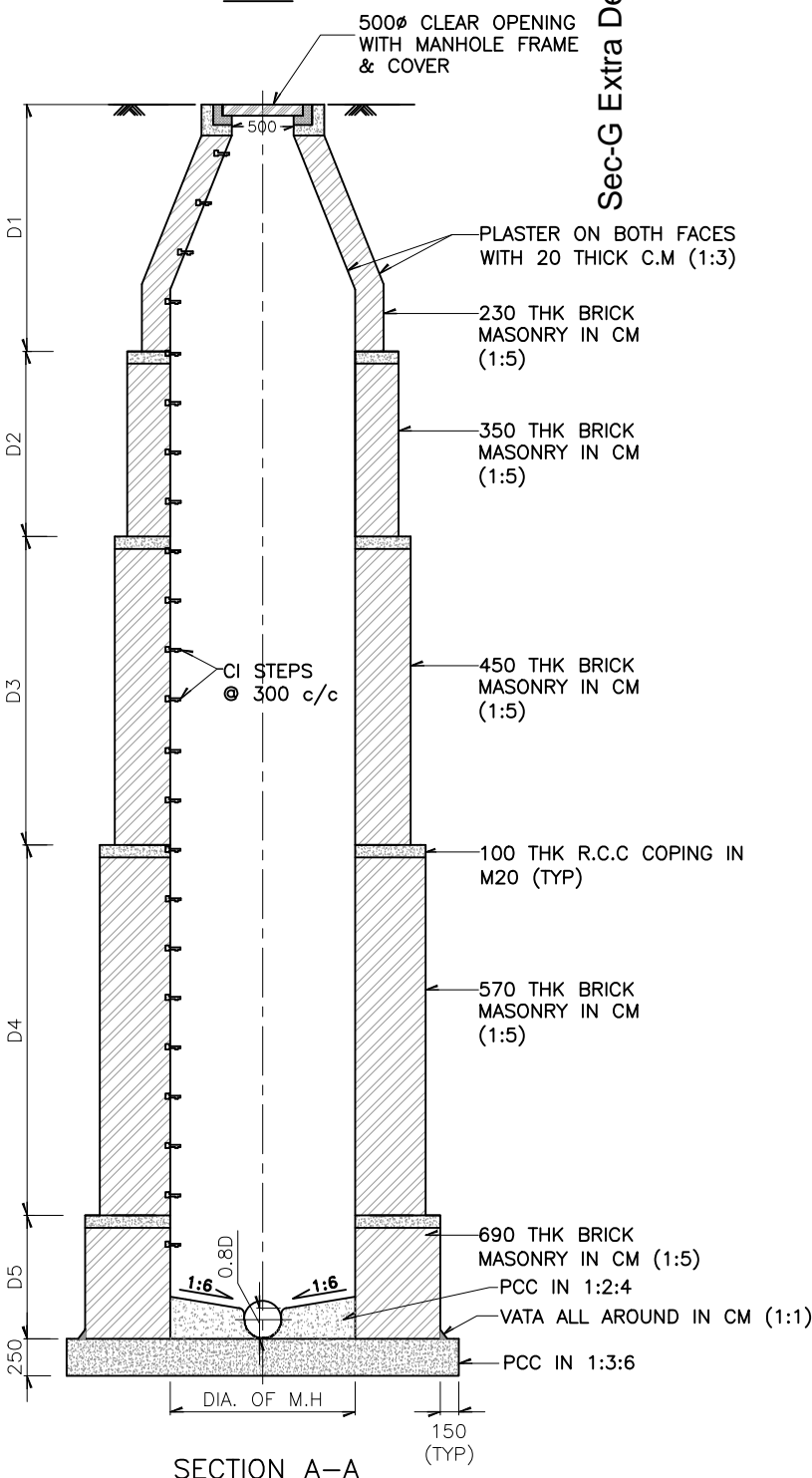
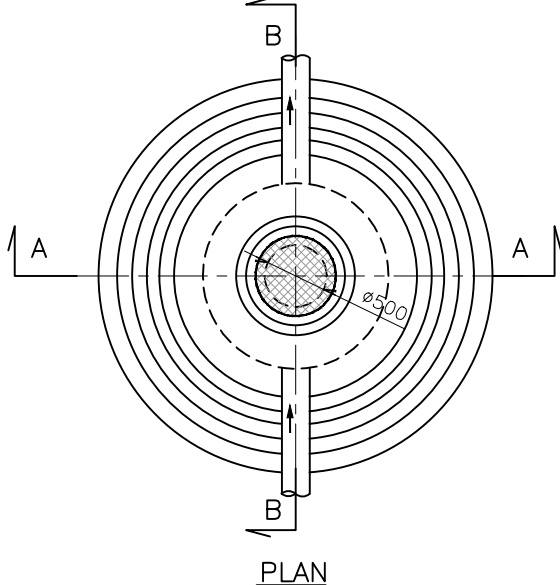
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT OTHERWISE STATED.
2. 'D' IS DIA. OF SEWER PIPELINE.
3. VATA IN C.M.(1:1) SHALL BE PROVIDED ALL AROUND THE PIPE ENTERING AND LEAVING THE MANHOLE AND ALSO AT THE JUNCTION OF BRICK MASONRY AND CONCRETE BASE SLAB.
4. 100 THICKNESS OF CONCRETE CAN BE VARIED TO FLUSH MANHOLE COVER AND FRAME WITH ROAD SURFACE.
5. AT A GIVEN DEPTH THE THICKNESS OF BRICK MASONRY SHALL NOT BE LESS THAN THAT SHOWN IN THIS DRAWING.
6. THICKNESS SPECIFIED FOR BRICK MASONRY IS EXCLUDING THE THICKNESS OF CEMENT PLASTER ON BOTH FACES.
7. CHANNELS FOR MANHOLE ARE TO BE CONSTRUCTED DULY CONSIDERING THE DIRECTION OF FLOW AS WELL AS ALIGNMENT AND INVERT LEVEL OF PIPES ENTERING/LEAVING THE MANHOLE AND AS DIRECTED BY ENGINEER.
8. CI STEP FIXED WITH CEMENT MORTAR 1:3
9. SFRC MANHOLE & FRAME OF AS PER I.S.12592-2002.
10. THE BENCHING AT THE SIDE OF THE CHANNEL SHALL START FROM 0.8D FROM BASE AND THEN RISE WITH A SLOPE OF 1 IN 6 TOWARDS THE SIDE OF THE MANHOLE. SEMICIRCULAR PORTION WILL BE ACHIEVED IN CEMENT CONCRETE FINISHING ITSELF.
11. INTERNAL PLASTERING SHALL BE SULPHATE RESISTANT CEMENT (SRC).

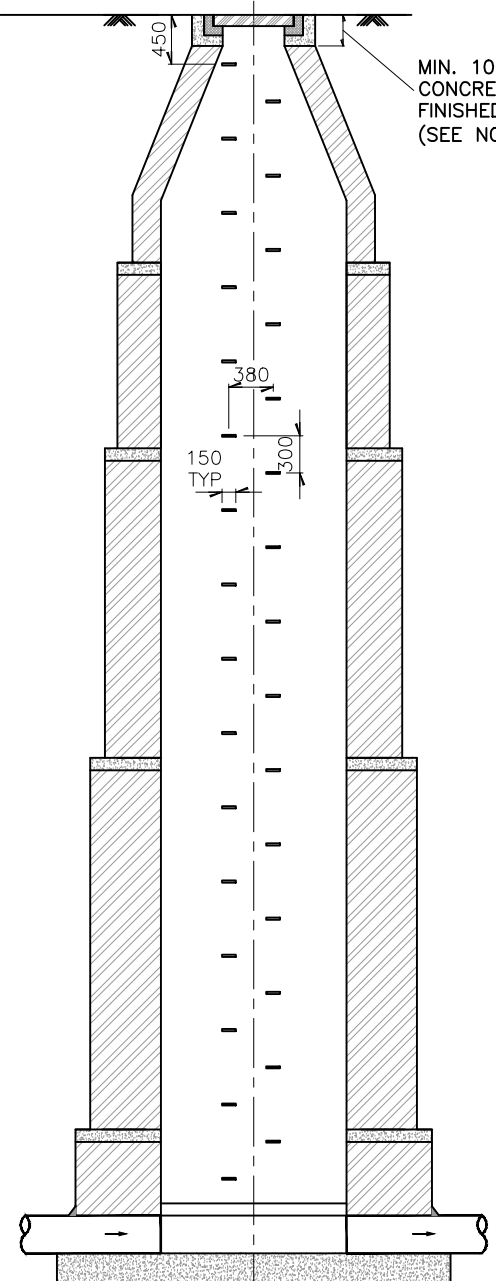
LEGEND:

TYP	-----	TYPICAL
DIA	-----	DIAMETER
UN	-----	UNLESS NOTED
THK	-----	THICK
PCC	-----	PLAIN CEMENT CONCRETE
EQ	-----	EQUAL
C.I.	-----	CAST IRON
SFRC	-----	STEEL FIBRE REINFORCED CONCRETE

'D' TYPE CIRCULAR MANHOLE
FOR 150mmØ TO 1500mmØ (Depth 4.0M To 10.0M)



Sec-G Extra Details



NOTES

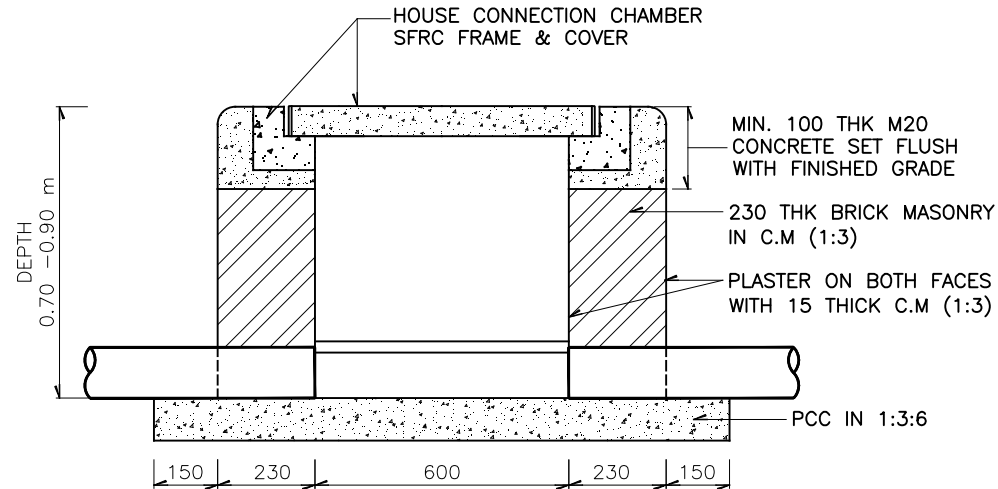
1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT OTHERWISE STATED.
2. 'D' IS DIA. OF SEWER PIPELINE.
3. VATA IN C.M.(1:1) SHALL BE PROVIDED ALL AROUND THE PIPE ENTERING AND LEAVING THE MANHOLE AND ALSO AT THE JUNCTION OF BRICK MASONRY AND CONCRETE BASE SLAB.
4. 100 THICKNESS OF CONCRETE CAN BE VARIED TO FLUSH MANHOLE COVER AND FRAME WITH ROAD SURFACE.
5. AT A GIVEN DEPTH THE THICKNESS OF BRICK MASONRY SHALL NOT BE LESS THAN THAT SHOWN IN THIS DRAWING.
6. THICKNESS SPECIFIED FOR BRICK MASONRY IS EXCLUDING THE THICKNESS OF CEMENT PLASTER ON BOTH FACES.
7. CHANNELS FOR MANHOLE ARE TO BE CONSTRUCTED DULY CONSIDERING THE DIRECTION OF FLOW AS WELL AS ALIGNMENT AND INVERT LEVEL OF PIPES ENTERING/LEAVING THE MANHOLE AND AS DIRECTED BY ENGINEER.
8. CI STEP FIXED WITH CEMENT MORTAR 1:3
9. SFRC MANHOLE & FRAME OF AS PER I.S.12592-2002.
10. THE BENCHING AT THE SIDE OF THE CHANNEL SHALL START FROM 0.8D FROM BASE AND THEN RISE WITH A SLOPE OF 1 IN 6 TOWARDS THE SIDE OF THE MANHOLE. SEMICIRCULAR PORTION WILL BE ACHIEVED IN CEMENT CONCRETE FINISHING ITSELF.
11. INTERNAL PLASTERING SHALL BE SULPHATE RESISTANT CEMENT (SRC).

LEGEND								
S. No	TYPE	UNIT	D1	D2	D3	D4	D5	DIA. OF MH
1	D1 (6.0)	DEPTH	2,250	750	2,000	1,000	-	1,500
		WALL THK	230	350	450	600	-	
2	D1 (10.0)	DEPTH	2,250	750	2,000	4,000	1,000	1,500
		WALL THK	230	350	450	600	750	
3	D2 (6.0)	DEPTH	2,250	750	2,000	1,000	-	1,500
		WALL THK	230	350	450	600	-	
4	D2 (10.0)	DEPTH	2,250	750	2,000	4,000	1,000	1,500
		WALL THK	230	350	450	600	750	
5	D3 (6.0)	DEPTH	2,250	750	2,000	1,000	-	1,900
		WALL THK	230	350	450	600	-	
6	D3 (10.0)	DEPTH	2,250	750	2,000	4,000	1,000	1,900
		WALL THK	230	350	450	600	750	

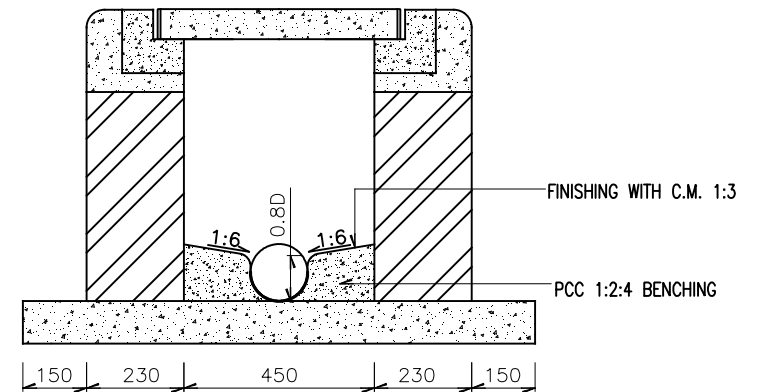
LEGEND:

- TYP ----- TYPICAL
DIA ----- DIAMETER
UN ----- UNLESS NOTED
THK ----- THICK
PCC ----- PLAIN CEMENT CONCRETE
EQ ----- EQUAL
C.I. ----- CAST IRON
SFRC ----- STEEL FIBRE REINFORCED CONCRETE

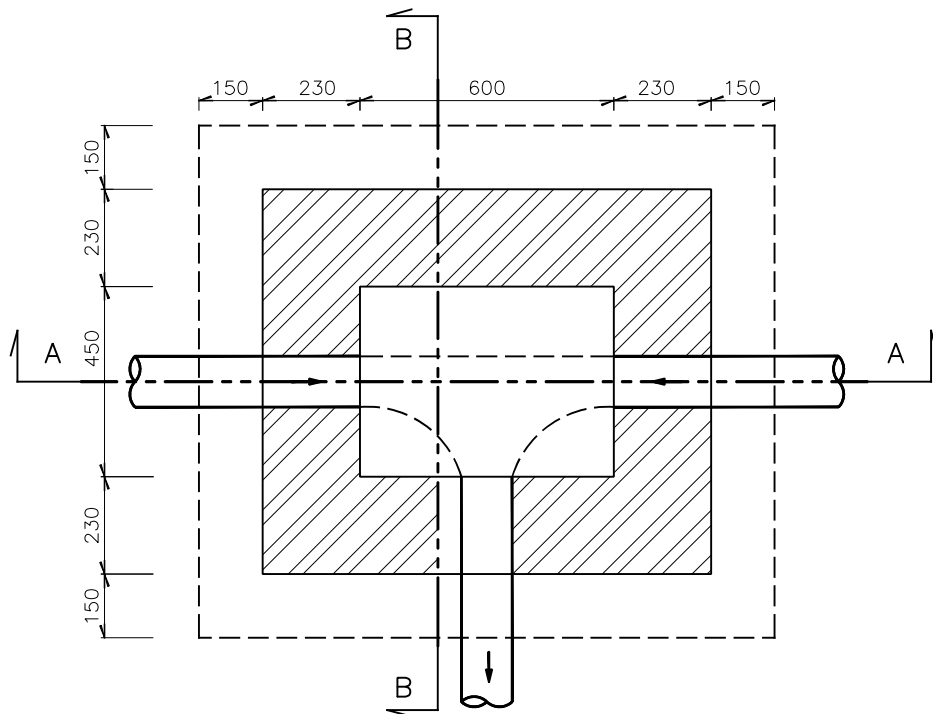
TYPICAL DETAILS OF HOUSE CONNECTION CHAMBER



SECTION A-A



SECTION B-B



PLAN

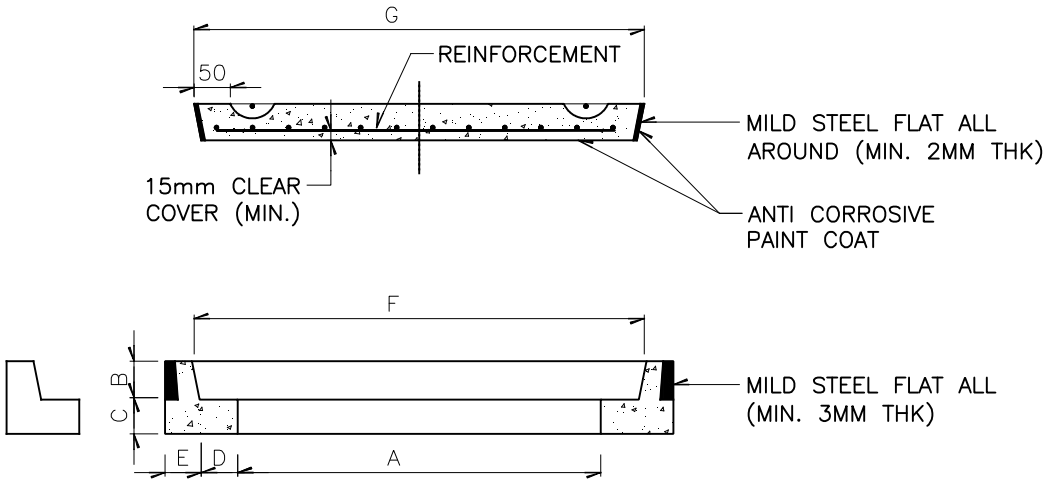
NOTES

1. ALL DIMENSIONS ARE IN MM.
2. INTERNAL PLASTERING SHALL BE SULPHATE RESISTANT CEMENT (SRC).

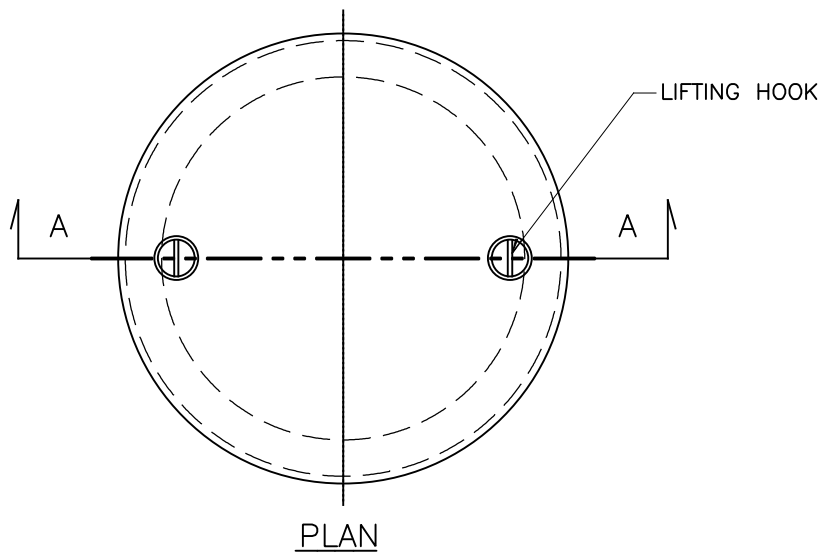
LEGEND:

TYP	—	TYPICAL
DIA	—	DIAMETER
UN	—	UNLESS NOTED
THK	—	THICK

TYPICAL DETAILS OF R.C.C FRAME & COVER



SECTION A-A



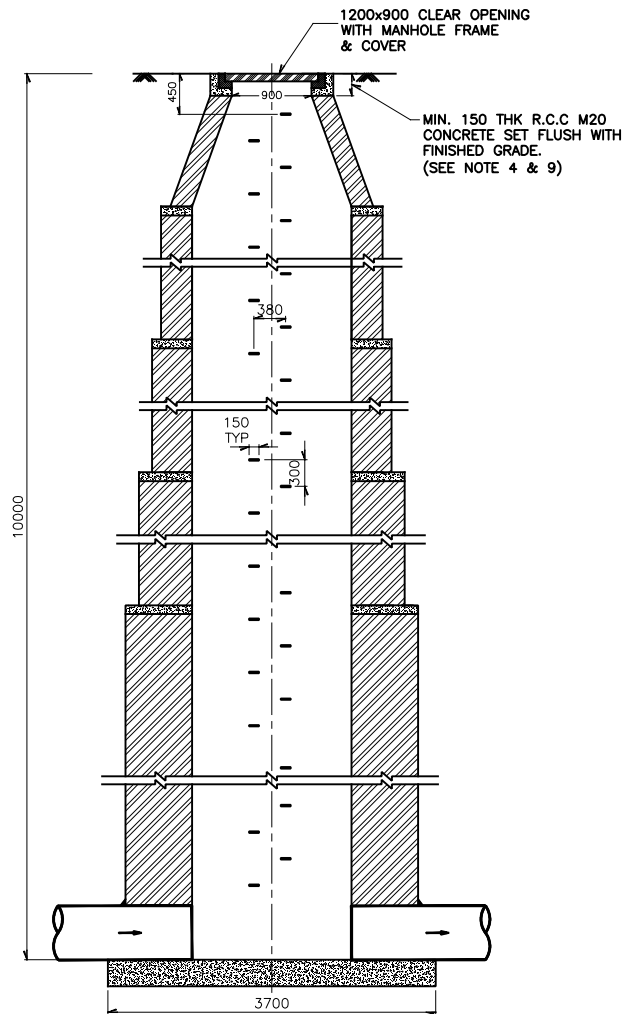
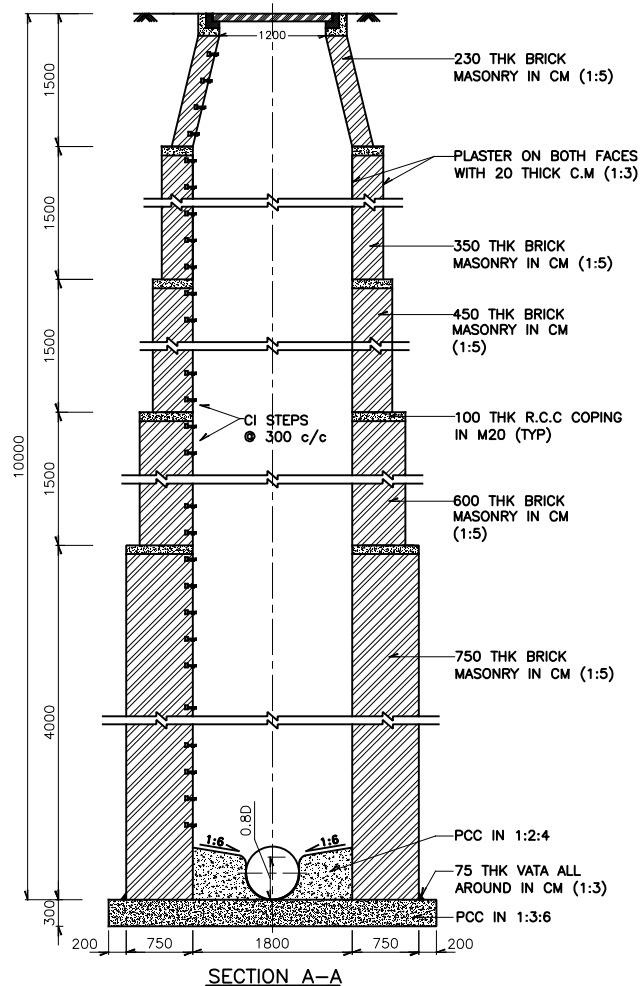
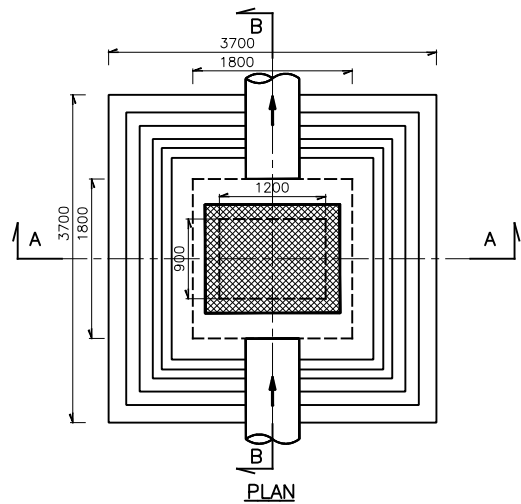
NOTES

1. ALL DIMENSIONS ARE IN MM.
2. THE MANHOLE FRAME AND COVER SHALL BE DULY MARKED BY BIS CERTIFICATION MARKING.
3. OUTSIDE DIMENSION OF COVER AT TOP SHALL MATCH WITH THE CORRESPONDING FRAME SO THAT THE MAXIMUM CLEARANCE AT THE TOP BETWEEN THE FRAME AND THE COVER ALL AROUND THE PERIPHERY IS NOT MORE THAN 5MM.
4. THE TOP SURFACE OF FRAME AND COVER SHALL BE IN LEVEL WITH THE TOLERANCE OF ± 5 MM.
5. TOLERANCE ON C SHALL BE ± 5 MM .
6. TOLERANCE ON A,B,D & E SHALL BE 0.0MM-5MM.
7. FOR FACILITY OF REMOVING MANHOLE COVER , SUIABLE UPWARD TAPER OF NOT MORE THAN 5° MAY BE PROVIDER TO THE INNER PERIPHERY OF THE FRAME.
8. IF REQUIRED FOR THE REMOVAL OF MOLDS,SUITABLE TAPER NOT MORE THAN 5° CAN BE GIVEN AT THE LOWER INNER PERIPHERY OF THE FRAME AS INDICATED.
9. LIFTING HOOKS SHALL BE HOT DIP GALVANISED AND PROVIDED AS FOLLOWS:

LIGHT AND MEDIUM DUTY - 12MM (MIN.)
HEAVY DUTY - 16MM (MIN.)
EXTRA HEAVY DUTY - 16MM (MIN.)

S.No	Grade	Desciption	A	B	C	D	E (Min)	F (Min)	G
1	LD - 2.5	Light Duty Circular	500	50	50	50	50	608	600
2	LD - 2.5	Light Duty Rectangular	450 x 600	50	50	50	50	558 x 708	550 x 700
3	MD - 10	Medium Duty Circular	500	70	50	50	50	610	602
4	MD - 10	Medium Duty Rectangular	450 x 600	70	50	50	50	560 x 710	552 x 702
5	HD - 20	Heavy Duty Circular	500	90	75	75	75	660	652

SCRAPER MANHOLE

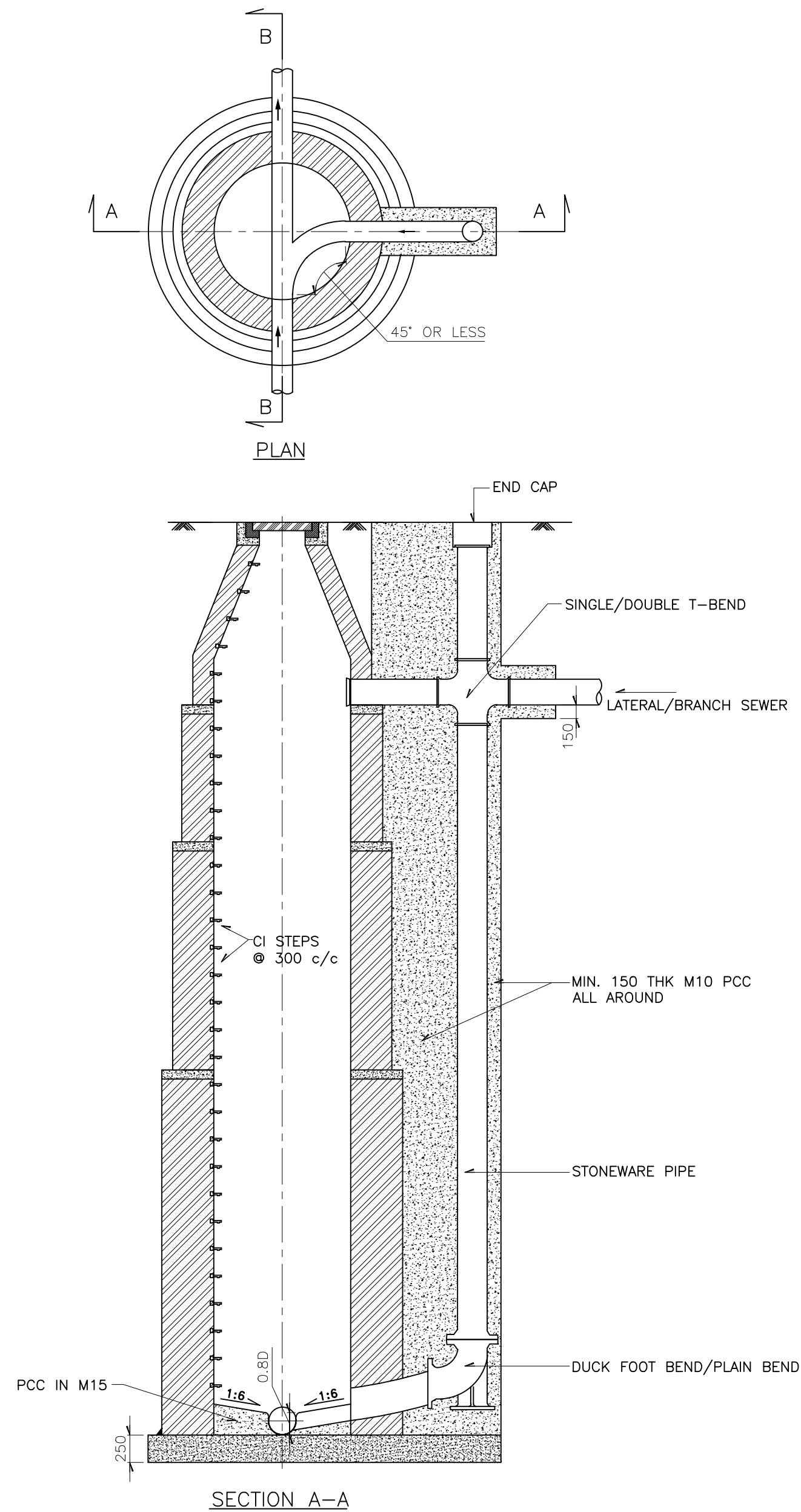
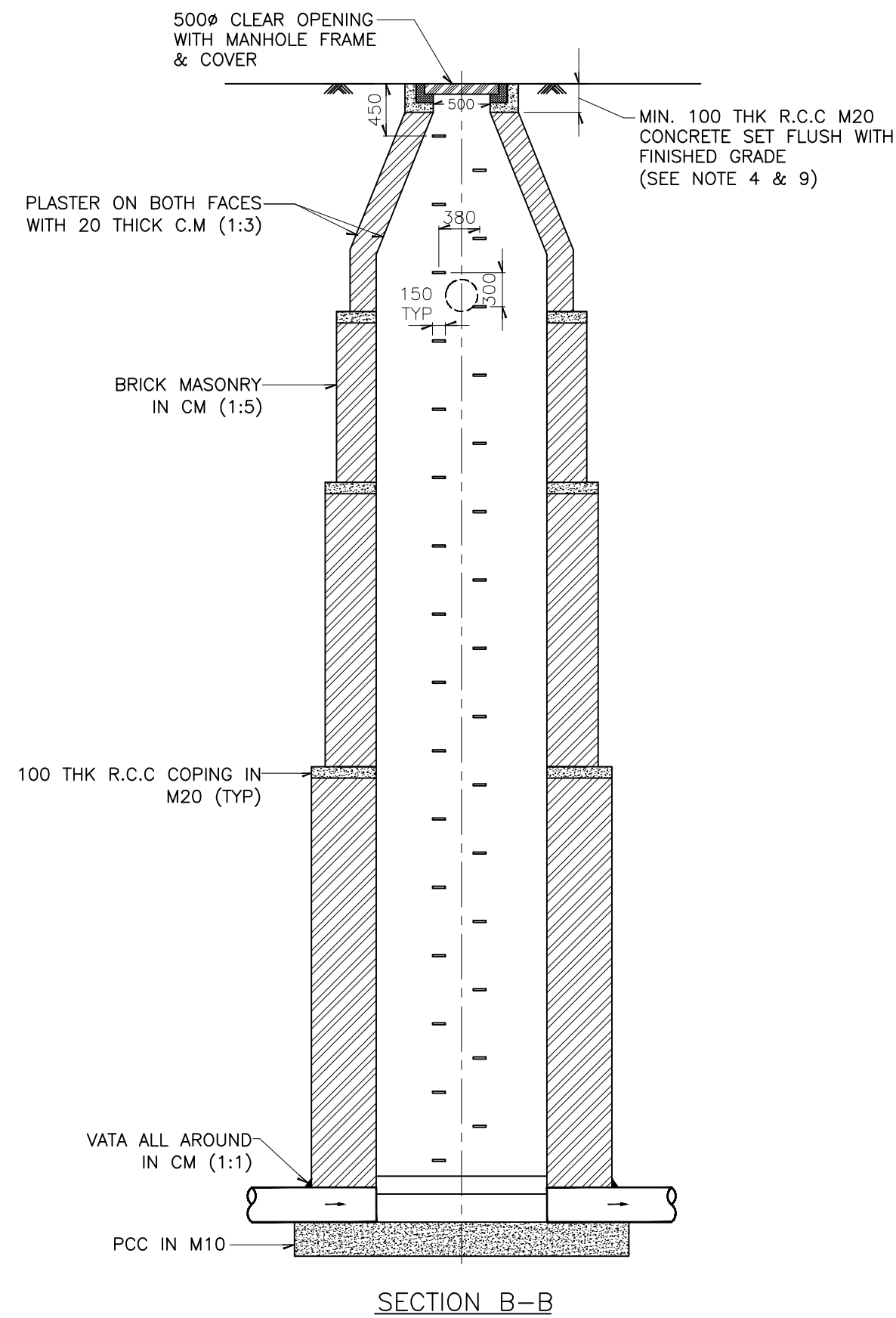


NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT OTHERWISE STATED.
2. 'D' IS DIA. OF SEWER PIPELINE.
3. VATA IN C.M.(1:1) SHALL BE PROVIDED ALL AROUND THE PIPE ENTERING AND LEAVING THE MANHOLE AND ALSO AT THE JUNCTION OF BRICK MASONRY AND CONCRETE BASE SLAB.
4. 100 THICKNESS OF CONCRETE CAN BE VARIED TO FLUSH MANHOLE COVER AND FRAME WITH ROAD SURFACE.
5. AT A GIVEN DEPTH THE THICKNESS OF BRICK MASONRY SHALL NOT BE LESS THAN THAT SHOWN IN THIS DRAWING.
6. THICKNESS SPECIFIED FOR BRICK MASONRY IS EXCLUDING THE THICKNESS OF CEMENT PLASTER ON BOTH FACES.
7. CHANNELS FOR MANHOLE ARE TO BE CONSTRUCTED DULY CONSIDERING THE DIRECTION OF FLOW AS WELL AS ALIGNMENT AND INVERT LEVEL OF PIPES ENTERING/LEAVING THE MANHOLE AND AS DIRECTED BY ENGINEER.
8. CI STEP FIXED WITH CEMENT MORTAR 1:3
9. SFRC MANHOLE & FRAME OF AS PER I.S.12592-2002.
10. THE BENCHING AT THE SIDE OF THE CHANNEL SHALL START FROM 0.8D FROM BASE AND THEN RISE WITH A SLOPE OF 1 IN 6 TOWARDS THE SIDE OF THE MANHOLE. SEMICIRCULAR PORTION WILL BE ACHIEVED IN CEMENT CONCRETE FINISHING ITSELF.
11. INTERNAL PLASTERING SHALL BE SULPHATE RESISTANT CEMENT (SRC).

LEGEND:

TYP	-----	TYPICAL
DIA	-----	DIAMETER
UN	-----	UNLESS NOTED
THK	-----	THICK
PCC	-----	PLAIN CEMENT CONCRETE
EQ	-----	EQUAL
C.I.	-----	CAST IRON
SFRC	-----	STEEL FIBRE REINFORCED CONCRETE



VERTICAL DROP ARRANGEMENT FOR MANHOLES

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT OTHERWISE STATED.
2. 'D' IS DIA. OF SEWER PIPELINE.
3. DROP ARRANGEMENT TO BE PROVIDED WHEN THE DIFFERENCE BETWEEN INVERT LEVELS OF LATERAL / BRANCH SEWER AND MAIN SEWER IS GREATER THAN 600 MM.
4. 100 THICKNESS OF CONCRETE CAN BE VARIED TO FLUSH MANHOLE COVER AND FRAME WITH ROAD SURFACE.
5. CHANNELS FOR MANHOLE ARE TO BE CONSTRUCTED DULY CONSIDERING THE DIRECTION OF FLOW AS WELL AS ALIGNMENT AND INVERT LEVEL OF PIPES ENTERING/LEAVING THE MANHOLE AND AS DIRECTED BY ENGINEER.
6. CI STEP FIXED WITH CEMENT MORTAR 1:3
7. SFRC MANHOLE & FRAME OF AS PER I.S.12592-2002.
8. THE BENCHING AT THE SIDE OF THE CHANNEL SHALL START FROM 0.8D FROM BASE AND THEN RISE WITH A SLOPE OF 1 IN 6 TOWARDS THE SIDE OF THE MANHOLE. SEMICIRCULAR PORTION WILL BE ACHIEVED IN CEMENT CONCRETE FINISHING ITSELF.
9. INTERNAL PLASTERING SHALL BE OF SULPHATE RESISTANT CEMENT (SRC).

LEGEND:

TYP	-----	TYPICAL
DIA	-----	DIAMETER
UN	-----	UNLESS NOTED
THK	-----	THICK
PCC	-----	PLAIN CEMENT CONCRETE
EQ	-----	EQUAL
C.I.	-----	CAST IRON
SFRC	-----	STEEL FIBRE REINFORCED CONCRETE

