

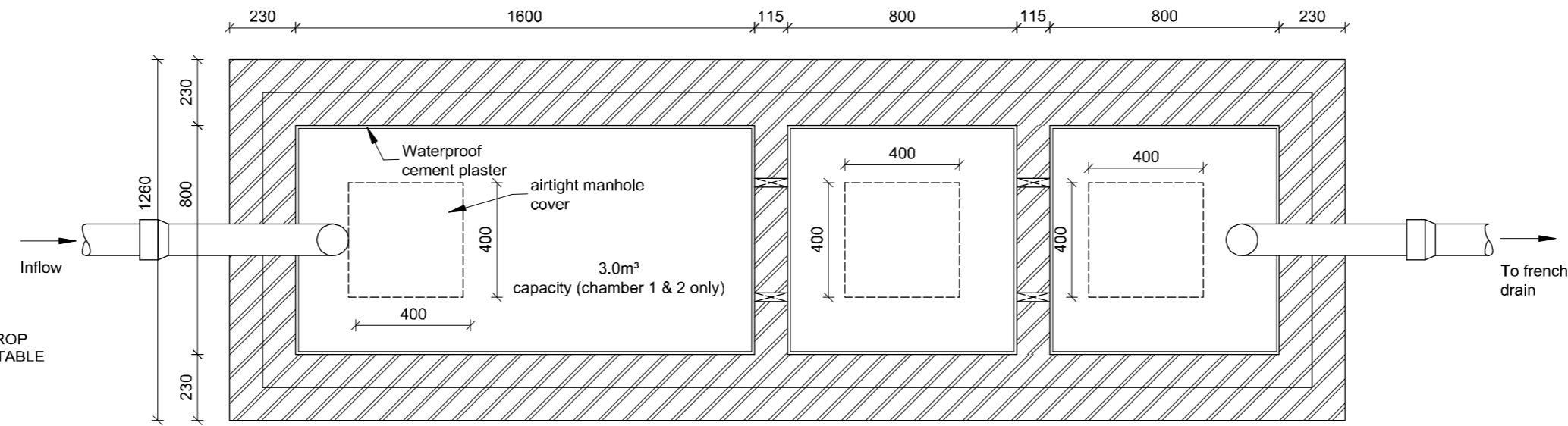
INSITU PERCOLATION TEST

AT THE BOTTOM OF THE TEST PIT, A 300 X 300mm SQUARE OR 300mm DIAMETER HOLE, 350mm DEEP SHALL BE EXCAVATED (SEE FIGURE A)

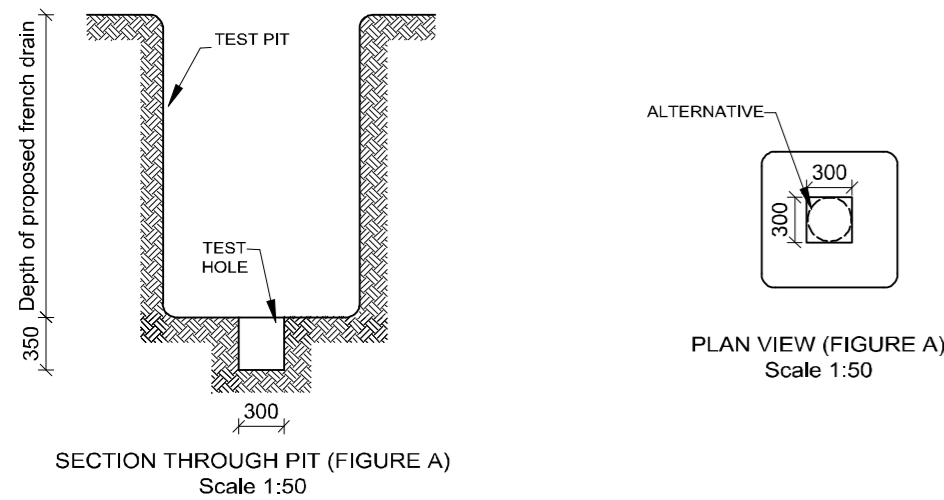
THE TEST HOLE SIDES SHALL BE ROUGHENED TO PROVIDE A NATURAL INFILTRATION SURFACE. ANY LOOSE MATERIAL FROM THE BOTTOM OF THE HOLE SHALL BE REMOVED AND REPLACED WITH A 50mm THICK LAYER OF GRAVEL TO PREVENT SOAKING WHEN THE HOLE IS FILLED WITH WATER

THE PREPARED HOLE SHALL BE FILLED WITH WATER TO A HEIGHT OF NOT LESS THAN 300mm ABOVE ITS BOTTOM AND MAINTAINED AT SUCH LEVEL FOR A PERIOD OF NOT LESS THAN 4 HOURS. AT THE END OF THIS PERIOD, THE LEVEL OF THE WATER SHALL BE RECORDED, AND THE DROP IN LEVEL AS THE WATER SOAKS AWAY OVER A SUBSEQUENT PERIOD OF 30 MINUTES SHALL BE MEASURED. SHOULD THE WATER DRAIN AWAY WITHIN THE 30 MINUTES PERIOD, THE ACTUAL TIME TAKEN FOR THIS TO OCCURE SHALL BE MEASURED.

THE PERCOLATION RATE SHALL BE REPORTED AS THE TIME TAKEN IN MINUTES FOR THE WATER LEVEL TO DROP 25mm. WHERE A NUMBER OF HOLES ARE TESTED, THE AVERAGE SHALL BE REPORTED, USE THE FIGURES IN TABLE 1 TO CALCULATE THE INFILTRATION AREA.



SEPTIC TANK PLAN
Scale 1:20



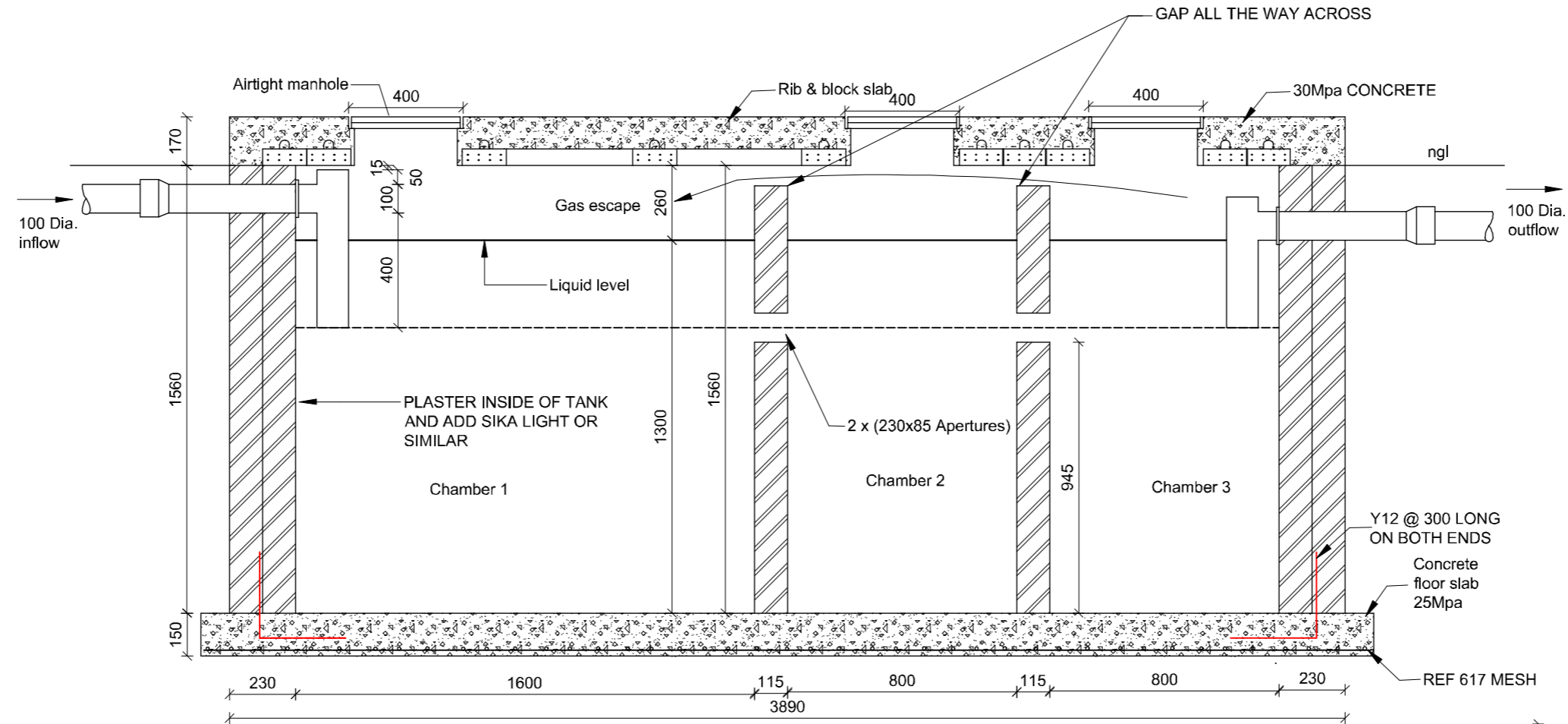
PERCOLATION RATE: AVERAGE TIME FOR 25mm FALL OF TEST WATER LEVEL IN MINUTES	RATE OF APPLICATION OF EFFLUENT TO SUB SOIL INFILTRATION AREAS (LITRES/M² OF SOAKAWAY WALL AREA/DAY.)
0-3	108 MAX
3-5	108-100
6-10	99-80
11-15	79-65
16-20	64-53
21-26	52-40
27-30	39-33
OVER 30	NOT PERMITTED

CALCULATING THE LENGTH OF SOAKAWAY

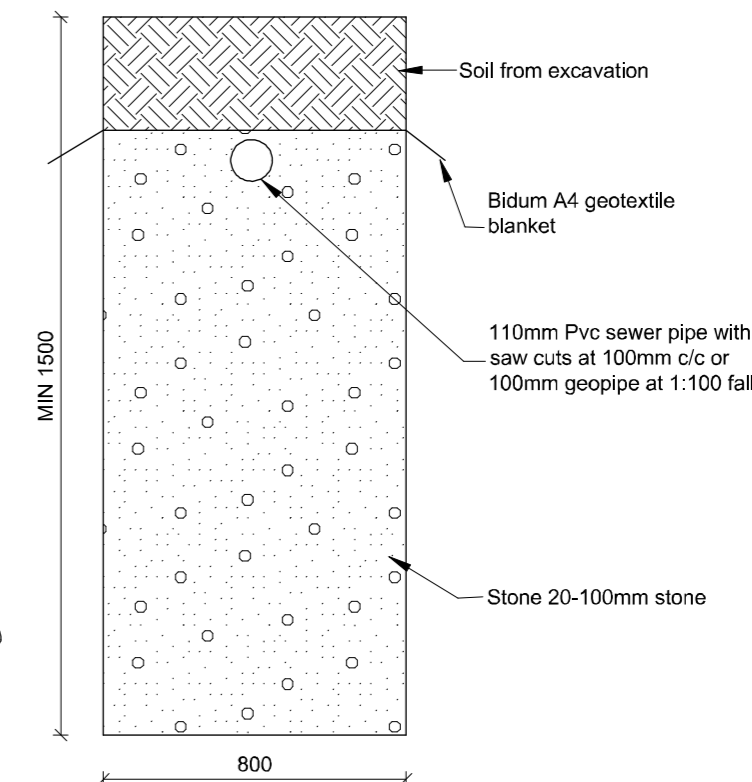
FOR EXAMPLE IF THE RATE OF SEWAGE FLOW FROM A SEPTIC TANK IS 3000 LITRES PER DAY AND THE PERCOLATION RATE IS 9 MINUTES, THE RATE OF APPLICATION OF EFFLUENT TO SUBSOIL INFILTRATION AREAS IS 85 LITRES/m² OF SURFACE AREA.

THE REQUIRED SURFACE AREA IS $(3000/85) = 35.3m^2$. A 1.5m DEEP, 0.8m WIDE TRENCH WILL NEED TO HAVE A LENGTH OF:
 $(SURFACE AREA \cdot AREA OF TRENCH ENDS) / (HEIGHT OF TRENCH \times 2)$
 $(35.3 \cdot (0.8 \times 1.5 \times 2)) / (1.5 \times 2) = 11m$

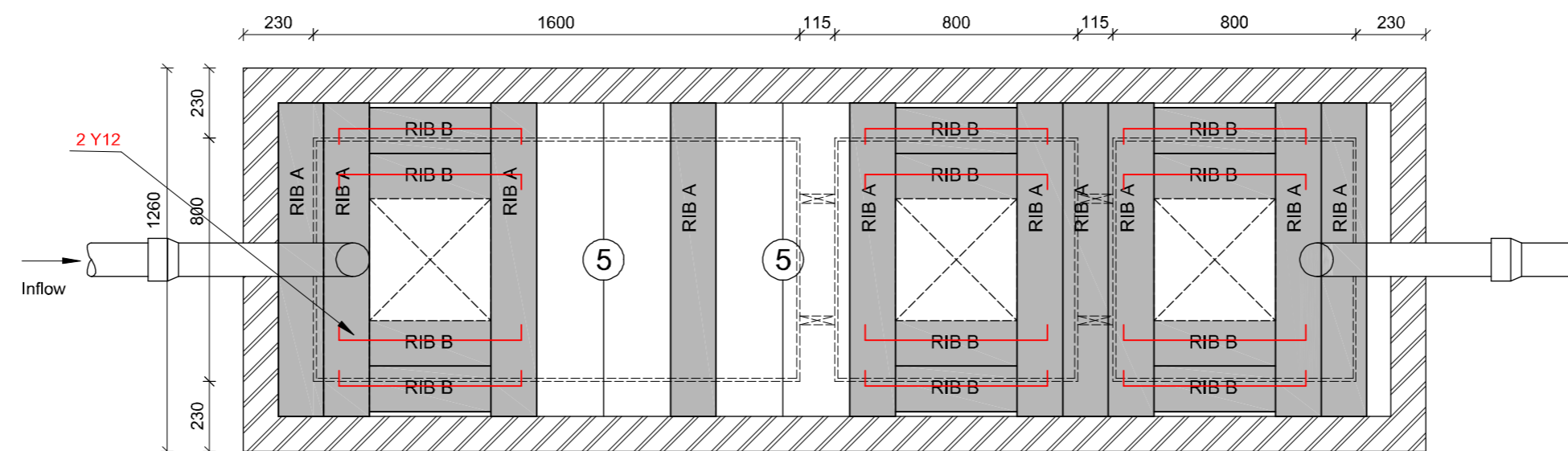
THE BASES OF TRENCHES ARE EXCLUDED FROM THE CALCULATION OF THE PERCOLATION AREA AS THE BASES INEVITABLY BECOME CLOGGED WITH SLUDGE.



SEPTIC TANK SECTION
Scale 1:20



FRENCH DRAIN/SOAK AWAY
Scale 1:20



RIB & BLOCK SLAB PLAN
Scale 1:30

TYPE	LENGTH (mm)	TOTAL	WIRES
RIB TYPE A	1030	10	3
RIB TYPE B	400	10	3
170 AREA: 3m²	CONCRETE: (0.112 m²/m²) x 3m² + 10% = 1m³		

MEMBER	NO OF	BARS PER MEMB	DIA	LENGTH	TOTAL NUMBER	MARK	SC	BENDING					
								A	B	C	D	E/r	
A	12	2	Y12	800	34	A	35	600					

THE CONTRACTOR MUST CHECK ALL DIMENSION BEFORE ORDERING MATERIAL OR START WITH CONSTRUCTION

WYSIGING AMENDMENT
NAAM EN ADRES VAN RAADGEWER NAME AND ADDRESS OF CONSULTANT

14 CUSSONS STREET P.O. BOX 14701 NELSPRUIT 1200
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ORGEMETS/SURVEIVED	NAGETREKTRACED	
SAAMGESTEL/COMPLEED	AANGEPAS/ADAPTEED	
ONTWERP/DESIGN	NAGESIN/GECHECKED	ED
GETEKEND/DRAWN	VH GOEDGEKEUR/APPROVED	

CLIENT CLIENT
INGWELALA

GOEDGEKEUR APPROVED
HOOF SIVELING CHIEF ENG. CIVIL
NAME OF LOCAL AUTHORITY NAAM VAN PLAASLIKE RAAD

AANBEVEIL RECOMMENDED
TITEL/TITLE

DEEL/TPEL SUB TITLE
SEPTIC TANK & FRENCH DRAIN DETAIL

PROJEK NO PROJECT NO
LEW1410

LEER/FILE
SKAAL SCALE
AS SHOWN
TEKENING NR DRAWING NO
LEW1410/01 REV 01