

APPENDIX J

TABLES FOR SELECTING A DISPOSAL SYSTEM

The enclosed **system selection tables** are to be used in conjunction with section 4 of these guidelines.

The contents of these tables refers to the minimum required lengths of systems, soil types and depths for a particular slope. It is recommended that the system should be made as long as the width of the lot will permit (not in excess of 60m). If the length recommended indicated on the table is not available, consider the selection of another system type.

If the total soil depth "D" is less than indicated in this table, then proceed to the next table.

When selecting a soil type, the permeability shall not be less than that indicated for that particular soil type. If more than one type of permeable soil is present in the test pit, use the permeable with the lowest permeability for the selection and total depth of all permeable soils.

The width of the trench "W" is to be determined by referring to **Appendix K, Table 4.12.**

TABLE 4.4A C1 FULLY TRENCHED SYSTEM SELECTION-SINGLE FAMILY 3 BEDROOM HOUSE-FLOW 1000LITRES/DAY

L = pipe length in meters; C= 600 mm; D = minimum required total soil depth above water or bedrock in metres; N/S = no selection

SLOPE %

Soil Type	Depth of Permeable Soil (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						
Medium to coarse sand and fine sandy gravel Permeability: 20E-6 m/s (1.73 m/d)	750 to 899	N/S	L=49 D=1.7	L=39 D=1.7	L=32 D=1.7	L=28 D=1.7	See Raised C1 Selection Tables																												
	900 to 999	L=43 D=1.7	L=32 D=1.7	L=26 D=1.7	See Raised C1 Selection Tables																														
	1000 to 1099	L=35 D=1.7	L=27 D=1.7	See Raised C1 Selection Tables																															
	1100 to 1199	L=30 D=1.7	L=25 D=1.7		L=25 D=1.8					L=25 D=1.9					L=25 D=2.0																				
	1200 to 1299	L=26 D=1.7	L=25 D=1.7		L=25 D=1.8					L=25 D=1.9					L=25 D=2.0																				
1300 +		L=25 D=1.7		L=25 D=1.8					L=25 D=1.9					L=25 D=2.0																					
Silty Sand Permeability: 8E-6 m/s (0.69 m/d)	750 to 899	N/S						L=54 D=1.7	L=49 D=1.7	L=44 D=1.7	L=40 D=1.7	L=37 D=1.7	L=35 D=1.8	L=32 D=1.8	See C1 Raised Selection Tables																				
	900 to 999	N/S			L=54 D=1.7	L=46 D=1.7	L=40 D=1.7	L=36 D=1.7	L=32 D=1.7	L=30 D=1.8	L=27 D=1.8	See C1 Raised Selection Tables																							
	1000 to 1099	N/S		L=53 D=1.7	L=44 D=1.7	L=38 D=1.7	L=33 D=1.7	L=30 D=1.7	L=27 D=1.7	See C1 Raised Selection Tables																									
	1100 to 1199	N/S		L=56 D=1.7	L=45 D=1.7	L=37 D=1.7	L=32 D=1.7	L=28 D=1.7	See C1 Raised Selection Tables																										
	1200 to 1299	N/S		L=49 D=1.7	L=39 D=1.7	L=32 D=1.7	L=28 D=1.7	L=25 D=1.7		L=25 D=1.8					L=25 D=1.9					L=25 D=2.0															
1300 +	L=57 D=1.7	L=43 D=1.7	L=34 D=1.7	L=29 D=1.7	L=25 D=1.7		L=25 D=1.8					L=25 D=1.9					L=25 D=2.0																		
Sandy Silt Permeability: 3E-6 m/s (0.26 m/d)	750 to 899	NO SELECTION													L=59 D=1.8	L=56 D=1.8	L=54 D=1.8	L=52 D=1.8	See Raised C1 selection Tables																
	900 to 999	NO SELECTION													L=57 D=1.7	L=54 D=1.7	L=51 D=1.7	L=48 D=1.8	L=45 D=1.8	L=43 D=1.8	L=41 D=1.8	L=39 D=1.8	L=38 D=1.8	L=36 D=1.9	L=35 D=1.9	L=33 D=1.9	L=32 D=1.9	L=31 D=1.9	L=30 D=1.9	See Raised C1 selection Tables					
	1000 to 1099	NO SELECTION													L=59 D=1.7	L=54 D=1.7	L=50 D=1.7	L=47 D=1.7	L=44 D=1.8	L=42 D=1.8	L=39 D=1.8	L=37 D=1.8	L=35 D=1.8	L=34 D=1.8	L=32 D=1.8	L=31 D=1.9	L=30 D=1.9	L=28 D=1.9	L=27 D=1.9	L=26 D=2.0	See Raised C1 selection Tables				
	1100 to 1199	NO SELECTION													L=60 D=1.7	L=54 D=1.7	L=50 D=1.7	L=46 D=1.7	L=43 D=1.8	L=40 D=1.8	L=37 D=1.8	L=35 D=1.8	L=33 D=1.8	L=32 D=1.8	L=30 D=1.8	L=29 D=1.9	L=27 D=1.9	L=26 D=1.9	See Raised C1 selection Tables						
	1200 to 1299	NO SELECTION													L=57 D=1.7	L=52 D=1.7	L=47 D=1.7	L=43 D=1.7	L=40 D=1.7	L=37 D=1.8	L=35 D=1.8	L=32 D=1.8	L=31 D=1.8	L=29 D=1.8	L=27 D=1.9	L=26 D=1.9	L=25 D=1.9					L=25 D=2.0			
1300 +	NO SELECTION													L=57 D=1.7	L=51 D=1.7	L=46 D=1.7	L=42 D=1.7	L=38 D=1.7	L=35 D=1.8	L=33 D=1.8	L=31 D=1.8	L=29 D=1.8	L=27 D=1.8	L=26 D=1.9	L=25 D=1.9					L=25 D=2.0					

TABLE 4.5A RAISED C1 SYSTEM SELECTION - SINGLE FAMILY 3 BEDROOM HOUSE - FLOW 1000 LITRES/DAY

L= pipe length in metres; C= 300 mm; D= minimum required total soil depth above water or bedrock in metres; N/S= no selection

SLOPE %

Soil Type	Depth of Permeable Soil (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26 to 30	
Medium to coarse sand and fine sandy gravel	750 to 899	L=32 D=1.4																								
	900 to 999	L=26 D=1.4																								
Permeability: 20E-6 m/s (1.73 m/d)	1000 to 1300 +			L=25 D=1.4								L=25 D=1.5							L= 25 D=1.6							
Silty Sand Permeability: 8E-6 m/s (0.69 m/d)	750 to 899		N/S	L=49 D=1.4	L=40 D=1.4	L=35 D=1.4	L=30 D=1.4	L=27 D=1.4																	L=25 D=1.7	
	900 to 999			L=49 D=1.4	L=39 D=1.4	L=32 D=1.4	L=28 D=1.4																			
	1000 to 1099	L=57 D=1.4	L=43 D=1.4	L=34 D=1.4	L=29 D=1.4																					
	1100 to 1199	L=51 D=1.4	L=38 D=1.4	L=31 D=1.4	L=26 D=1.4																					
	1200 to 1299	L=46 D=1.4	L=35 D=1.4	L=28 D=1.4																						
	1300 +	L=42 D=1.4	L=32 D=1.4																							
Sandy Silt Permeability: 3E-6 m/s (0.26 m/d)	750 to 899											L=59 D=1.4	L=54 D=1.4	L=50 D=1.4	L=46 D=1.4	L=43 D=1.5	L=40 D=1.5	L=38 D=1.5	L=36 D=1.5	L=34 D=1.5	L=32 D=1.5	L=31 D=1.6	L=30 D=1.6	L=28 D=1.6	L=27 D=1.6	L=26 D=1.6
	900 to 999							L=57 D=1.4	L=52 D=1.4	L=47 D=1.4	L=43 D=1.4	L=40 D=1.4	L=37 D=1.5	L=35 D=1.5	L=32 D=1.5	L=31 D=1.5	L=29 D=1.5	L=27 D=1.6	L=26 D=1.6							
	1000 to 1099							L=57 D=1.4	L=51 D=1.4	L=46 D=1.4	L=42 D=1.4	L=38 D=1.4	L=35 D=1.5	L=33 D=1.5	L=31 D=1.5	L=29 D=1.5	L=27 D=1.5	L=26 D=1.6								
	1100 to 1199							L=58 D=1.4	L=51 D=1.4	L=45 D=1.4	L=41 D=1.4	L=37 D=1.4	L=34 D=1.5	L=32 D=1.5	L=29 D=1.5	L=27 D=1.5	L=26 D=1.5									
	1200 to 1299							L=53 D=1.4	L=46 D=1.4	L=41 D=1.4	L=37 D=1.4	L=34 D=1.4	L=31 D=1.5	L=29 D=1.5	L=27 D=1.5											
	1300 +							L=56 D=1.4	L=48 D=1.4	L=42 D=1.4	L=38 D=1.4	L=34 D=1.4	L=31 D=1.5	L=28 D=1.5	L=26 D=1.5											
		No Selection																								
		L=25 D=1.6																								

TABLE 4.6A STANDARD C2 SYSTEM SELECTION - SINGLE FAMILY 3 BEDROOM HOUSE - FLOW 1000LITRES/DAY

L = pipe length in meters; C = 175 mm; D = minimum required total soil depth above water or bedrock in metres; N/S = no selection

SLOPE %

Soil Type	Depth of Permeable soil (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				
Medium to coarse sand and fine sandy gravel Permeability: 20E-6 m/s (1.73 m/d)	300 to 449	N/S	L=49 D=1.2	L=39 D=1.3	L=33 D=1.3										No Selection																		
	450 to 599	L=43 D=1.2	L=33 D1.3	L=33 D=1.3	L=33 D=1.3										L=33 D=1.4										L=33 D=1.5								
	600+	L=32 D=1.2	L=25 D=1.3		L=25 D=1.3					L=25 D=1.4					L=25 D=1.5					L=25 D=1.6													
Silty Sand Permeability: 8E-6 m/s (0.691 m/d)	300 to 449											L=54 D=1.3	L=49 D=1.3	L=44 D=1.3	L=40 D=1.3	L=37 D=1.3	N/S																
	450 to 599	N/S			L=54 D=1.3	L=46 D=1.3	L=40 D=1.3	L=36 D=1.3	L=33 D=1.3					L=33 D=1.4										L=33 D=1.5									
	600 to 749			L=49 D=1.2	L=40 D=1.3	L=35 D=1.3	L=30 D=1.3	L=27 D=1.3																									
	750 to 899			L=49 D=1.2	L=39 D=1.3	L=32 D=1.3	L=28 D=1.3																										
	900 to 999	L=54 D=1.2	L=40 D=1.3	L=32 D=1.3	L=27 D=1.3	L=25 D=1.3					L=25 D=1.4										L=25 D=1.5					L=25 D=1.6							
	1000 to 1099	L=49 D=1.2	L=36 D=1.3	L=29 D=1.3																													
	1100 to 1199	L=44 D=1.2	L=33 D=1.3	L=27 D=1.3																													
	1200 to 1299	L=40 D=1.2	L=30 D=1.3																														
	1300 +	L=37 D=1.2	L=28 D=1.3																														
Sandy Silt Permeability: 3E: 6m/s (0.26 m/d)	300 to 449											N/S																					
	450 to 599											L=57 D=1.3	L=54 D=1.3	L=51 D=1.3	L=48 D=1.3	L=45 D=1.4	L=43 D=1.4	L=41 D=1.4	L=39 D=1.4	L=38 D=1.4	L=36 D=1.4	L=35 D=1.4	L=33 D=1.5										
	600 to 749											L=59 D=1.3	L=54 D=1.3	L=50 D=1.3	L=46 D=1.3	L=43 D=1.3	L=41 D=1.3	L=38 D=1.4	L=36 D=1.4	L=34 D=1.4	L=32 D=1.4	L=31 D=1.4	L=30 D=1.4	L=28 D=1.5	L=27 D=1.5	L=26 D=1.5							
	750 to 899	N/S										L=57 D=1.3	L=52 D=1.3	L=47 D=1.3	L=43 D=1.3	L=40 D=1.3	L=37 D=1.3	L=35 D=1.4	L=32 D=1.4	L=31 D=1.4	L=29 D=1.4	L=27 D=1.4	L=26 D=1.5										
	900 to 999											L=54 D=1.3	L=48 D=1.3	L=43 D=1.3	L=39 D=1.3	L=36 D=1.3	L=33 D=1.3	L=31 D=1.4	L=29 D=1.4	L=27 D=1.4	L=26 D=1.4												
	1000 to 1099											L=55 D=1.3	L=49 D=1.3	L=43 D=1.3	L=39 D=1.3	L=35 D=1.3	L=32 D=1.3	L=30 D=1.3	L=28 D=1.4	L=26 D=1.4													
	1100 to 1199											L=59 D=1.3	L=50 D=1.3	L=44 D=1.3	L=39 D=1.3	L=35 D=1.3	L=32 D=1.3	L=30 D=1.3	L=27 D=1.4	L=25 D=1.4													
	1200 to 1299											L=54 D=1.3	L=46 D=1.3	L=40 D=1.3	L=36 D=1.3	L=32 D=1.3	L=30 D=1.3	L=27 D=1.4	L=25 D=1.4														
1300 +											L=60 D=1.3	L=50 D=1.3	L=43 D=1.3	L=37 D=1.3	L=33 D=1.3	L=30 D=1.3	L=27 D=1.3																

TABLE 4.6B STANDARD C2 SYSTEM SELECTION - SINGLE FAMILY 4 BEDROOM HOUSE - FLOW 1500LITRES/DAY

L = pipe length in meters; C= 175 mm; D = minimum required total soil depth above water or bedrock in metres; N/S = no selection

SLOPE %

Soil Type	Depth of Permeable soil (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						
Medium to coarse sand and fine sandy gravel Permeability: 20E-6 m/s (1.73 m/d)	300 to 449	N/S		L=58 D=1.3	L=49 D=1.3	L=42 D=1.3	L=36 D=1.3	NO SELECTION																											
	450 to 599			L=49 D=1.3	L=39 D=1.3	L=33 D=1.3		L=33 D=1.4					L=33 D=1.5				NO SELECTION																		
	600 to 749	L=49 D=1.2	L=36 D=1.3	L=29 D=1.3	L=25 D=1.3			L=25 D=1.4					L=25 D=1.5				L=25 D=1.6						No Selection												
	750 to 899	L=39 D=1.3	L=29 D=1.3																				L=25 D=1.7		L=25 D=1.8										
	900+	L=32 D=1.3																																	
Silty Sand Permeability: 8E-6 m/s (0.69 m/d)	300 to 449												L=56 D=1.3																						
	450 to 449	NO SELECTION								L=54 D=1.3	L=49 D=1.3	L=44 D=1.3	L=40 D=1.4	L=37 D=1.4	L=35 D=1.4	L=33 D=1.4	L=33 D=1.5	NO SELECTION																	
	600 to 749					L=52 D=1.3	L=46 D=1.3	L=40 D=1.3	L=36 D=1.3	L=33 D=1.3	L=30 D=1.4	L=28 D=1.4	L=26 D=1.5																						
	750 to 899	N/S		L=58 D=1.3	L=49 D=1.3	L=42 D=1.3	L=36 D=1.3	L=32 D=1.3	L=29 D=1.4	L=27 D=1.4											L=25 D=1.7		L=25 D=1.8												
	900 to 999			L=49 D=1.3	L=40 D=1.3	L=35 D=1.3	L=30 D=1.3	L=27 D=1.4																											
	1000 to 1099	L=55 D=1.3	L=44 D=1.3	L=36 D=1.3	L=31 D=1.3	L=27 D=1.4	L=25 D=1.4					L=25 D=1.5				L=25 D=1.6						L=25 D=1.7													
	1100 to 1199	L=50 D=1.3	L=40 D=1.3	L=33 D=1.3	L=28 D=1.3																														
1200 to 1299	L=46 D=1.3	L=36 D=1.3	L=30 D=1.3	L=26 D=1.3																															
1300 +	L=56 D=1.2	L=42 D=1.3	L=34 D=1.3	L=28 D=1.3	L=25 D=1.3																														
Sandy Silt Permeability: 3E-6 m/s (0.26 m/d)	450 to 599																		L=59 D=1.4	L=56 D=1.4	L=54 D=1.4	L=52 D=1.4	L=50 D=1.5	L=48 D=1.5	N/S										
	600 to 749															L=57 D=1.7	L=54 D=1.4	L=51 D=1.4	L=49 D=1.4	L=46 D=1.4	L=44 D=1.4	L=42 D=1.5	L=40 D=1.5	L=39 D=1.5	L=37 D=1.5	L=36 D=1.6	L=35 D=1.6	L=34 D=1.6	L=32 D=1.6	L=31 D=1.6	L=30 D=1.6	L=29 D=1.7	L=28 D=1.7	L=27 D=1.7	L=26 D=1.6
	750 to 899												L=60 D=1.3	L=55 D=1.3	L=52 D=1.4	L=49 D=1.4	L=46 D=1.4	L=43 D=1.4	L=41 D=1.4	L=39 D=1.5	L=37 D=1.5	L=35 D=1.5	L=34 D=1.5	L=32 D=1.5	L=31 D=1.5	L=30 D=1.5	L=28 D=1.6	L=27 D=1.6							
	900 to 999	NO SELECTION								L=59 D=1.3	L=54 D=1.3	L=50 D=1.3	L=46 D=1.4	L=43 D=1.4	L=40 D=1.4	L=38 D=1.4	L=36 D=1.5	L=34 D=1.5	L=32 D=1.5	L=31 D=1.5	L=29 D=1.5	L=28 D=1.6	L=27 D=1.6	L=25 D=1.6											
	1000 to 1099						L=58 D=1.3	L=53 D=1.3	L=49 D=1.3	L=45 D=1.3	L=42 D=1.4	L=39 D=1.4	L=36 D=1.4	L=34 D=1.5	L=32 D=1.5	L=31 D=1.5	L=29 D=1.5	L=28 D=1.6	L=27 D=1.6	L=25 D=1.6															
	1100 to 1199			L=59 D=1.4	L=53 D=1.4	L=48 D=1.4	L=44 D=1.4	L=41 D=1.4	L=38 D=1.4	L=35 D=1.4	L=33 D=1.4	L=31 D=1.6	L=30 D=1.6	L=28 D=1.6	L=27 D=1.6																				
	1200 to 1299				L=54 D=1.3	L=49 D=1.3	L=44 D=1.3	L=40 D=1.4	L=37 D=1.4	L=35 D=1.4	L=32 D=1.4	L=30 D=1.5	L=29 D=1.5	L=27 D=1.5	L=26 D=1.5	L=25 D=1.6				L=25 D=1.7															
1300 +			L=56 D=1.3	L=50 D=1.3	L=45 D=1.3	L=41 D=1.3	L=37 D=1.4	L=35 D=1.4	L=32 D=1.4	L=30 D=1.4	L=28 D=1.5	L=26 D=1.5	L=25 D=1.5																						

TABLE 4.7A (IMPORTED SAND FILL, 3×10^{-5} m/s to 5×10^{-4} m/s) RAISED C2 SYSTEM SELECTION - SINGLE FAMILY 3 BEDROOM HOUSE - FLOW 1000LITRES/DAY

L = pipe length in meters; C = 100 mm; D = minimum required total soil depth above water or bedrock in metres; N/S = no selection

SLOPE %

Soil Type	Depth of Permeable Soil (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Medium to coarse sand and fine sandy gravel Permeability: 20E-6 m/s (1.73 m/d)	150 to 299	N/S	L=49 D=1.0	L=39 D=1.0	L=33 D=1.0						L=33 D=1.1						L=33 D=1.2												
	300 to 599	L=43 D=1.0	L=33 D=1.0						L=33 D=1.1						L=33 D=1.2														
	600 +	L=26 D=1.0	L=25 D=1.0			L=25 D=1.1						L=25 D=1.2						L=25 D=1.3											
Silty Sand Permeability: 8E-6 m/s (0.69 m/d)	150 to 299	N/S		L=55 D=1.0	L=46 D=1.0	L=40 D=1.0	L=35 D=1.0	L=33 D=1.1						L=33 D=1.2															
	300 to 449	L=54 D=1.0		L=43 D=1.0	L=36 D=1.0	L=33 D=1.1						L=33 D=1.2																	
	450 to 599	L=59 D=1.0	L=44 D=1.0	L=35 D=1.0	L=33 D=1.1						L=33 D=1.2																		
	600 to 749	L=50 D=1.0	L=37 D=1.0	L=30 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2												
	750 to 899	L=43 D=1.0	L=32 D=1.0	L=26 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2												
	900 to 999	L=38 D=1.0	L=29 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2													
	1000 to 1099	L=35 D=1.0	L=27 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2													
	1100 to 1199	L=33 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2														
1200 +	L=31 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2															
Sandy Silt Permeability : 3E-6 m/s (0.26 m/d)	150 to 299	N/S		L=56 D=1.0	L=48 D=1.0	L=42 D=1.0	L=38 D=1.0	L=34 D=1.1	L=33 D=1.0	L=33 D=1.1						L=33 D=1.2													
	300 to 449	L=60 D=1.0		L=50 D=1.0	L=43 D=1.0	L=38 D=1.0	L=33 D=1.0						L=33 D=1.1						L=33 D=1.2										
	450 to 599	L=54 D=1.0		L=45 D=1.0	L=38 D=1.0	L=34 D=1.0	L=33 D=1.0						L=33 D=1.1						L=33 D=1.2										
	600 to 749	L=49 D=1.0		L=40 D=1.0	L=35 D=1.0	L=31 D=1.0	L=27 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2									
	750 to 899	L=55 D=1.0	L=44 D=1.0	L=37 D=1.0	L=32 D=1.0	L=28 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2										
	900 to 999	L=51 D=1.0	L=41 D=1.0	L=34 D=1.0	L=29 D=1.0	L=26 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2										
	1000 to 1099	L=49 D=1.0	L=39 D=1.0	L=32 D=1.0	L=28 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2											
	1100 to 1199	L=46 D=1.0	L=37 D=1.0	L=31 D=1.0	L=27 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2											
	1200 to 1299	L=59 D=1.0	L=44 D=1.0	L=35 D=1.0	L=30 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2											
1300 +	L=56 D=1.0	L=42 D=1.0	L=34 D=1.0	L=28 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2												

TABLE 4.7B (IMPORTED SAND FILL, 3×10^{-5} m/s to 5×10^{-4} m/s) RAISED C2 SYSTEM SELECTION SINGLE FAMILY 4 BEDROOM HOUSE - FLOW 1500 LITRES/DAY

L = pipe length in meters; C= 100 mm; D = minimum required total soil depth above water or bedrock in metres; N/S = no selection

SLOPE %

Soil Type	Depth of Permeable Soil (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Medium to coarse sand and fine sandy gravel Permeability: $20E-6$ m/s (1.73 m/d)	150 to 299	N/S		L=58 D=1.0	L=49 D=1.0	L=42 D=1.0	L=36 D=1.0	L=33 D=1.1													L=33								
	300 to 449			L=49 D=1.0	L=39 D=1.0	L=33		L=33		L=33 D=1.1						L=33 D=1.2						L=33 D=1.4							
	450 to 599	L=49 D=1.0	L=36 D=1.0	D=1.0			D=1.1														L=33								
	600 to 749	L=39 D=1.0	L=29 D=1.0	L=25	L=25 D=1.1				L=25 D=1.2				L=25 D=1.3				L=25 D=1.4				L=25 D=1.5								
	750 +	L=32 D=1.0	D=1.0																		L=25 D=1.5								
Silty Sand Permeability: $8E-6$ m/s (0.69 m/d)	150 to 299	N/S				L=59 D=1.0	L=52 D=1.0	L=46 D=1.0	L=42 D=1.1	L=38 D=1.1	L=35 D=1.1													L=33					
	300 to 449	N/S				L=54 D=1.0	L=46 D=1.0	L=40 D=1.0	L=36 D=1.1	L=33															L=33 D=1.4				
	450 to 599	N/S				L=53 D=1.0	L=44 D=1.0	L=38 D=1.0	D=1.1															L=33					
	600 to 749		L=56 D=1.0	L=45 D=1.0	L=37 D=1.0	L=32 D=1.0	L=28 D=1.1																	L=33					
	750 to 899		L=49 D=1.0	L=39 D=1.0	L=32 D=1.0	L=28 D=1.1																	L=33						
	900 to 999	L=57 D=1.0	L=43 D=1.0	L=34 D=1.0	L=29 D=1.0																	L=33							
	1000 to 1099	L=53 D=1.0	L=40 D=1.0	L=32 D=1.0	L=27 D=1.0					L=25 D=1.1												L=25 D=1.5							
	1100 to 1199	L=49 D=1.0	L=37 D=1.0	L=30 D=1.0					L=25 D=1.2						L=25 D=1.3						L=25 D=1.5								
	1200 to 1299	L=46 D=1.0	L=35 D=1.0	L=28 D=1.0																	L=25								
	1300 +	L=43 D=1.0	L=33 D=1.0	L=26 D=1.0																	L=25								
Sandy Silt Permeability: $3E-6$ m/s (0.26 m/d)	150 to 299	N/S				L=56 D=1.0	L=51 D=1.0	L=46 D=1.1	L=42 D=1.1	L=39 D=1.1	L=36 D=1.1	L=34 D=1.2													L=33				
	300 to 449	N/S				L=56 D=1.0	L=50 D=1.0	L=45 D=1.0	L=41 D=1.1	L=37 D=1.1	L=35 D=1.1	L=33														L=33 D=1.4			
	450 to 599	N/S				L=57 D=1.0	L=50 D=1.0	L=45 D=1.0	L=40 D=1.1	L=37 D=1.1	L=34 D=1.1	L=33														L=33			
	600 to 749	No Selection		L=52 D=1.0	L=46 D=1.0	L=40 D=1.0	L=36 D=1.1	L=33 D=1.1	L=30 D=1.1	L=28 D=1.2	L=26 D=1.2	L=25 D=1.2													L=33				
	750 to 899			L=55 D=1.0	L=48 D=1.0	L=42 D=1.0	L=37 D=1.1	L=33 D=1.1	L=30 D=1.1	L=28 D=1.1	L=26 D=1.2	L=33														L=33			
	900 to 999			L=51 D=1.0	L=44 D=1.0	L=38 D=1.0	L=34 D=1.1	L=31 D=1.1	L=28 D=1.1	L=26 D=1.1	L=33														L=33				
	1000 to 1099			L=58 D=1.0	L=49 D=1.0	L=42 D=1.0	L=36 D=1.0	L=32 D=1.1	L=29 D=1.1	L=27 D=1.1	L=33														L=33				
	1100 to 1199			L=55 D=1.0	L=46 D=1.0	L=40 D=1.0	L=35 D=1.0	L=31 D=1.1	L=28 D=1.1	L=33														L=33					
	1200 to 1299		L=53 D=1.0	L=44 D=1.0	L=38 D=1.0	L=33 D=1.1	L=30 D=1.1	L=27 D=1.1	L=33														L=33						
	1300 +		L=51 D=1.0	L=42 D=1.0	L=36 D=1.0	L=32 D=1.1	L=28 D=1.1	L=25 D=1.1	L=33														L=33						

TABLE 4.7C (FILTER SAND, 1×10^{-4} m/s to 5×10^{-4} m/s) RAISED C2 SYSTEM SELECTION - SINGLE FAMILY 3 BEDROOM HOUSE - FLOW 1000LITRES/DAY

L = pipe length in meters; C = 100 mm; D = minimum required total soil depth above water or bedrock in metres; N/S = no selection

SLOPE %

Soil Type	Depth of Permeable Soil	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Medium to coarse sand and fine sandy gravel Permeability: $20E-6$ m/s (1.73 m/d)	150 to 299	L=33 D=1.0									L=33 D=1.1									L=33 D=1.2									
	300 to 599																												
	600 +	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2						L=25 D=1.3									
Silty Sand Permeability: $8E-6$ m/s (0.69 m/d)	150 to 299	L=35 D=1.0	L=33 D=1.0									L=33 D=1.1									L=33 D=1.2								
	300 to 449																												
	450 to 599																												
	600 to 749	L=26 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2						L=25 D=1.3								
	750 to 899																												
	900 to 999																												
	1000 to 1099																												
	1100 to 1199																												
1200 +																													
150 to 299	L=37 D=1.0	L=33 D=1.0																						L=33 D=1.1					
300 to 449	L=36 D=1.0																												
450 to 599	L=34 D=1.0																												
Sandy Silt Permeability: $3E-6$ m/s (0.26 m/d)	600 to 749	L=33 D=1.0	L=25 D=1.0						L=25 D=1.1						L=25 D=1.2						L=25 D=1.3								
	750 to 899	L=32 D=1.0																											
	900 to 999	L=31 D=1.0																											
	1000 to 1099	L=30 D=1.0																											
	1100 to 1199	L=29 D=1.0																											
	1200 to 1299	L=29 D=1.0																											
	1300 +	L=28 D=1.0																											

TABLE 4.7D (FILTER SAND, 1×10^{-4} m/s to 5×10^{-4} m/s) RAISED C2 SYSTEM SELECTION SINGLE FAMILY 4 BEDROOM HOUSE - FLOW 1500 LITRES/DAY

L = pipe length in meters; C= 100 mm; D = minimum required total soil depth above water or bedrock in metres; N/S = no selection

SLOPE %

Soil Type	Depth of Permeable Soil (mm)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Medium to coarse sand and fine sandy gravel Permeability: $20E-6$ m/s (1.73 m/d)	150 to 299	L=45 D=1.0	L=34 D=1.0	L=33 D=1.0			L=33 D=1.1						L=33 D=1.2						L=33 D=1.3						L=33 D=1.4				
	300 to 449	L=37 D=1.0																											
	450 to 599																												
	600 to 749	L=27 D=1.0	L=25 D=1.0			L=25 D=1.1						L=25 D=1.2						L=25 D=1.3						L=25 D=1.5					
	750 +																												
Silty Sand Permeability: $8E-6$ m/s (0.69 m/d)	150 to 299	L=52 D=1.0	L=39 D=1.0	L=33 D=1.0			L=33 D=1.1						L=33 D=1.2						L=33 D=1.3						L=33 D=1.4				
	300 to 449	L=47 D=1.0	L=35 D=1.0																										
	450 to 599	L=43 D=1.0																											
	600 to 749	L=40 D=1.0	L=30 D=1.0	L=25 D=1.0			L=25 D=1.1						L=25 D=1.2						L=25 D=1.3						L=25 D=1.5				
	750 to 899	L=37 D=1.0	L=28 D=1.0																										
	900 to 999	L=34 D=1.0	L=26 D=1.0																										
	1000 to 1099	L=33 D=1.0																											
	1100 to 1199	L=31 D=1.0																											
	1200 to 1299	L=30 D=1.0																											
1300 +	L=29 D=1.0																												
Sandy Silt Permeability: $3E-6$ m/s (0.26 m/d)	150 to 299	L=56 D=1.0	L=42 D=1.0	L=34 D=1.0	L=33 D=1.0			L=33 D=1.1						L=33 D=1.2						L=33 D=1.3						L=33 D=1.4			
	300 to 449	L=54 D=1.0	L=40 D=1.0																										
	450 to 599	L=51 D=1.0	L=39 D=1.0																										
	600 to 749	L=49 D=1.0	L=37 D=1.0	L=30 D=1.0	L=25 D=1.1			L=25 D=1.2						L=25 D=1.3						L=25 D=1.4						L=25 D=1.5			
	750 to 899	L=48 D=1.0	L=36 D=1.0	L=29 D=1.0																									
	900 to 999	L=46 D=1.0	L=35 D=1.0	L=28 D=1.0																									
	1000 to 1099	L=45 D=1.0	L=34 D=1.0	L=27 D=1.0																									
	1100 to 1199	L=44 D=1.0	L=33 D=1.0																										
	1200 to 1299	L=43 D=1.0	L=32 D=1.0	L=26 D=1.0																									
1300 +	L=42 D=1.0		L=25 D=1.0																										

TABLE 4.8 A (IMPORTED SAND FILL, 3×10^{-5} m/s to 5×10^{-4} m/s) RAISED C2 SELECTION 0 TO 149 MM OF PERMEABLE SOIL - ALL SOIL TYPES																												
<i>L = pipe length in meters; C = 100 mm D = minimum required total soil depth above water or bedrock in metres; N/S = no selection</i>																												
SLOPE %																												
Flow (l/d)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1000	NO SELECTION				L=56 D=1.0	L=49 D=1.0	L=43 D=1.0	L=39 D=1.0					L=39 D=1.1										L=39 D=1.2					
1500	NO SELECTION							L=58 D=1.0	L=53 D=1.0	L=49 D=1.1	L=45 D=1.1	L=42 D=1.1	L=39 D=1.1				L=39 D=1.2						L=39 D=1.3					

TABLE 4.8 B (FILTER SAND, 1×10^{-4} m/s to 5×10^{-4} m/s) RAISED C2 SELECTION 0 TO 149 MM OF PERMEABLE SOIL - ALL SOIL TYPES																												
<i>L = pipe length in meters; C = 100 mm D = minimum required total soil depth above water or bedrock in metres; N/S = no selection</i>																												
SLOPE %																												
Flow (l/d)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1000	L=39 D=1.0												L=39 D=1.1										L=39 D=1.2					
1500	L=58 D=1.0	L=44 D=1.0	L=39 D=1.0					L=39 D=1.1						L=39 D=1.2						L=39 D=1.3								

TABLE 4.9 C3 AND MOUND SELECTION**Flow: 1000 liters**

Slope %	System type	Length	Number of Holes	Hole Spacing	Imported Sand Fill Specification
0 to less than 3	Mound	25 m	20	centre of first hole .625 m from the ends of the pipe then spaced 1.25 m on centres	Imported Sand Fill (3 x 10 ⁻⁵ to 5 x 10 ⁻⁴ m/s)
3 to 10	C3	25 m	20	centre of first hole .625 m from the ends of the pipe then spaced 1.25 m on centres	Filter Sand (1 x 10 ⁻⁴ to 5 x 10 ⁻⁴ m/s)
11 to 30	C3	25 m	20	centre of first hole .625 m from the ends of the pipe then spaced 1.25 m on centres	Imported Sand Fill (3 x 10 ⁻⁵ to 5 x 10 ⁻⁴ m/s)

Flow: 1350 liters

Slope %	System type	Length	Number of Holes	Hole Spacing	Imported Sand Fill Specification
0 to less than 3	Mound	34 m	28	centre of first hole 0.125 m from the ends of the pipe then spaced 1.25 m on centres	Imported Sand Fill (3 x 10 ⁻⁵ to 5 x 10 ⁻⁴ m/s)
3 to 10	C3	34 m	28	centre of first hole 0.125 m from the ends of the pipe then spaced 1.25 m on centres	Filter Sand (1 x 10 ⁻⁴ to 5 x 10 ⁻⁴ m/s)
11 to 30	C3	34 m	28	centre of first hole 0.125 m from the ends of the pipe then spaced 1.25 m on centres	Imported Sand Fill (3 x 10 ⁻⁵ to 5 x 10 ⁻⁴ m/s)

Flow: 1500 liters

Slope %	System type	Length	Number of Holes	Hole Spacing	Imported Sand Fill Specification
0 to less than 3	Mound	38 m	30	centre of first hole .875 m from the ends of the pipe then spaced 1.25 m on centres	Imported Sand Fill (3 x 10 ⁻⁵ to 5 x 10 ⁻⁴ m/s)
3 to 10	C3	38 m	30	centre of first hole .875 m from the ends of the pipe then spaced 1.25 m on centres	Filter Sand (1 x 10 ⁻⁴ to 5 x 10 ⁻⁴ m/s)
11 to 30	C3	38 m	30	centre of first hole .875 m from the ends of the pipe then spaced 1.25 m on centres	Imported Sand Fill (3 x 10 ⁻⁵ to 5 x 10 ⁻⁴ m/s)

TABLE 4.10 (A) MULTIPLE TRENCH SELECTION				
<i>DEPTH OF TRENCH ALLOWED FOR DIFFERENT DEPTHS OF PERMEABLE SOIL AND TOTAL SOIL</i>				
PERMEABLE SOIL DEPTH (mm) (required to give at least 600 mm under upslope trench with 3 m spacing between trenches)		TOTAL SOIL DEPTH (mm) (required to give at least 1m separation below upslope trench with 3 m spacing between trenches)		ALLOWABLE DEPTH OF DOWNSLOPE TRENCH (the bottoms of all trenches are at the same elevation)
2 Trenches	4 Trenches	2 Trenches	4 Trenches	
less than 875	less than 1090	less than 1275	less than 1490	No selection possible
875 and over	1090 and over	1275 and over	1490 and over	Partially trenched- trench depth 150 mm.
1025 and over	1240 and over	1425 and over	1640 and over	Partially trenched- trench depth 150 to 300 mm.
greater than 1400	greater than 1615	greater than 1800	greater than 2015	Fully trenched- trench depth 150 to 675 mm.

All trenches must be level and at the same elevation.

TABLE 4.10 (B) MULTIPLE TRENCH MINIMUM LENGTH OF TRENCH REQUIRED FOR DIFFERENT SOIL TEXTURES (USE LONGER ROWS WHERE POSSIBLE)		
Soil Type	Flow 1000 L/day	Flow 1500 L/day
Medium to Coarse Sand or Fine Sandy Gravel	Total length = 68 m. Use 2 rows 34 m long or 4 rows 17 m long Trench width = 0.6 m minimum	Total length = 100 m. Use 4 rows 25 m long. Trench width = 0.6 m minimum
Silty Sand	Total length = 84 m. Use 4 rows 21 m long. Trench width = 0.6 m minimum	Total length = 124 m. Use 4 rows 31 m long. Trench width = 0.6 m minimum
Sandy Silt	Total length = 112 m. Use 4 rows 28 m Trench width = 0.6 m minimum	Total length = 168 m. Use 4 rows 42 m long. Trench width = 0.6 m minimum

TABLE 4.11 (A) AREA BED SELECTION		
ALLOWABLE TYPE OF SYSTEM AND DEPTH OF CUT FOR DIFFERENT DEPTHS OF PERMEABLE SOIL AND TOTAL SOIL		
PERMEABLE SOIL DEPTH (mm) (required to give at least 600 mm under the upslope edge of a bed up to 6 m wide)	TOTAL SOIL DEPTH (mm) (required to give at least 1 m separation below upslope side of a bed up to 6 m wide)	ALLOWABLE SYSTEM TYPE AND DEPTH OF CUT ON DOWNSLOPE SIDE OF BED
less than 780	less than 1180	No selection possible
780 and over	1180 and over	At ground surface- cut depth 0 mm.
1080 and over	1480 and over	Partially trenched - cut depth 0 to 300 mm.
greater than 1455	1855 and greater	Fully trenched - cut depth 0 to 675 mm.

TABLE 4.11 (B) AREA BED MINIMUM AREAS AND MINIMUM CROSS SLOPE DIMENSIONS FOR DIFFERENT SOIL TEXTURES		
SOIL TYPE	FLOW - 1000 L/DAY	FLOW - 1500 L/DAY
Medium to Course Sand or Fine Sandy Gravel	<u>75</u> m ² - <u>15</u> metres across slope x 5 metres wide	<u>110</u> m ² - <u>22</u> metres across slope x 5 metres wide
Silty Sand	<u>100</u> m ² - <u>20</u> metres across slope x 5 metres wide	<u>150</u> m ² - <u>30</u> metres across slope x 5 metres wide
Sandy Silt	<u>125</u> m ² - <u>25</u> metres across slope x 5 metres wide	<u>180</u> m ² - <u>30</u> metres across slope x 6 metres wide

- Note:**
- 1) A trench system is preferred, if that option is available.
 - 2) For area beds to be constructed at ground surface, the qualified person must ensure the bed is notched into any organic layer present.
 - 3) The perforated pipe in the area bed should be installed such that there is a maximum separation from the wall of the excavation of 1.5 m to the pipe and the maximum separation distance between rows of pipe is 3 m.
 - 4) Use larger areas with longer cross slope dimension, where possible.

TABLE 4.13 HOLDING TANK SYSTEM SELECTION - STORAGE TIMES (DAYS)				
	NUMBER OF BEDROOMS			
TANK SIZE	1	2	3	4
4500 l	✓ (15)	not a selection	not a selection	not a selection
9000 l	✓ (30)	✓ (15)	not a selection	not a selection
13500 l	✓ (45)	✓ (22.5)	✓ (15)	✓ (11.3)

- Notes:**
- a. These are storage estimates only. The actual usage will depend on personal conservation measures and the type/make of the fixtures installed in the home or cottage
 - b. Multiple tanks can be assembled.