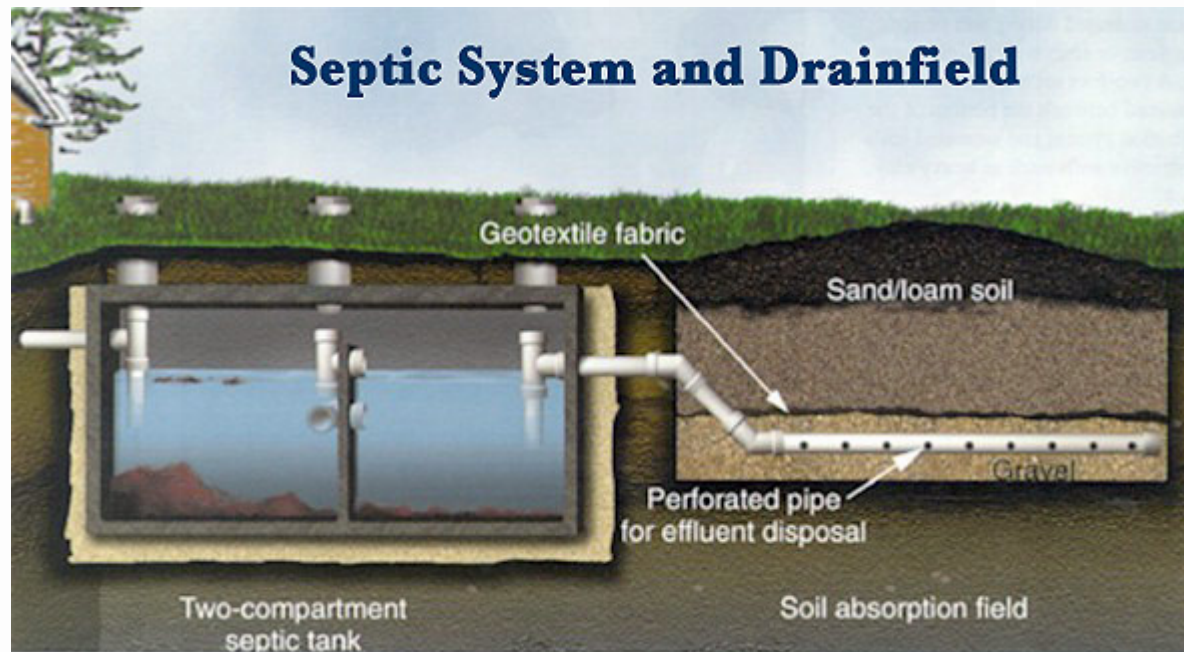


Thurston County Environmental Health



Septic Systems 101



What is an On-Site Sewage (Septic) System?

Collects black (toilet) and grey (sink & laundry) water from the structures

Provides Treatment and Dispersal of the effluent



What are the Laws?

Washington State Administrative Code 246-272A

Sets the minimum standards local health
jurisdictions must follow

Thurston County Sanitary Code, Article IV

Local regulations

THURSTON COUNTY Scatter Creek Aquifer Study Area Boundary 2012

Scatter Creek Study Area

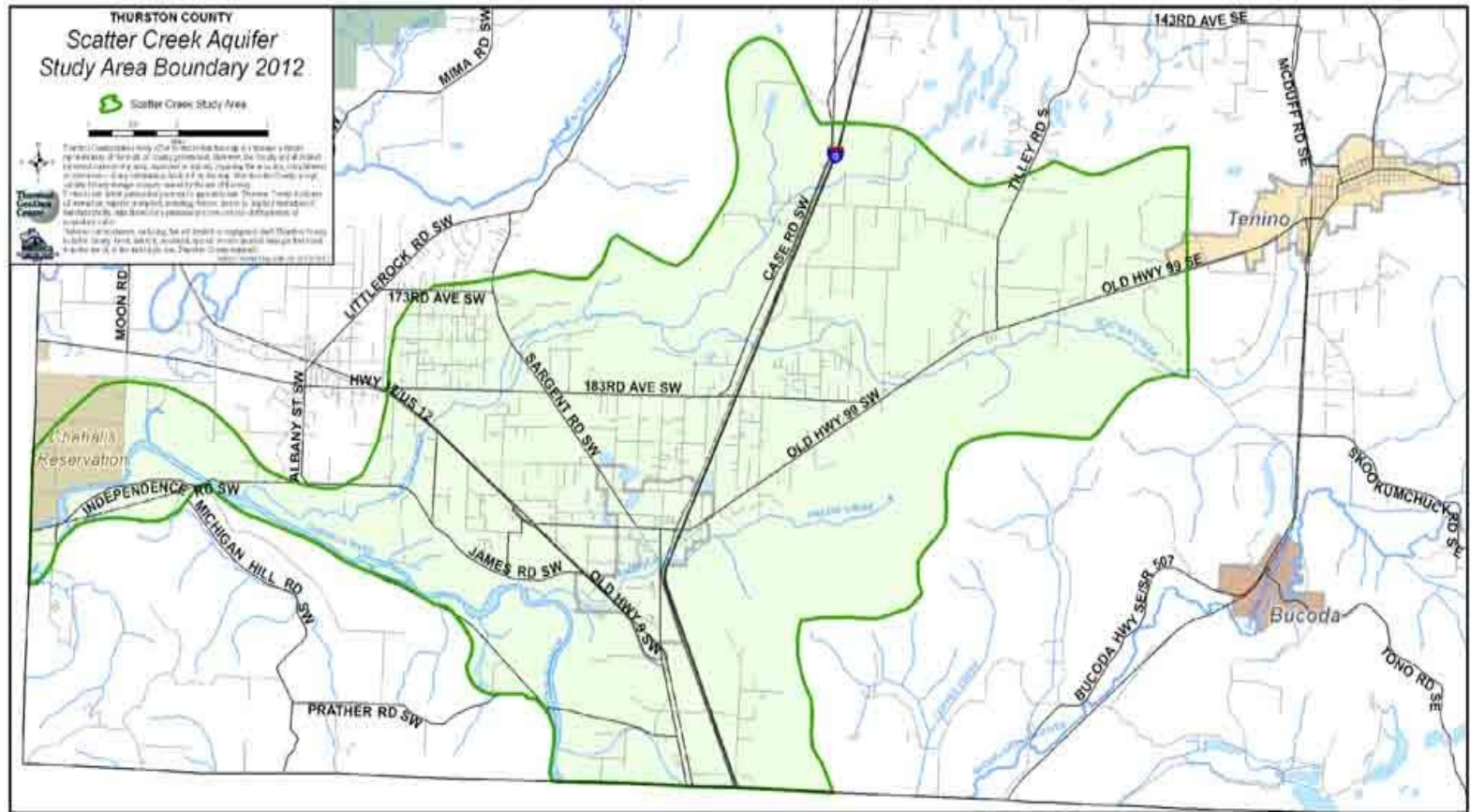


This map was prepared by the Thurston County Department of Planning and Development for the Scatter Creek Aquifer Study. It is intended to provide a general overview of the study area and is not intended to be used for legal purposes. The map is based on the best available information and is subject to change without notice. The map is not a warranty of any kind and is not intended to be used for any purpose other than the one for which it was prepared. The map is not a warranty of any kind and is not intended to be used for any purpose other than the one for which it was prepared.



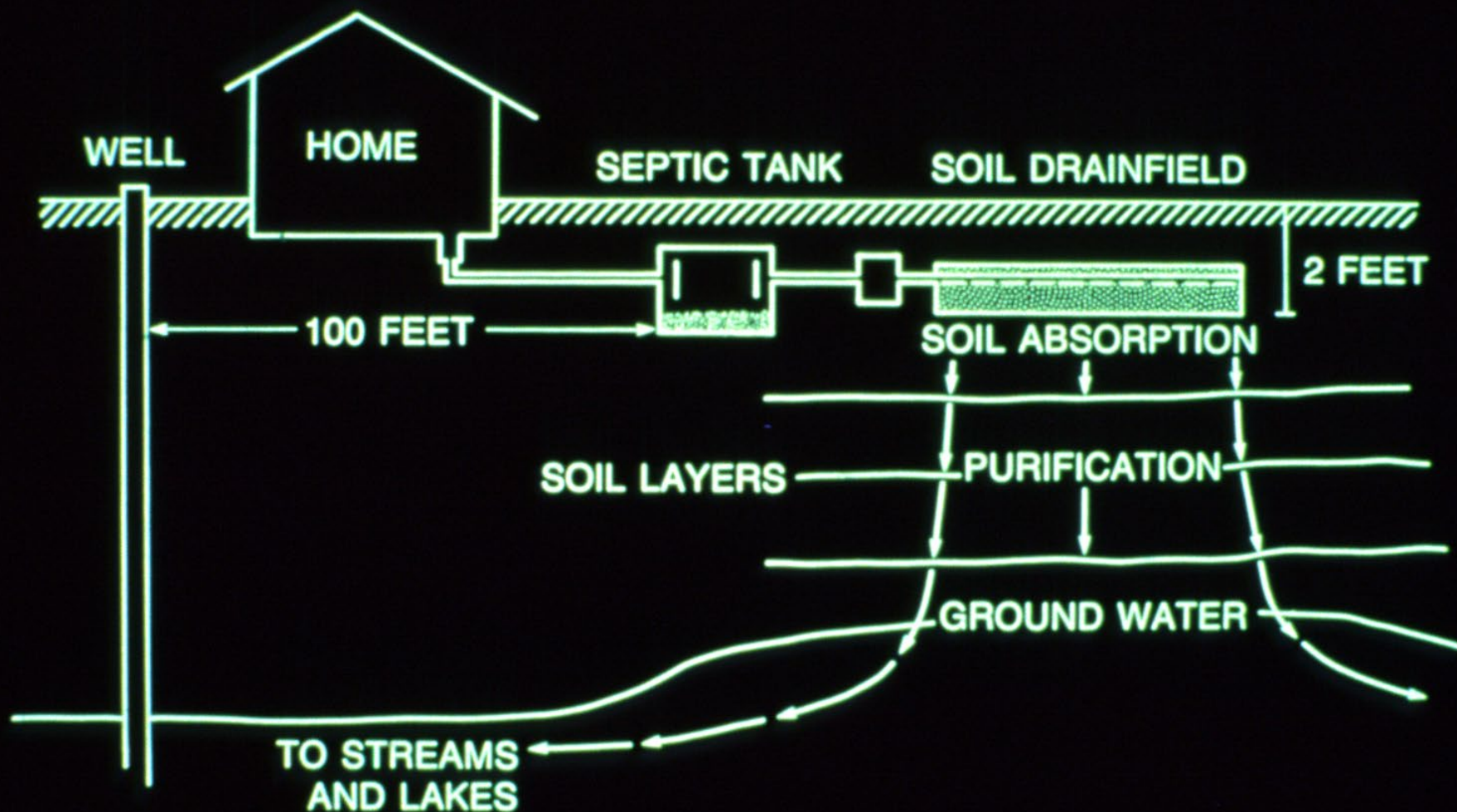


Approximately 18,000 Residents Live in
The Study Area



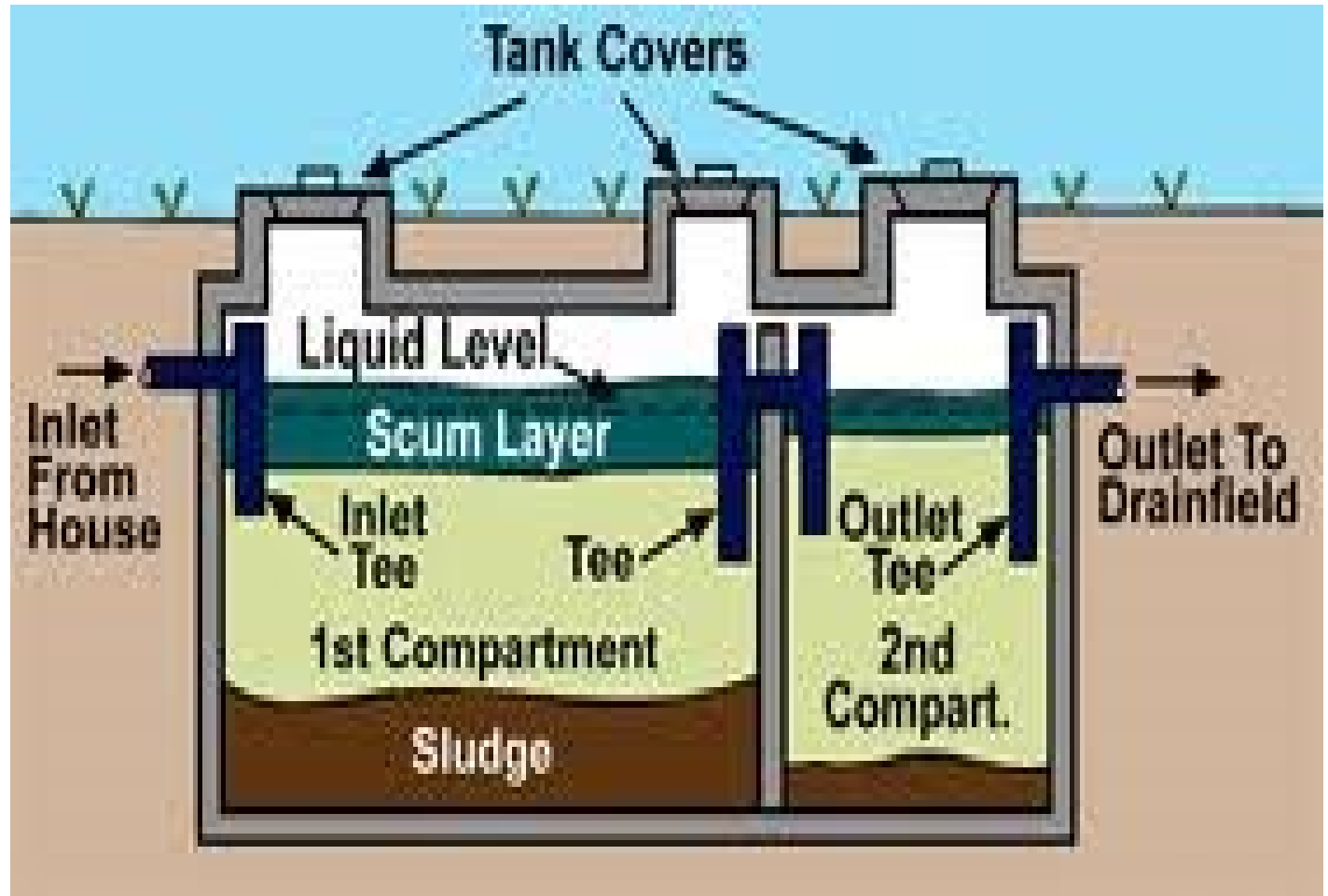
**Approximately 18,000 Residents Live in
The Study Area**

**Potentially Over 1,000,000 Gallons of
Sewage Every Day**





Septic Tank



Septic Tank Effluent Filter



Evaluate and Clean at
Least Yearly

Septic Tank Effluent Filter



Septic Tank



Steel Septic Tank



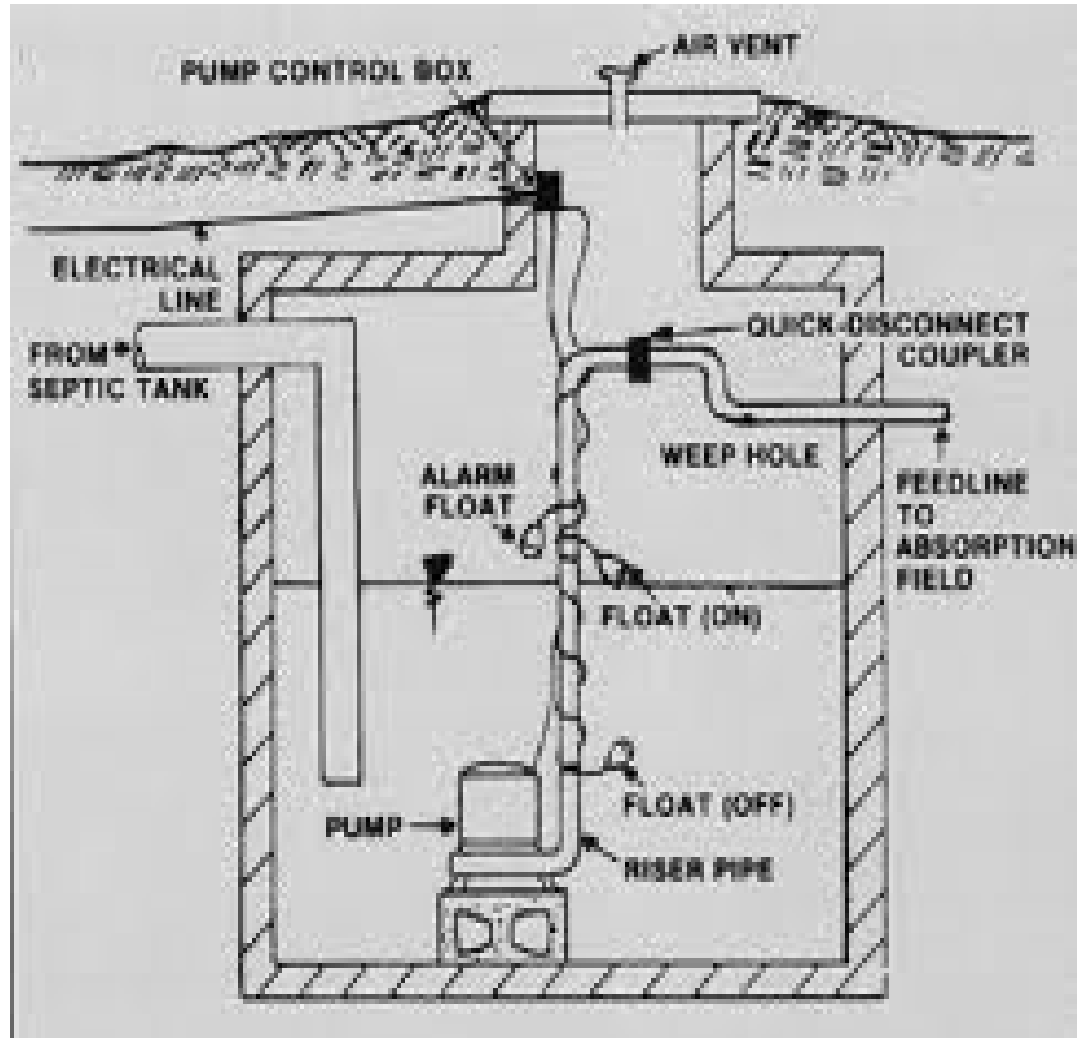
Septic Tank with Risers



Septic Tank with Risers



Pump Chamber



Pump Chamber



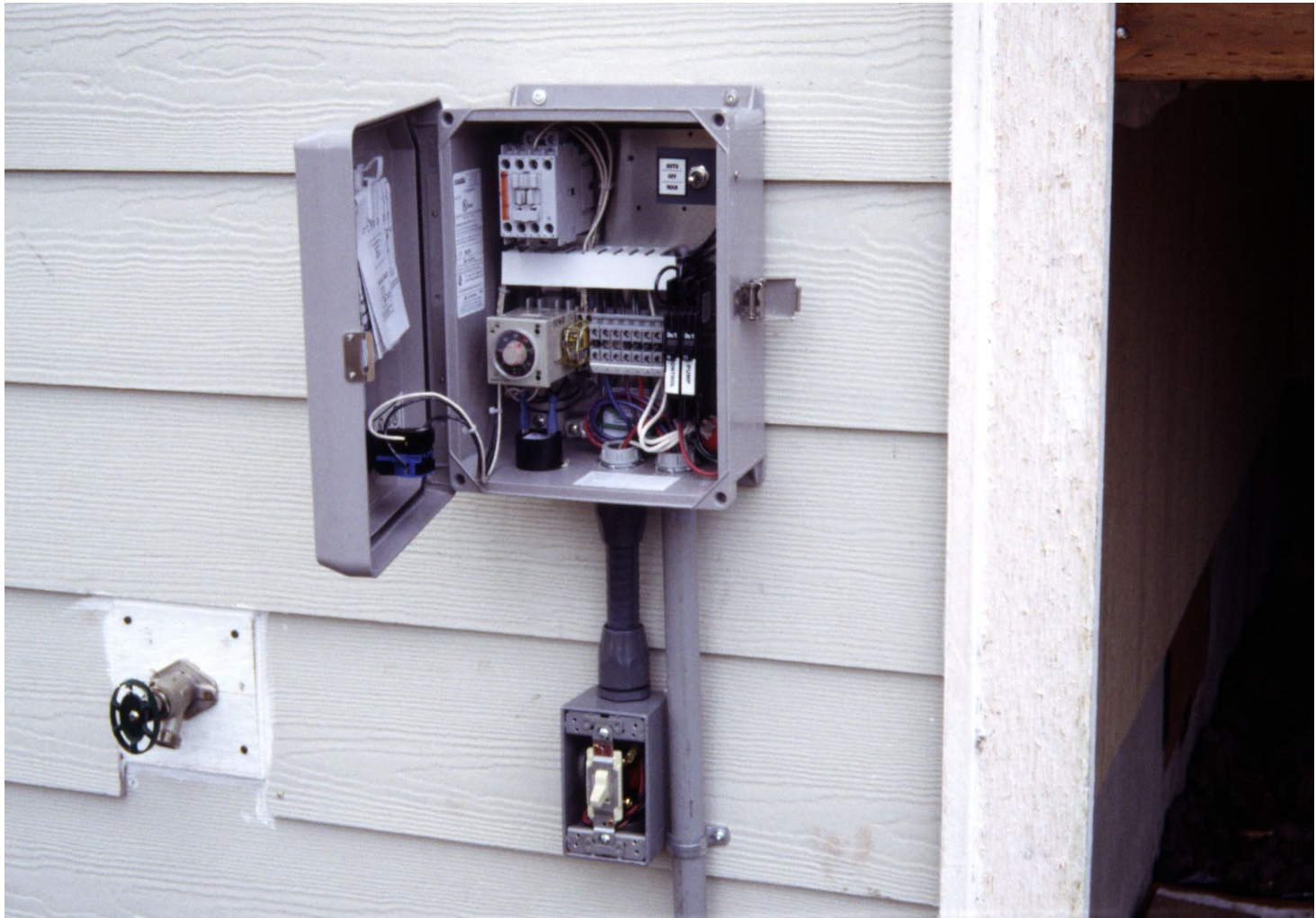
Pump Chamber



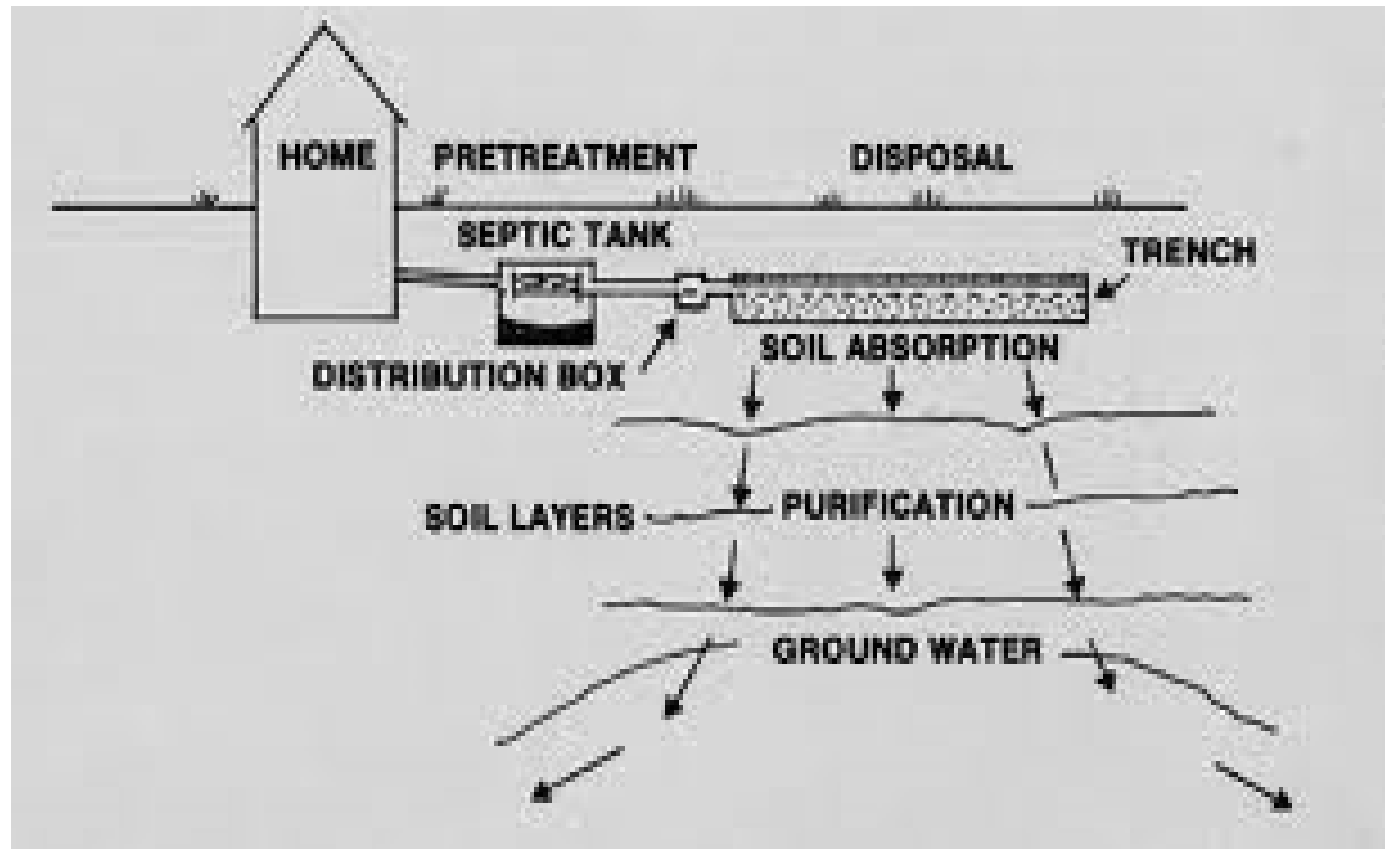
Pump Chamber Control Panels



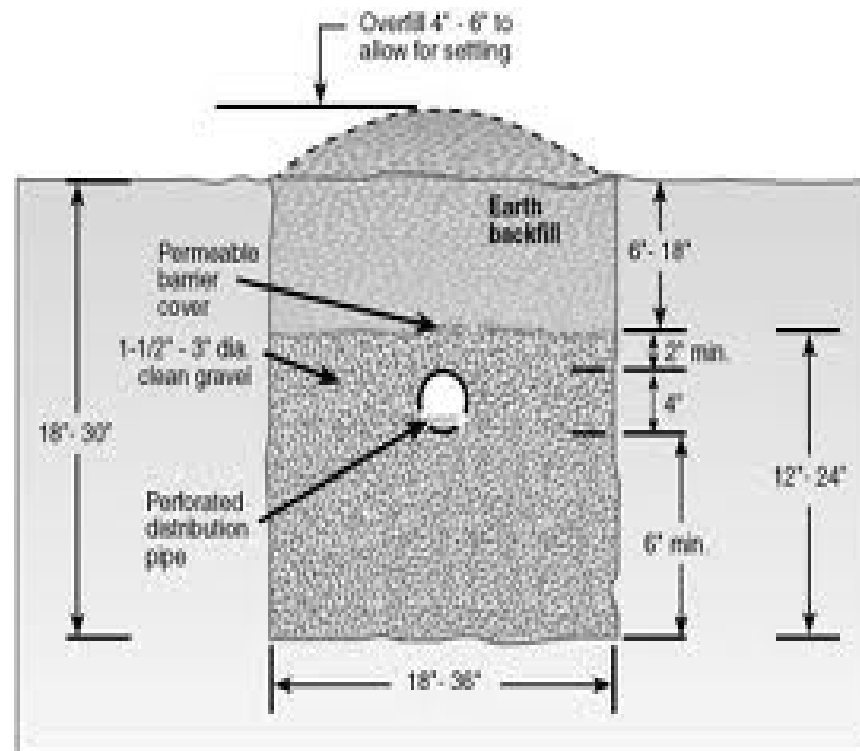
Pump Chamber Control Panel



Gravity Distribution Lateral



Gravity Distribution Lateral



Clogged Gravity Septic Line



Pressure Distribution Laterals



Pressure Distribution Lateral



Pressure Distribution Lateral



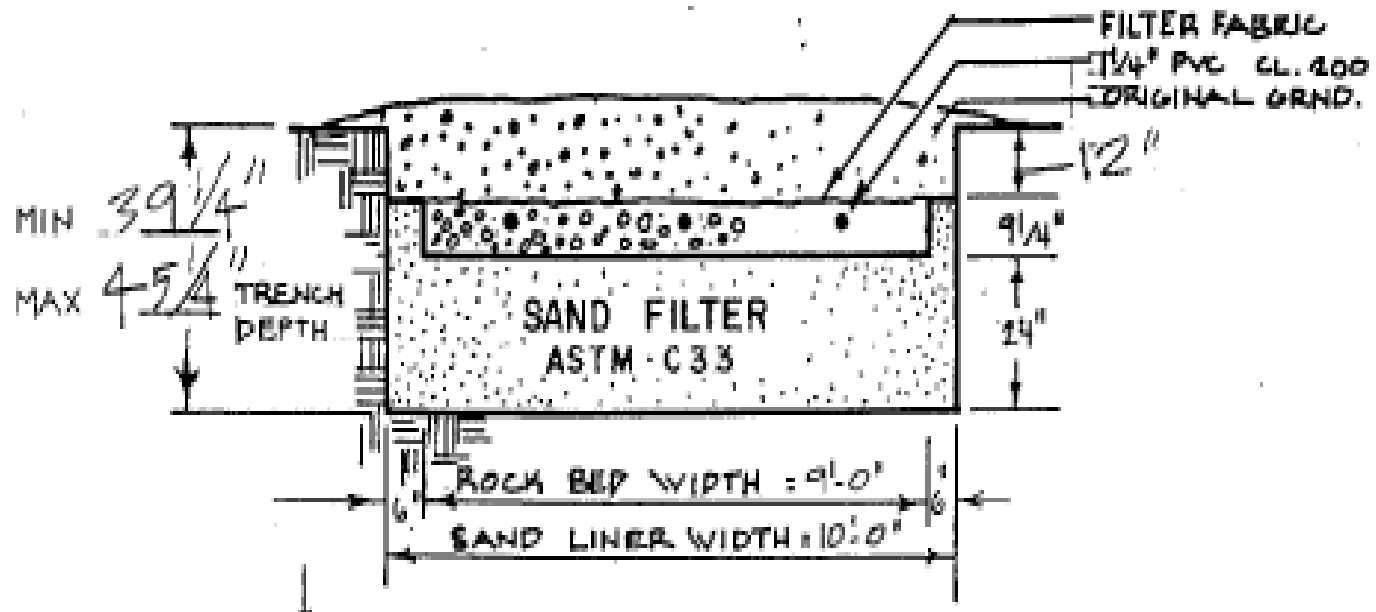
Pressure Distribution Lateral



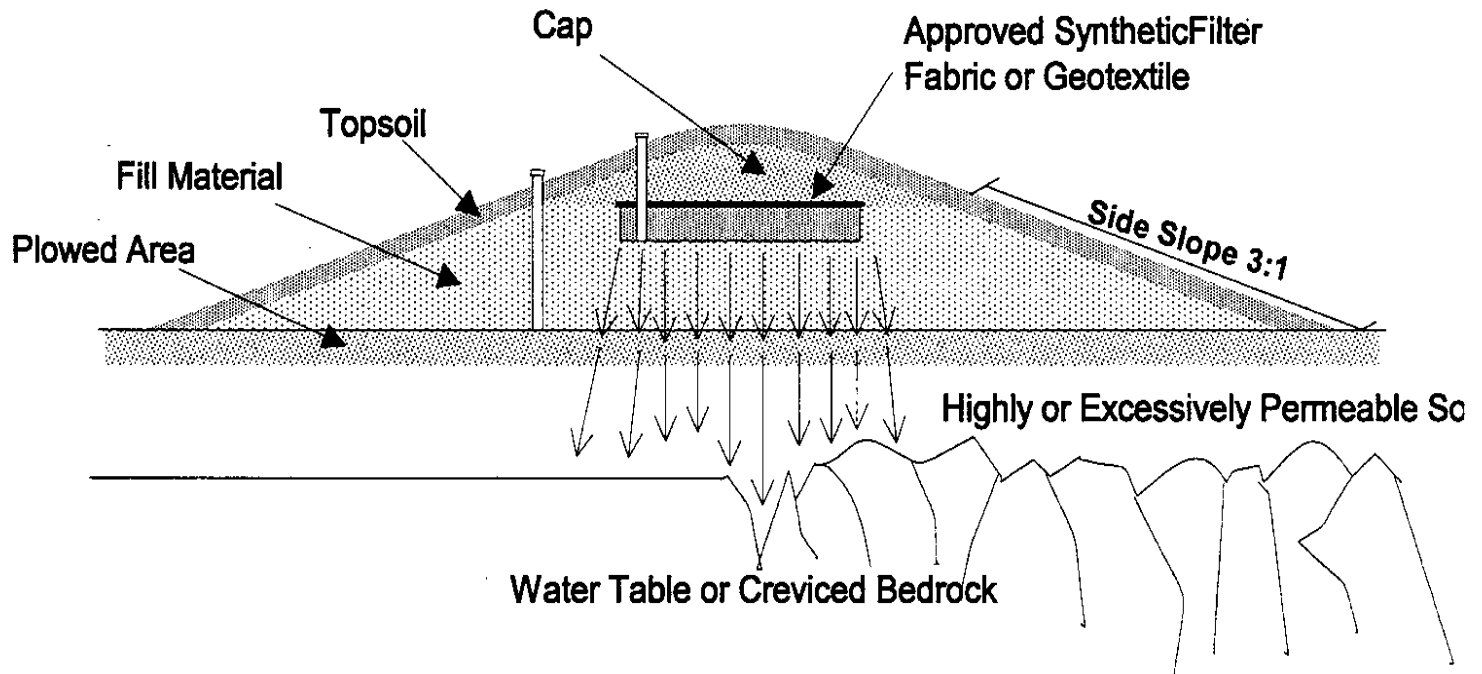
Well-drained Soils



Septic systems where the soil drains TOO fast



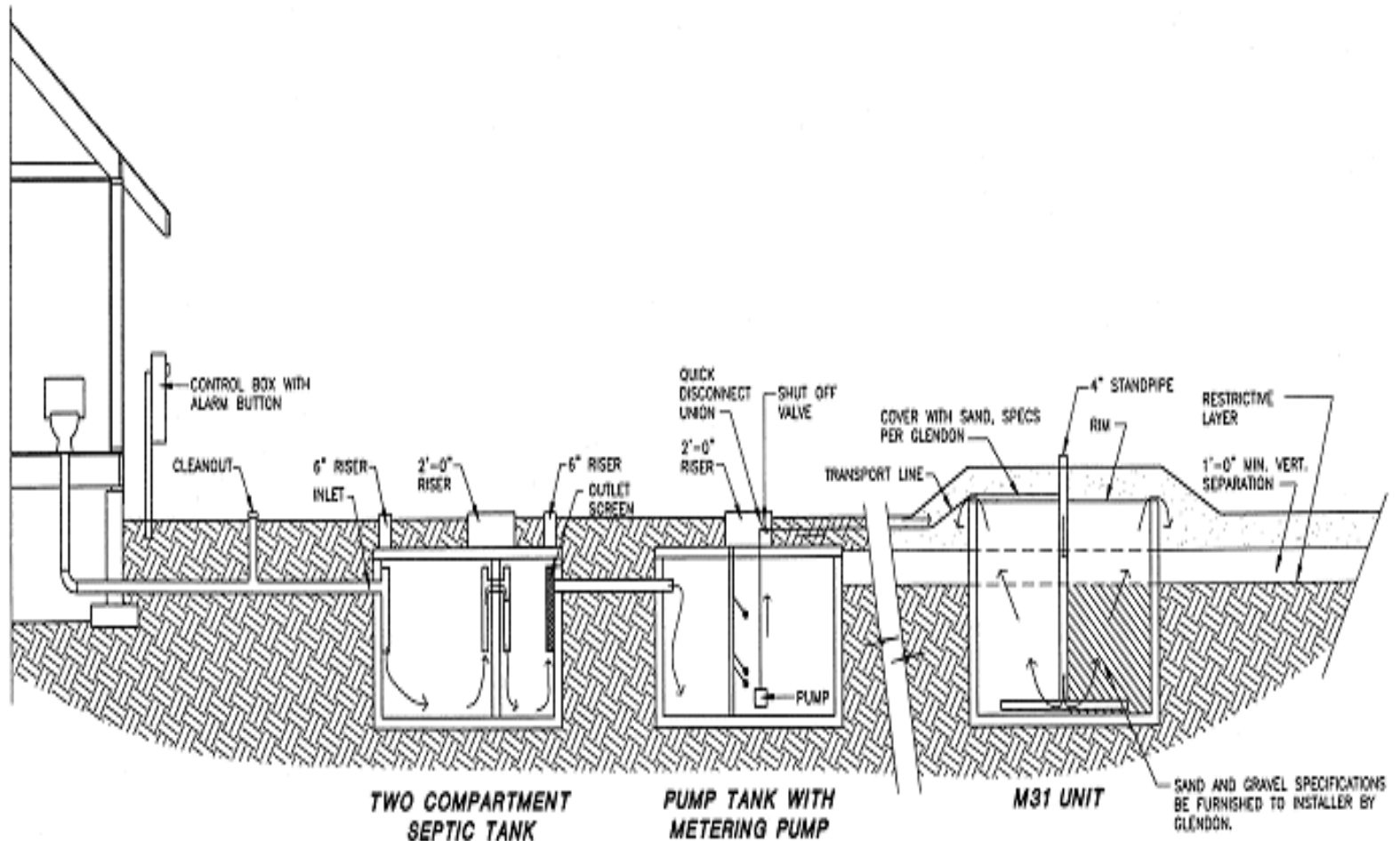
Mound Drainfield



Mound Drainfield



Glendon Biofilter Technology



Glendon Biofilter Technology



Soil Types

TABLE V
Soil Type Descriptions and Maximum Hydraulic Loading Rate

Soil Type	Soil Textural Classification Description	Loading Rate for Residential Effluent Using Gravity or Pressure Distribution gal./sq. ft./day
1	Gravelly and very gravelly coarse sands, all extremely gravelly soils excluding Soil types 5 & 6, all soil types with greater than or equal to 90% rock fragments.	1.0
2	Coarse sands.	1.0
3	Medium sands, loamy coarse sands, loamy medium sands.	0.8
4	Fine sands, loamy fine sands, sandy loams, loams.	0.6
5	Very fine sands, loamy very fine sands; or silt loams, sandy clay loams, clay loams and silty clay loams with a moderate structure or strong structure (excluding a platy structure).	0.4
6	Other silt loams, sandy clay loams, clay loams, silty clay loams.	0.2
7 Unsuitable for treatment or dispersal	Sandy clay, clay, silty clay and strongly cemented firm soils, soil with a moderate or strong platy structure, any soil with a massive structure, any soil with appreciable amounts of expanding clays.	Not suitable

What Type of Septic System???

TABLE II
Treatment Component Performance Levels and Method of Distribution¹

Vertical Separation in inches	Soil Type		
	1	2	3-6
12 < 18	A – pressure distribution with timed dosing	B – pressure distribution with timed dosing	B – pressure distribution with timed dosing
≥ 18 < 24	B – pressure distribution with timed dosing	B – pressure distribution with timed dosing	B – pressure distribution with timed dosing
≥ 24 < 36	B – pressure distribution with timed dosing	C – pressure distribution	E – pressure distribution
≥ 36 < 60	B – pressure distribution with timed dosing	E – pressure distribution	E – gravity ²
≥ 60	C – pressure distribution	E - gravity ²	E - gravity ²

Treatment Standards

TABLE III
Product Performance Requirements for Proprietary Treatment Products

Treatment Component/Sequence Category	Product Performance Requirements																																																
Category 1 Designed to treat sewage with strength typical of a residential source when sewage tank effluent is anticipated to be equal to or less than treatment level E.	Treatment System Performance Testing Levels																																																
	<table><tr><th>Level</th><th colspan="5">Parameters</th></tr><tr><th></th><th>CBOD₅ (mg/L)</th><th>TSS (mg/L)</th><th>O&G (mg/L)</th><th>FC (#/100 ml)</th><th>TN (mg/L)</th></tr><tr><td>A</td><td>10</td><td>10</td><td>-----</td><td>200</td><td>-----</td></tr><tr><td>B</td><td>15</td><td>15</td><td>-----</td><td>1,000</td><td>-----</td></tr><tr><td>C</td><td>25</td><td>30</td><td>-----</td><td>50,000</td><td>-----</td></tr><tr><td>D</td><td>25</td><td>30</td><td>-----</td><td>-----</td><td>-----</td></tr><tr><td>E</td><td>125</td><td>80</td><td>20</td><td>-----</td><td>-----</td></tr><tr><td>N</td><td>-----</td><td>-----</td><td>-----</td><td>-----</td><td>20</td></tr></table>	Level	Parameters						CBOD ₅ (mg/L)	TSS (mg/L)	O&G (mg/L)	FC (#/100 ml)	TN (mg/L)	A	10	10	-----	200	-----	B	15	15	-----	1,000	-----	C	25	30	-----	50,000	-----	D	25	30	-----	-----	-----	E	125	80	20	-----	-----	N	-----	-----	-----	-----	20
	Level	Parameters																																															
		CBOD ₅ (mg/L)	TSS (mg/L)	O&G (mg/L)	FC (#/100 ml)	TN (mg/L)																																											
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	C	25	30	-----	50,000	-----																																											
	D	25	30	-----	-----	-----																																											
	E	125	80	20	-----	-----																																											
	N	-----	-----	-----	-----	20																																											
Values for Levels A - D are 30-day values (averages for CBOD ₅ , TSS, and geometric mean for FC.) All 30-day averages throughout the test period must meet these values in order to be registered at these levels. Values for Levels E and N are derived from full test averages.																																																	
Category 2 Designed to treat high-strength sewage when sewage tank effluent is anticipated to be greater than treatment level E. (Such as at restaurants, grocery stores, mini-marts, group homes, medical clinics, residences, etc.)																																																	
All of the following requirements must be met: (1) All full test averages must meet Level E; and (2) Establish the treatment capacity of the product tested in pounds per day for CBOD ₅ .																																																	
Category 3 Black water component of residential sewage (such as composting and incinerating toilets).																																																	
Test results must meet the performance requirements established in the NSF test protocol.																																																	
Total Nitrogen Reduction in Categories 1 & 2 (Above)																																																	
Test results must establish product performance effluent quality meeting Level N, when presented as the full test average.																																																	

What Type of Septic System???

Registered On-site Treatment Products

Category 1

Proprietary Product Name / Model	T/A	T/B	T/C	T/D	T/E	T/N
AdvanTex AX20RT, AX20, AX25RT, AX20-2, AX20-3, AX20-4, AX100, AX100-2, AX-MAX, AX-MAX075-14, AX-MAX125-21, AX-MAX175-28			✓	✓		✓
AdvanTex AX20RT, AX20, AX25RT, AX20-2, AX20-3, AX20-4, AX100, AX100-2, AX-MAX, AX-MAX075-14, AX-MAX125-21, AX-MAX175-28 with Salcor 3G UV units	✓	✓				✓
Aqua Safe Series AS500, AS600, AS750, AS1000, AS1500, AS500L, AS600L, AS800L, and AS1100L				✓	✓	
Aqua Safe AS600 + 4RN				✓	✓	
Aqua Safe AS600 + 4RN with UV Disinfection		✓				
AIRR 714				✓	✓	
BioBarrier MBR 0.5, 1.0, and 1.5	✓	✓	✓	✓		
BioBarrier MBR 0.5-N, 1.0-N, and 1.5-N	✓	✓	✓	✓		✓
Ecoflo STB-500, STB-650, STB-650B, STB-650BR		✓	✓	✓		
ECOPOD E50, E60				✓	✓	
ECOPOD E50 and E60 with Salcor 3G UV		✓				
ECOPOD E50NCA, E60NCA, E75NCA, E100NCA, E150NCA, E200-NFF, E250-NFF, E300-NFF, E50-N-IM1060, E60-N-IM1060, E75-N-IM1060			✓	✓		
ECOPOD E50NCA, E60NCA, E75NCA, E100NCA, E150NCA, E200-NFF, E250-NFF, E300-NFF, E50-N-IM1060, E60-N-IM1060, E75-N-IM1060 with Salcor 3G UV	✓	✓				
Eljen GSF/B43			✓	✓		
Enviro-Flo E-500, E-550, E-600, E-750, & E-1000				✓	✓	
Enviro-Guard ENV-0.75 with Salcor 3G UV	✓	✓				
EnviroServer ES6-P, ES12-P, ENFG 600, ENFG 1200				✓	✓	
Fusion ZF450, ZF600, ZF800				✓	✓	
Glendon BioFilter M31	✓	✓	✓			
Glendon BioFilter M32	✓	✓	✓			
Jet Inc. Model J-500			✓	✓		
Jet Inc. Model J-500 with the Salcor 3G UV	✓	✓				
MicroFAST 0.5, 0.75, 0.9, 1.5, 3.0, 4.5, 9.0				✓	✓	✓
MicroFAST 0.5, 0.75, 0.9, 1.5, 3.0, 4.5, 9.0 with Salcor 3G UV	✓	✓				✓
Multi-Flo FTB-0.5, FTB-0.6, FTB-0.75, FTB-1.0, FTB-1.5				✓	✓	

Failing or Not Failing???



Failing Sewage System



Inspect Regularly and Pump When Needed!!!

