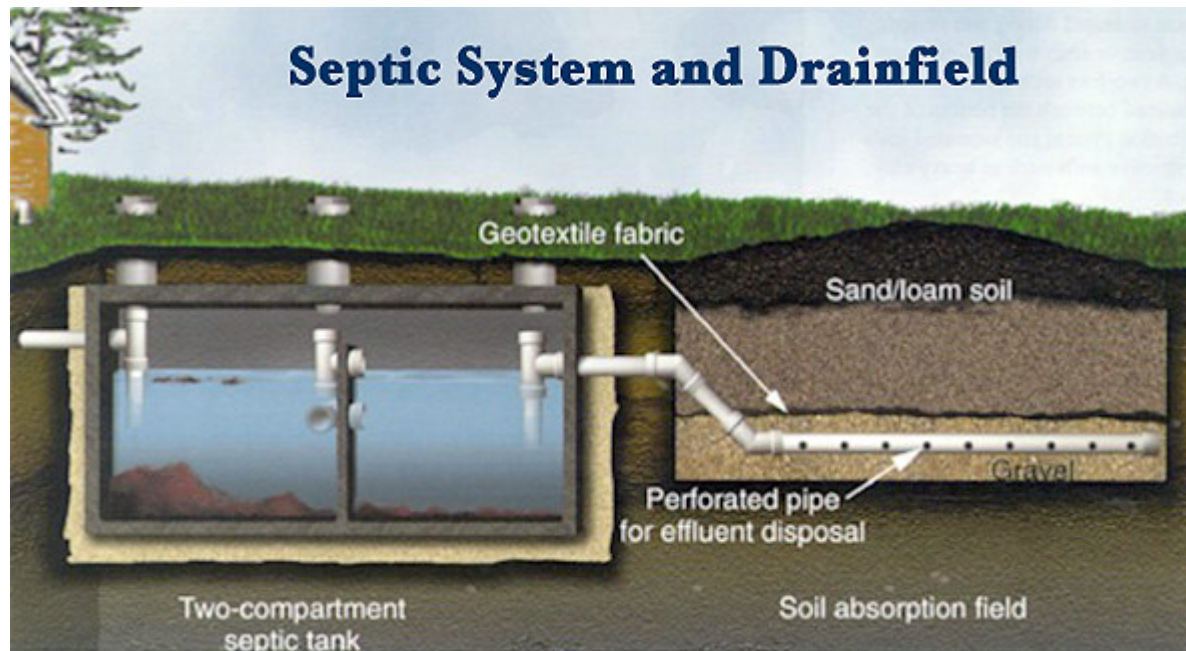


Thurston County Environmental Health



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



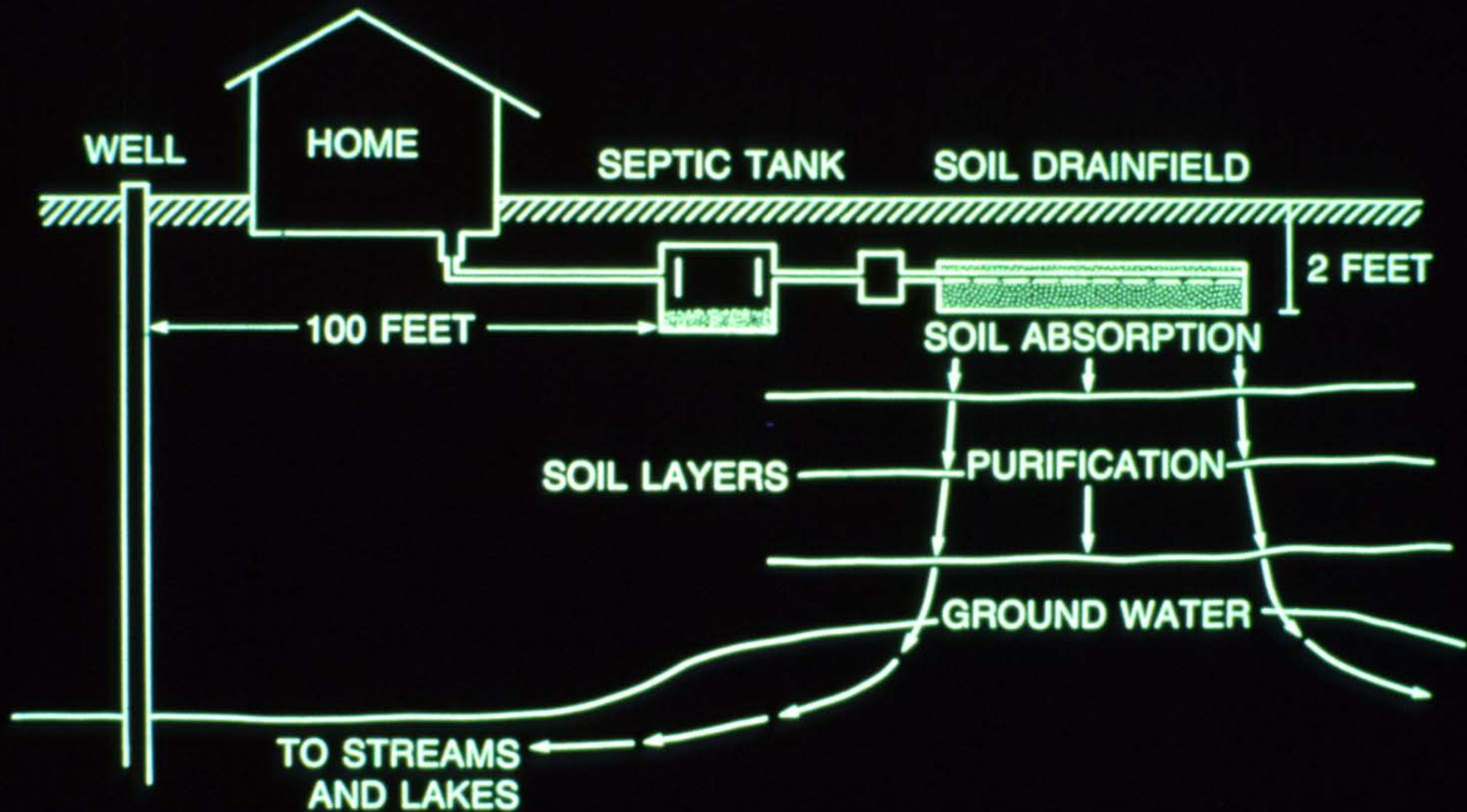
What are the Laws?

Washington State Administrative Code 246-272A

Sets the minimum standards local health
jurisdictions must follow

Thurston County Sanitary Code, Article IV

Local regulations





Types of Sewage Systems

Gravity Flow

Pressure Distribution

Drip Irrigation

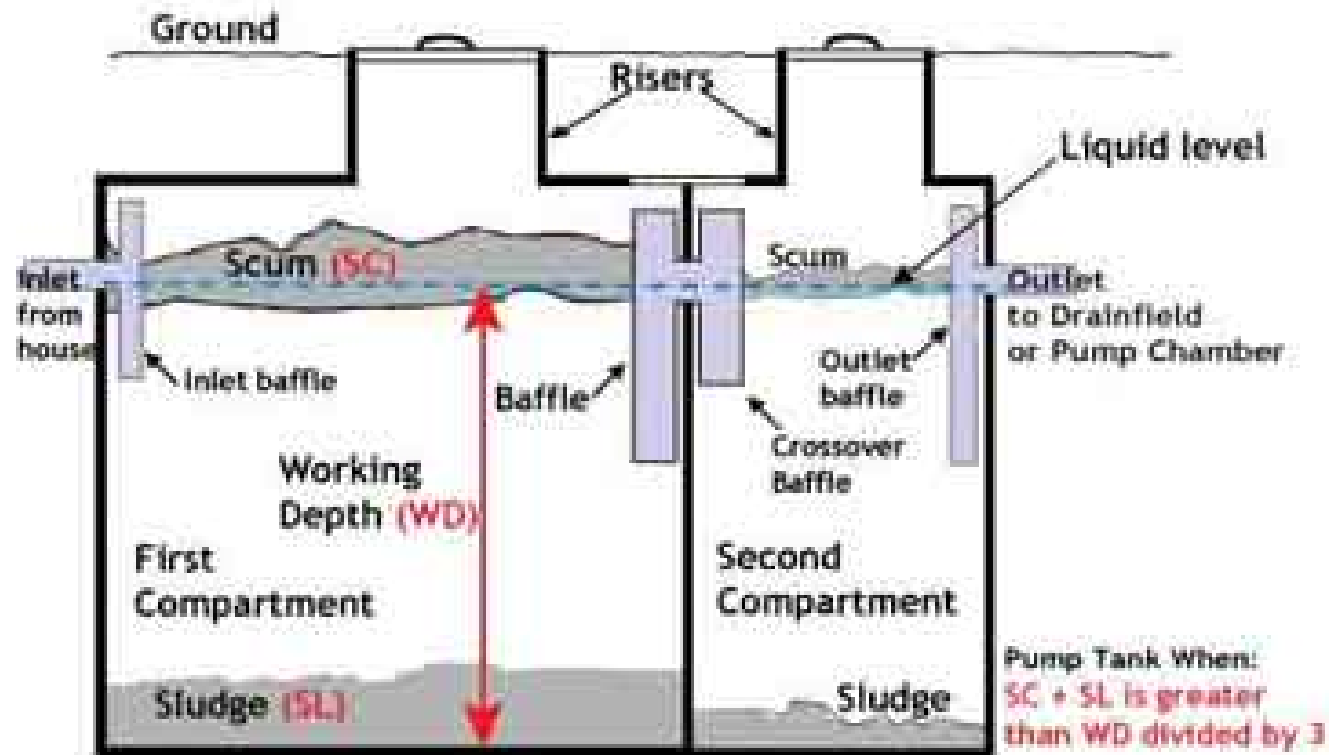
Mounds

Sand Filters

Glendon Biofilters

Aerobic Treatment Units

Septic Tank



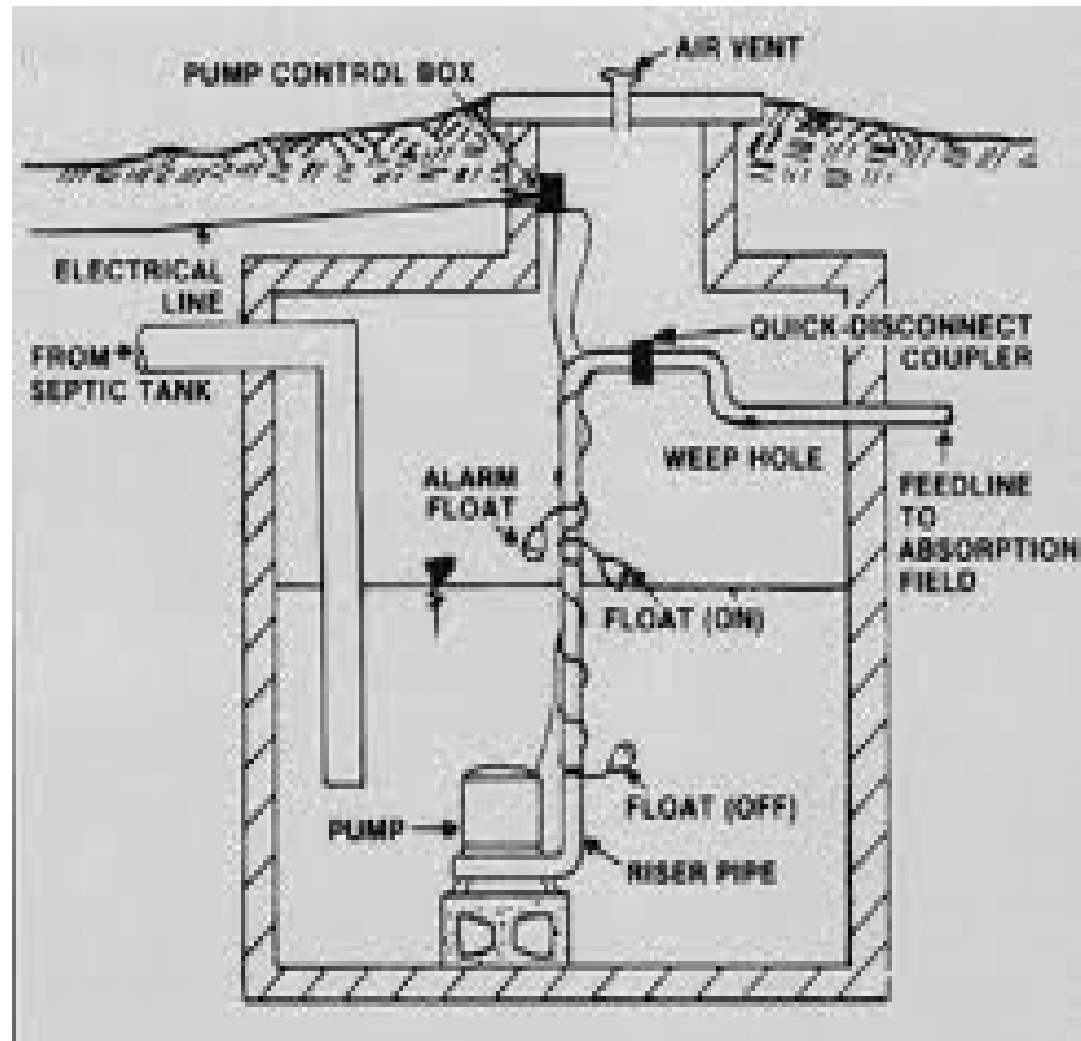
TYPICAL SEPTIC TANK WITH RISERS

Septic Tank Effluent Filter



Evaluate and Clean at
Least Yearly

Pump Chamber



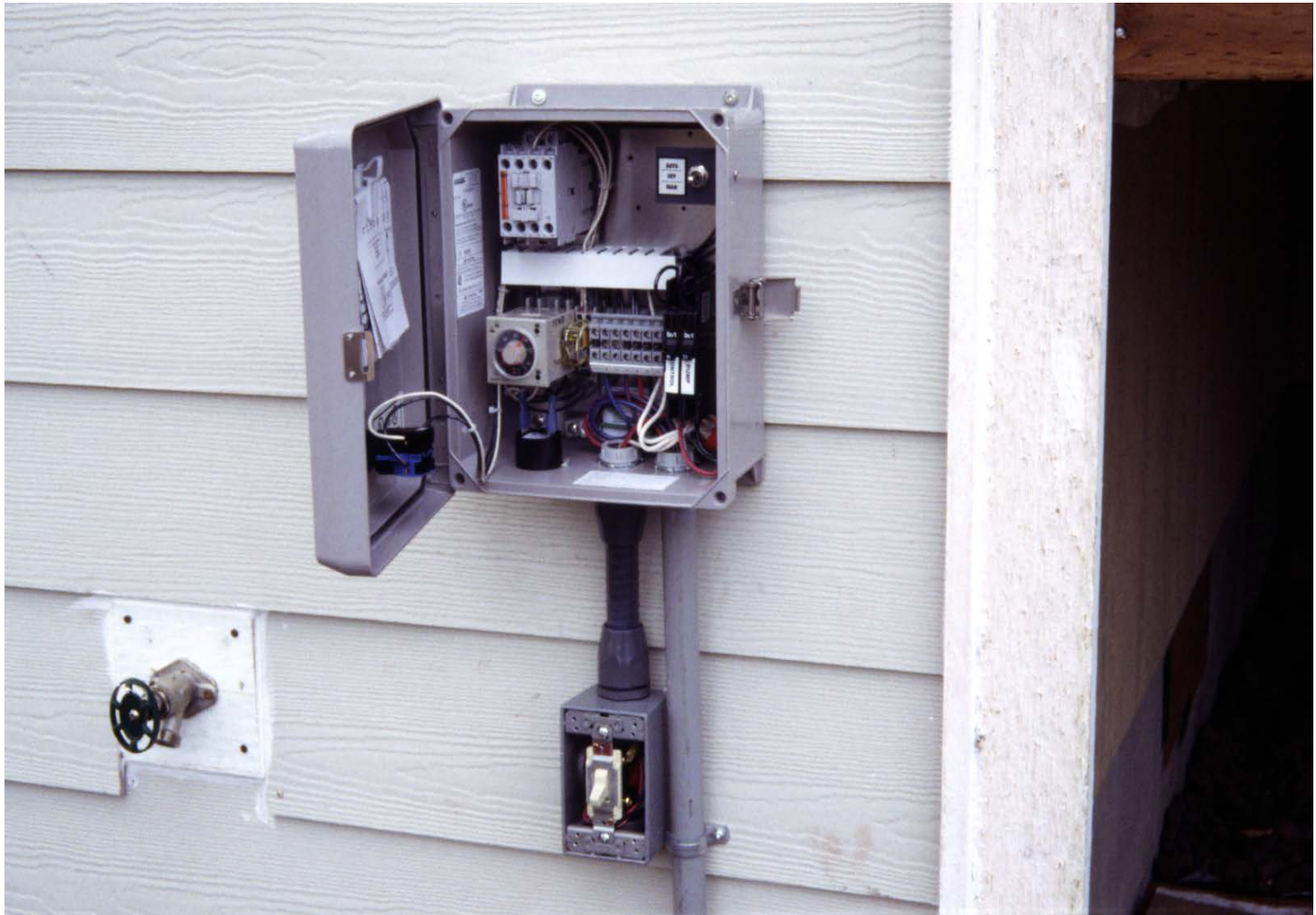
Pump Chamber



Pump Chamber Control Panels



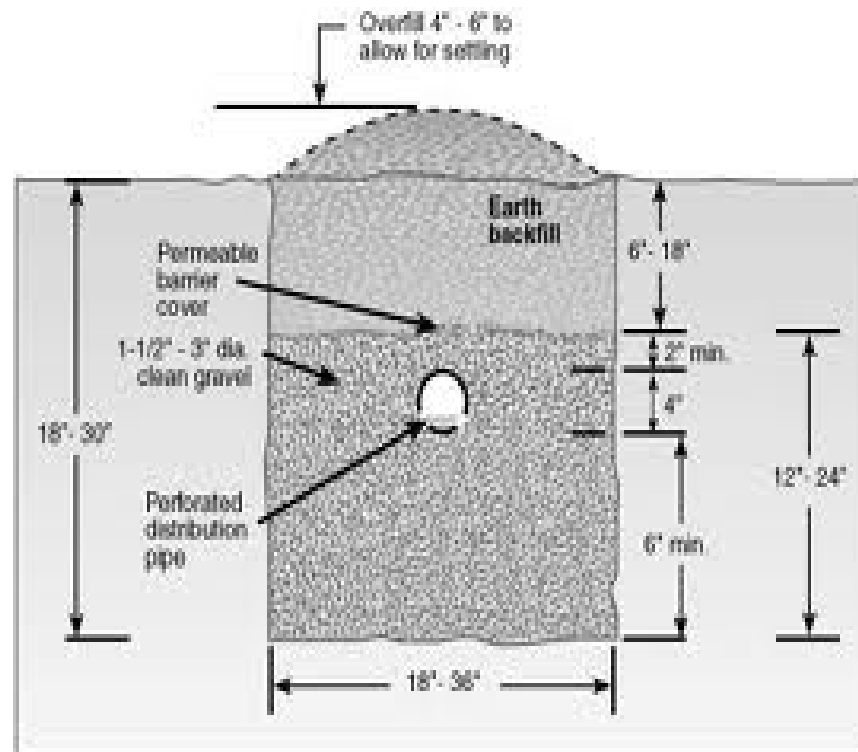
Pump Chamber Control Panel



Septic Tank with Risers



Gravity Distribution Lateral



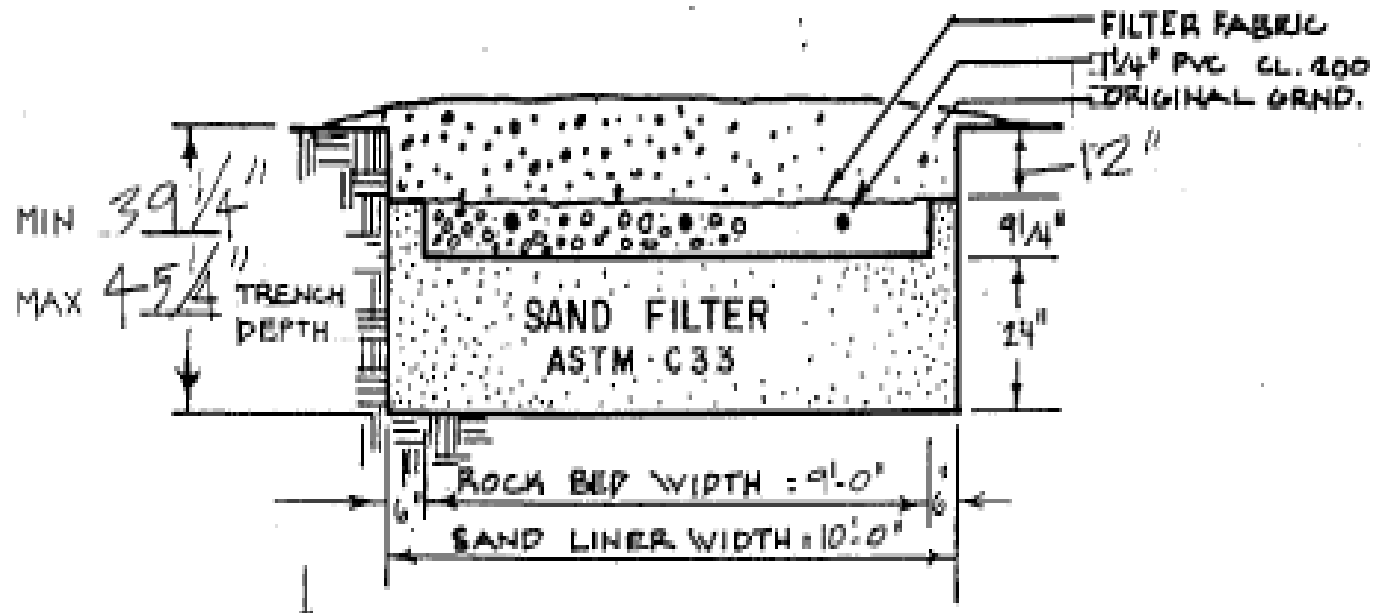
Pressure Distribution Lateral



Pressure Distribution Lateral



Enhanced Treatment Systems

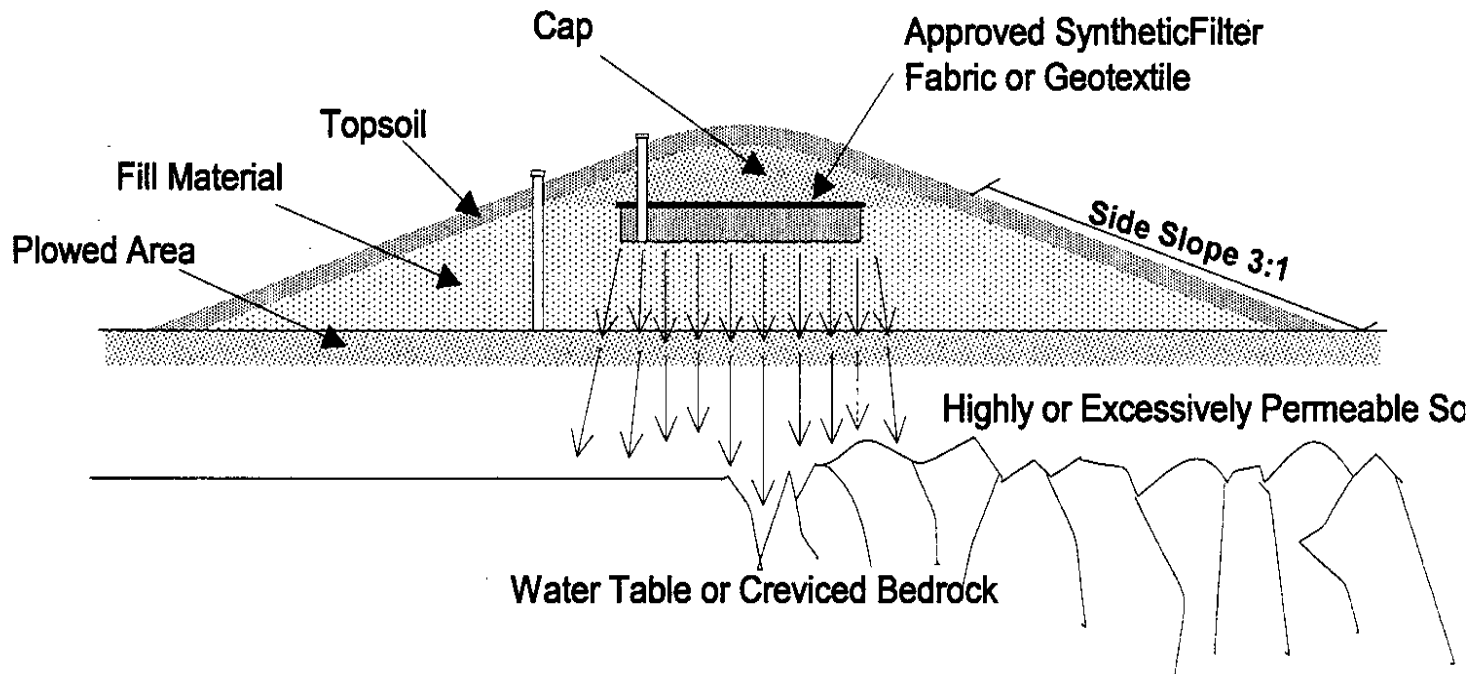


Sand Lined Trench

Sand Filter



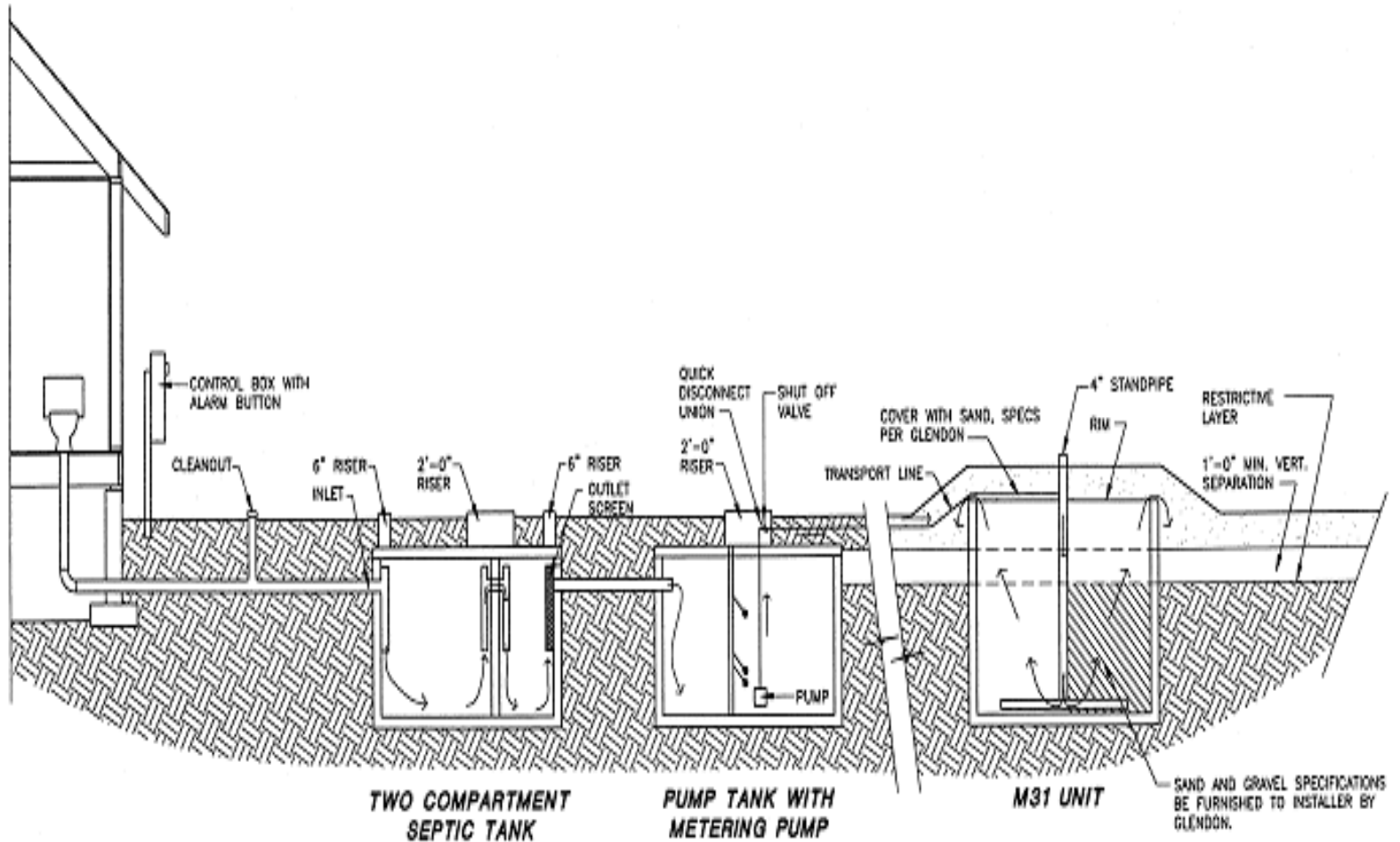
Mound Drainfield



Mound Drainfield



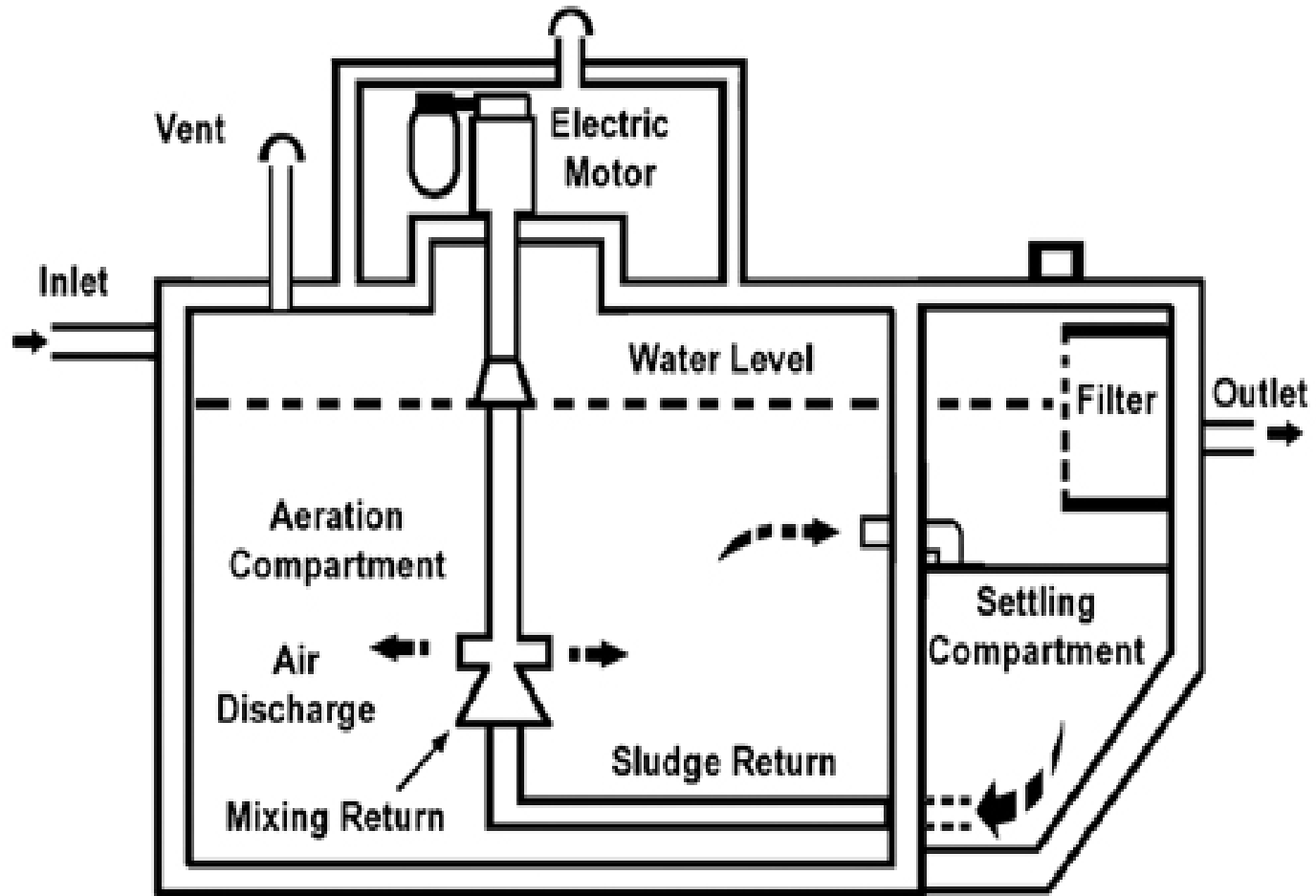
Glendon Biofilter Technology



Glendon Biofilter Technology



Aerobic Treatment Unit





How Do You Get A Septic Permit??

Licensed Designer or Professional Engineer Evaluates The Soils and Site Conditions

Designer Develops a Proposal and Applies for a Sewage System Permit

County Staff Conducts Site Evaluation and Reviews Design Proposal to Ensure Regulations are Met

Installation of the Sewage System

Final Inspection of the Construction By Designer

Record Drawing Submission by Designer and Review by Staff

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)																																											
	A	10	10	-----	200	-----																																											
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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???

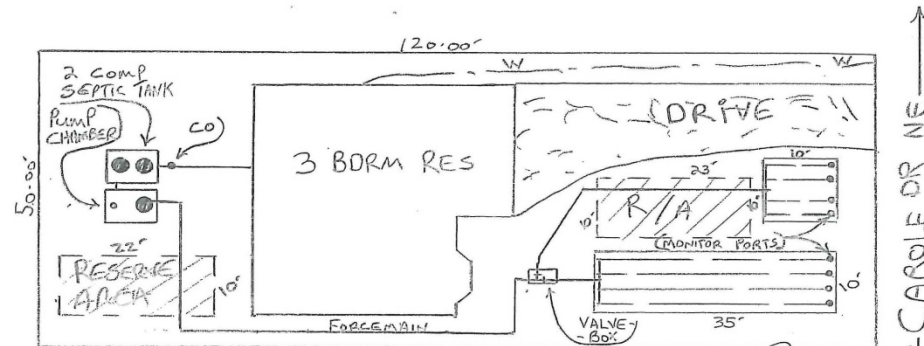
Registered On-site Treatment Products

Category 1

Proprietary Product Name / Model	TLA	TLB	TLC	TLD	TLE	TLN
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 E60NCA, 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				✓	✓	

Septic System Record Drawing

BEACHCREST LOT #22



THURSTON COUNTY
RECEIVED

NOV 27 2013

DEVELOPMENT SERVICES

Pump TEST BY INSTALLER:	
SQUIRT =	30"
DD =	1.5"
TIMER SETTING:	
ON =	1 MINUTE
OFF =	4 Hours



JIM HUNTER & ASSOC. P.O. BOX 162 OLY, WA 98507 753-1226	CONTRACTOR RADCLIFF
	INSTALL DATE 6-2013
RECORD DRAWING	SITE ADDRESS/LEGAL
OWNER - MARK BARRETT	5041 CAROLE DR NE
TP# 33702202200	FINAL DATE 6-17-13
	SITE# 13100706



Questions ???