

# Basic Septic System Installer Training Class

Public Health – Idaho North Central District December 22, 2015 Presented by: Jake Davis and Sherise Jurries *idahopublichealth.com* 

### **INTENT OF REGULATIONS**

- To insure that blackwaste and wastewater generated in the State of Idaho are safely contained and treated and that blackwaste and wastewater are not:
- a. Accessible to insects, rodents, or other wild or domestic animals.
- b. Are not accessible to individuals
- c. Are not a public nuisance due to odor or unsightly appearance.
- d. Do not injure or interfere with existing or potential beneficial uses of the waters of the State.
- IDAPA 58.01.03
- Technical Guidance Manual

#### WHAT IS SEWAGE?

Any combination of liquid, water, and pollutants from activities and processes occurring in dwellings, commercial buildings, industrial plants, institutions and other establishments, together with any groundwater, surface water and storm water that may be present; liquid or water that is chemically, biologically, physically rationally identifiable as containing black water, grey water or commercial or industrial pollutants.

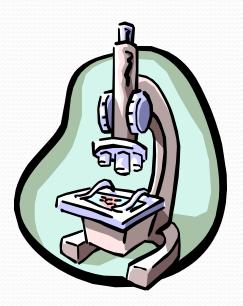
#### WHAT IS A SEWAGE SYSTEM?

From the point of physical entry into connected piping, treatment devices, receptacles, structures, or areas of land designed, used or dedicated to convey, store, stabilize, neutralize, treat or dispose of blackwaste or wastewater.

#### **Importance of Proper Sewage Disposal**

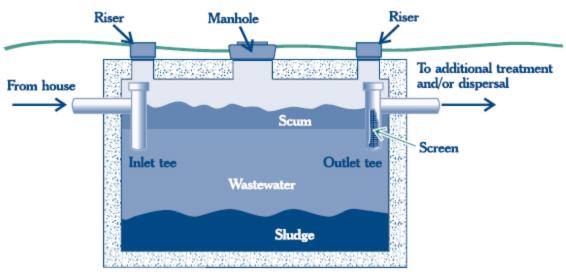
- Prevent pollution of surface waters
- Prevent pollution of ground waters (*i.e.* aquifers)
- Prevent waste from being accessible to disease carrying vectors, such as flies, rodents, insects, etc.
- Protect human health!

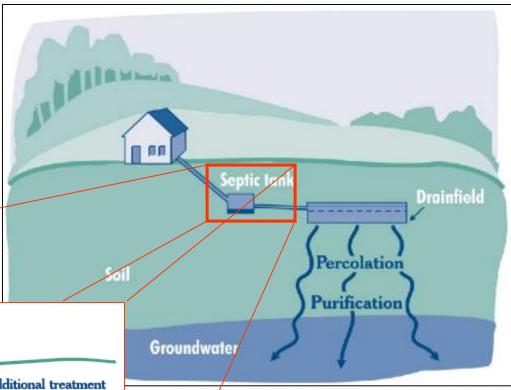
- ♀ E. Coli
- ♀ Giardia
- Salmonella
- ♀ Shigella
- P Hepatitis A
- P Norovirus
- ♀ Cholera
- Oysentery



#### How do Septic Systems protect Public Health?

- The septic tank separates the sewage, and provides storage.
- Many disease causing organisms are destroyed and never leave the septic tank.





The drainfield discharges the wastewater to the soil which acts as a natural filtration process to treat and remove disease causing organisms.

## Who can install septic systems?

- A State of Idaho licensed basic or complex installer.
  - Basic installer's must maintain a \$5,000 sewage installer's bond.
  - A complex installer must maintain a \$15,000 bond.
  - License must be renewed annually by January 1<sup>st</sup> and an approved refresher course must be completed every 3 years.
- A property owner may install his/her own standard or basic alternative system.

#### **Basic Installers**

May install:

- Standard and basic alternative sewage systems
- Capping fill
- Gravelless drainfields
- Steep slope
- Privies (composting, incinerating, pit, and vault)

#### **Complex Installers**

May install:

- All standard systems
- Pump to gravity systems
- Evapotranspiration systems
- Extended treatment systems
- Intermittent sand filter, in-trench sand filter
- Lagoon systems
- Large soil absorption systems
- Pressure distribution systems
- Sand mound
- Two cell infiltrative systems
- Other systems specified by the director

# When Do I Need a Permit?

- All new onsite sewage disposal systems are required to be permitted.
- Replacement disposal systems require a replacement permit.
- If you replace an existing septic tank or add another tank, a permit is required.
- If an outhouse/pit privy is installed, a permit is required.
- You do not need a permit to fix a clogged or broken pipe, or to replace a malfunctioning electrical component.

## **Sewage Permits**

- Sewage Permit Application
  - Statewide application
  - Entire fee (\$700) must be paid upfront
  - If site is denied \$500 will be refunded to applicant
- Speculative Site Evaluation
  - Fee is \$300
  - Only valid for one year
  - \$300 is credited towards Permit fee if submitted within 1 year

# **Information on a Permit**

- Type of system
- Size of tank
- Size of drainfield
- Location
- Other:
  - Diverter
  - Filter
  - Riser/Lids
- Permits are valid for 1 year
  - Can be renewed yearly for \$50



#### **Sewage Permit Application**

APPLICAT	ION-Subsurface S	ewage Dis	posal, I	Page 1
		Fee Paid:		Check #
Public Health Idaha Pablic Bealth Districts	Public Health	Receipt # :		Computer #
	Idaho North Central District	Date :		(Official Use Only)
Nez Perce County         Latah Cou           215 10h Breat         335 E Pelcose R0           Levelston, D 55501         Moscow, ID 8           Phone: (26) 786-3100         Phone: (26) 88           Fec: (208) 799-3349         Fec: (208) 882	ver Drive 105 115th Street 3843 Orofino, ID 83544 2-7506 Phone: (208) 478-7850	Idaho 903 West Grangevili Phone: (20 Fax: (208)	lain Street ID 83530 ) 983-2842	Lewis County 132 N. Hill Breet Kemish, ID 83538 Phone: (208) 935-2124 Fac: (208) 935-0223
Property Address (if available):			ïty	
Legal Description: Section: Subdivision:	Township: Range:	County:	Parcel #: lock	Acres:
Applicants Name:		Email:		
Mailing Address:			hone #:	
City :	State:		none #.	Zip Code:
· ·	Contractor  Installer  Othe	r		2.1p coue.
Owners Name :				
Mailing Address :			Phone # :	
City :	State:			Zip Code:
Type of Septic Installation :  Net	w 🗆 Expansion 🗆 Repai	ir 🛛 Tank On	y 🗆 Spe	culative Site Evaluation
Proposed Usage :      Residen     Central (more than two dwellings)			Other (i.e. barn, # of Units	
Is there an existing structure on this	parcel? 🗆 Yes 🔲 No		Year Built:	
Number of Bedrooms: (residential only Number of People: Non-Residential Flow Design:	Square Footage:	Nu Garbage Dis (gallons per day (gpd))		rooms:  Yes □ No Peak: (क्व4)
Foundation Type : 🗖 Basement	Crawl Space Split L	evel 🛛 Slab		
Property is located : 🛛 Inside (	City 🔲 Inside Cour	ity		
Zoning certificate or other county do	ocumentation submitted?	Yes E	No	D N/A
City sewer or central wastewater col	lection system 200 feet or less to	structure?	'es □No	
Water Supply : D Private Well	Shared Well Duble	c Water System, 1	Number:	

SIGNATURE:

By my signature above, I certify that all answers and statements on this application are true and complete to the best of my knowledge. I understand that should evaluation disclose untruthful or misleading answers, my application may be rejected or my permit canceled. I accept the responsibility to notify the Health District of any changes to the above information if performed prior to completion of the permitted system. Thereby untruties dynamic models are application and the subsequent Health District to have access to this property for the purpose of conducting a site-evaluation. I understand that this application will expire one (1) year from date of permits in one-transferable between property contents and/or project sites. I understand that the application will expire one (1) year from date of purchase. The permit when itsued, may be reserved if the reserval is applied for one or before the expiration date.

DATE:

#### **Plot Plan**



Please draw an aerial view of the property showing the outline of buildings, property lines, well location(s), water lines, location of septic tank and drainfields, location of drainfield replacement area, ditches and streams, easements and right of ways, driveway and parking area, cut banks, and location of street or road. Indicate dimensions and separation distances of each from septic tank and drainfield.

DATE:

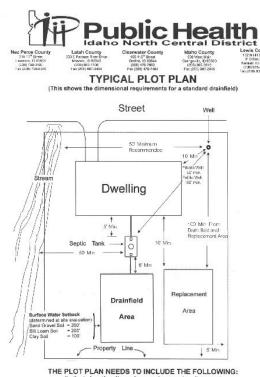
	PLOT PLAN	SCALE: 1" =
a - alter a		

Public Health - INCD, Lewiston, ID 83501, Phone: 208-799-3100 Fax: 208-799-0349



By my signature above, I certify that all answers and statements on this application are true and complete to the best of my knowledge. I understand that should evaluation disclose untruthful or misleading answers, my application may be rejected or my permit canceled. I understand that any deviation from the plans, conditions, and specifications, is prohibited unless it is approved in advance by the Director or his designee. I hereby authorize the Health District to have access to this property for the purpose of conducting a site-evaluation.





(Indicate lengths, dimensions, and separation distances) Property lines

- 2. Buildings
- 3. Driveway and parking area
- 4. Well locations, water lines
- 5. Proposed location of septic tank and drainfield lines
- 6. Drainfield replacement area (100% size of original)
- 7. Rivers, streams, ditches
- 8. Easement and right-of-ways
- 9. Streets, roads, banks

#### **Sewage Permit**

\_\_\_\_\_

	PERMIT-Subsurface Sewage Disposal				
Public Health Islaio Public Health Districts		lic Health	Date Permit # Parcel # : Computer #		
Nez Perce County 215 10th Street Lewiston, ID 83501 Phone: (208) 799-3100 Fac: (208) 799-3349	Latah County 333 E Palouse River Drive Moscow, ID 85843 Phone: (208) 882-7508 Fee: (208) 882-3494	Clearwater County 105 1155: 02wet Orofm, ID 85554 Phone: (208) 478-7850 Piec: (208) 478-7464	Idaho County 903 West Main Street Grangeville, ID 83530 Phone: (208) 983-2842 Fec: (208) 983-2845	Lewis County 132 N. HE Street Kemiah, ID 83538 Phone: (208) 935-2124 Fec: (208) 935-0223	
Applicant's Name:			Phone #		
Owners Name:					
Property Address:					
Legal Description:		Section Township	Range		
Subdivision:		Lot Block	Size(acros):		
Subdivision: Type of Installation		Type of System (check all that app	ly)	Water Supply	
Type of Installation	Absorption Bed	Type of System (check all that app Gravelless Drainfield	ly)		
		Type of System (check all that app	by)	Private	
Type of Installation	Absorption Bed	Type of System (check all that app Gravelless Drainfield	ly)		
Type of Installation	<ul> <li>Absorption Bed</li> <li>Capping Fill</li> </ul>	Type of System (check all that app Gravelless Drainfield Gray Water Sump	by)	Private	
Type of Installation	Absorption Bed     Capping Fill     Central System	Type of System (check all that app Gravelless Drainfield Gray Water Sump Gray Water System	y) □ Pressurized DF □ Recirculating GF □ RV Dump Station	Private     Shared	
Type of Installation Type of Installation Repair	Absorption Bed Capping Fill Central System Composting Toilet	Type of System (check all that app Gravelless Drainfield Gray Water Sump Gray Water System Holding Tank	ly)  Pressurized DF Recirculating GF RV Dump Station Sand Mound	Private     Shared	
Type of Installation Type of Installation Repair	Absorption Bed     Capping Fill     Central System     Composting Toilet     Drip Distribution	Type of System (check all that app Gravelless Drainfield Grav Water Sump Gray Water System Holding Tank Incinerator Toilet	by)  Pressurized DF Recirculating GF RV Dump Station Sand Mound Seepage Pit	Private Shared Public	
Type of Installation Type of Installation Repair	Absorption Bed     Capping Fill     Central System     Composting Toilet     Drip Distribution     ETPS	Type of System (check all that app Gravelless Drainfield Grav Water Sump Gray Water System Holding Tank Incinerator Toilet Individual Lagoon	by)  Pressurized DF Recirculating GF RV Dump Station Sand Mound Seepage Pit Stee Slope Drainfield	Private Shared Public	
Type of Installation  I New System Expansion Repair Tank Only	Absorption Bed     Capping Fill     Central System     Composting Toilet     Drip Distribution     ETPS     Experimental	Type of System (check all that app Gravelless Drainfield Gray Water System Holding Tank Incinerator Toilet Individual Lagoon Intermittent SF	y)  Pressurized DF RCirculating GF RV Dump Station Sand Mound Seepage Pit Steep Slope Drainfield Two Cell Lagoon	Private Shared Public Water Source	
Type of Installation  Vew System Expansion Repair Tank Only Basic System	Absorption Bed     Capping Fill     Central System     Compositing Toilet     Drip Distribution     ETPS     Experimental     Extra Drainrock	Type of System (check all that app Gravelless Drainfield Gray Water System Holding Tank Incineerator Toilet Individual Lagoon Intermittent SF Interest SF	y) Pressurized DF Rccirculating GF RV Dump Station Sand Mound Seepage Pit Steep Slope Drainfield Two Cell Lagoon Vault Privy	Private Shared Public Water Source Well	

Note: (Final approval of this permit requires inspection of the uncovered system.)
All plans, specifications, and conditions contained in the sporved permit application are barely incorporated into, and are enforceable as part of the
permit. The permit will expire one (1) year from date of issuance. The permit may be renewed if the renewal is applied for on or before the expiration
fate.

		DATE		
EHS Permit 1	EHS Permit Issued Signature			
		INSPECT		
EHS Code	Date	EHS		

07/13/2010

# **Getting Started...**

- Make sure you have a permit before getting started!
- Contact your local EHS if you have any questions or concerns about permit.
  - Lewiston 208-799-3100 Sherise or Bonnie
    Moscow 208-882-7506 Nancy or Clark

Jacob

- Orofino 208-476-7850
- Grangeville 208-983-2842 Mike
- Keep in contact with EHS to arrange inspections as necessary.

# **Test Holes/Site Evaluations**



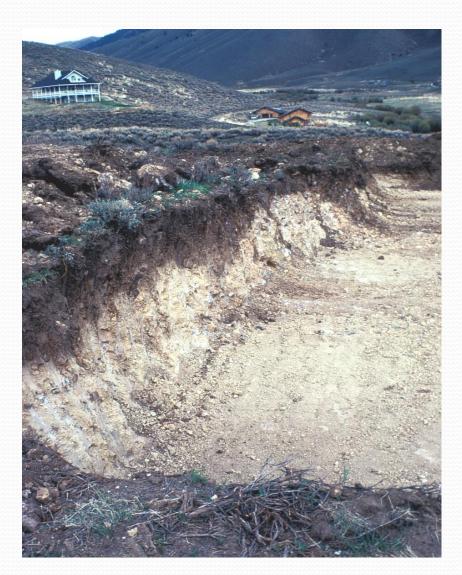
# **Digging Test Holes**



- Test holes need to be dug to a minimum of 6ft to 8ft or until a limiting layer is encountered.
- Test holes in Type A soils that are well drained need to be dug to a depth of 10 ft.
- Slope test holes so that EHS can enter hole to identify soil type and structure.

# The Role of Soil

- Effluent Treatment
- "Not too fast, Not too Slow"
- Pathogens
   Bacteria
  - Viruses
- Nutrients
  - Nitrogen
  - Phosphorus



## What does the test hole tell us?

- Soil Type
- Soil Depth
- Soil Structure
- Soil Layers
- If there are any limiting layers including:
  - Rock
  - Caliche/cemented layers
  - High water table

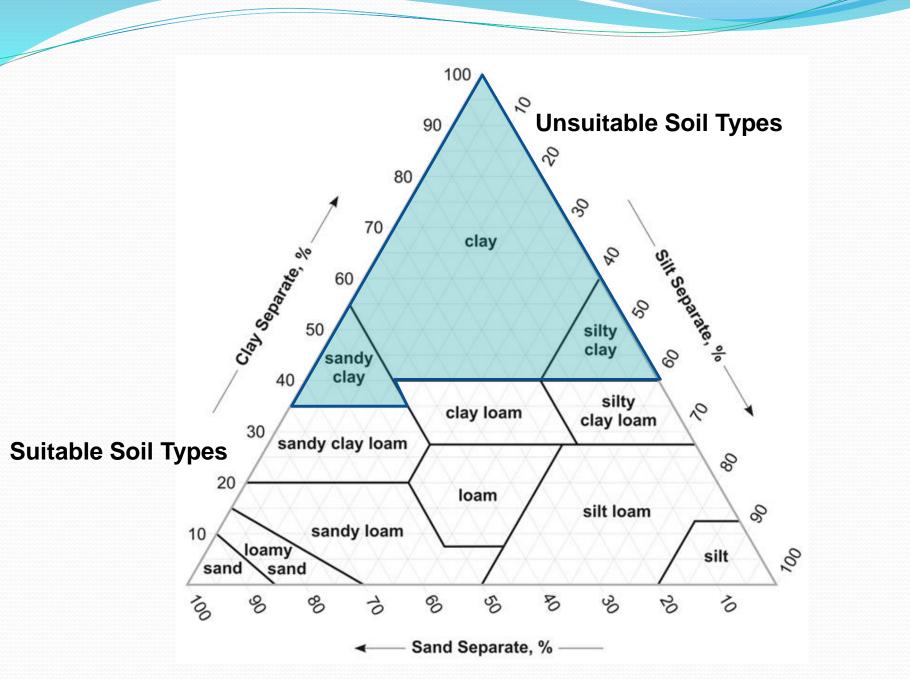




## **Soil Texture and Groups**

- Soil texture is determined by the amount of three constituents: sand, silt, and clay
- Texture determines:
  - Porosity
  - Permeability
  - Aeration
  - Drainage
- Idaho uses the Soil Textural Classification from the USDA





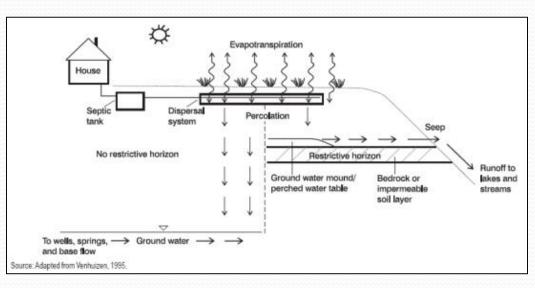
### **Application Rates**

Soil Class	Soil Type	Percolation Rate (mins/in)	Application Rate (gals/day/ft <sup>2</sup> )
N/A	Gravel, Coarse Sand	<1	Not suitable
A-1	Medium Sand	1-3	1.20
A-2a	Medium Sand, poorly graded	4-5	1.0
A-2b	Fine Sand, loamy sand	6-15	0.75
B-1	Sandy Loam	16-30	0.60
B-2	Loam, silt loam	31-60	0.45
C-1	Sandy or silty clay loam	45-60	0.30
C-2	Clay Loam	61-120	0.20
N/A	Clays, organic muck, duripan, hardpan	>120	Not suitable

## **Soil Depths**

#### **Effective Soil Depth is Determined by:**

- Impermeable Layer
- Fractured/Fissured Bedrock
- Extremely Permeable Material
- Normal High Ground Water
- Seasonal High Ground Water



#### Adequate effective soil depth is necessary to safely treat sewage

#### **Effective Soil Depth**

#### (In Feet by Soil Design Group to Limiting Layer)

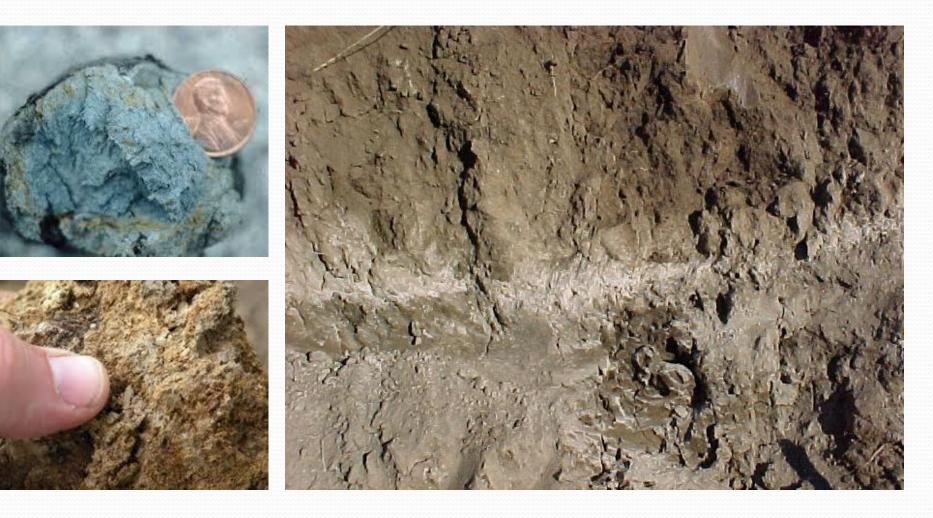
Site conditions	Soil Classifications		
Limiting Layer	A Porous	$\begin{array}{c} B\\ \leftrightarrow\end{array}$	C Less Porous
Impermeable Layer	4	4	4
Fractured Bedrock, Fissured Bedrock or Extremely Permeable Material	6	4	3
Normal High Ground Water Level	6	4	3
Seasonal High Ground Water Level	1	1	1

# Suitable soils?





### **Textural Red-Flags**



## **Effective Soil Depth?**



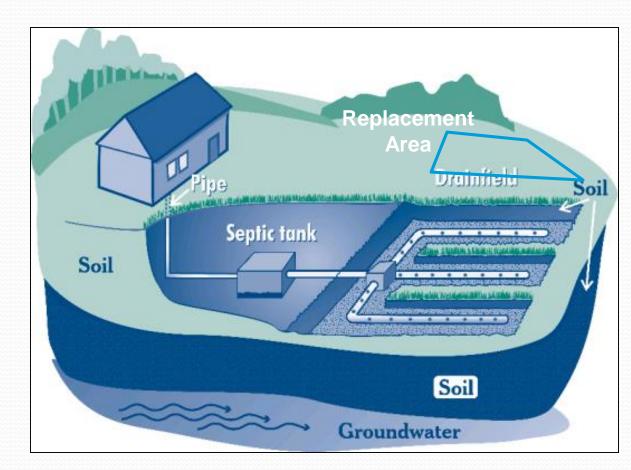
## Putting it all together...

GPD + Soil + Site Conditions + Hydrology = Disposal Area

"Once we fully understand all these conditions we can properly size the on-site wastewater system for the specific site"

# Parts of a Septic System

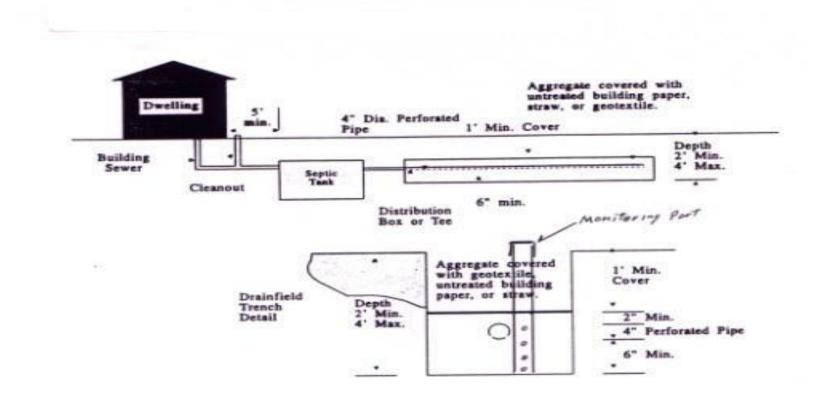
- Septic Tank
  - Dosing chamber with pump to elevate sewage if not gravity fed
- Drainfield
  - Variety of systems addressed in basic & complex systems
  - Replacement Area

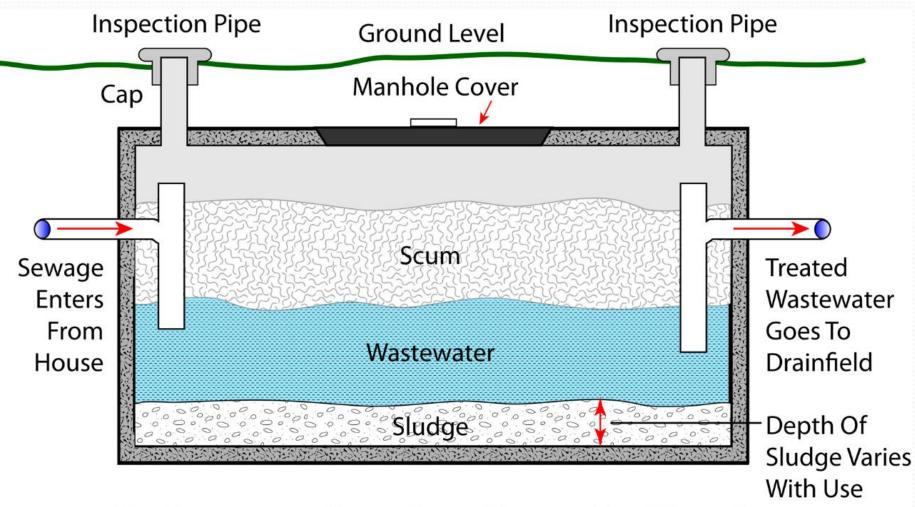


## **Standard System Requirements**

- Standard System = septic tank + drain field
- Slope not greater than 20%
- Suitable soil type
- Effective soil depth
- Separation distances must be able to be met
- Properly sized tank: 1000 gallons for up to 4 bedrooms, then 250 gal per each additional bedroom
- Adequate space for two complete systems to be installed, primary site and replacement area.

## Cross-sectional View of a Standard Drainfield





#### **Schematic of a Septic Tank**

#### What does a Septic Tank do?

#### Trap solids

Sludge & Scum (floaters and sinkers)

#### Treats solids and blackwaste

- Anaerobic Bacteria
- Partial solids reduction
- Gases vent to house stack



## **Septic Tank Requirements**

- State approved with required markings
- Sound
- Sealed
- Bedded
- Level
- Baffles
- ABS sch. 40



### **Inlet and Outlet Baffles**



Baffles help protect the drain field, by keeping solids in the tank

## **Plastic Septic Tanks**



- Need to be filled with water before backfilling.
- Extreme caution still needs to taken when backfilling, especially if working with rocky or heavy soils.
- Must be approved be DEQ.

#### Tank Accessibility (or "out of sight – out of mind")



#### **Tank Placement**

- Conveniently located: is the tank accessible for maintenance?
- How much weight can a tank support?





## **Tank Risers**



- Risers are required if the cover depth of the septic tank is more than 24" below finished grade.
- Riser needs to extend to within 18" of finished grade.
- Know the maximum rated cover depth for septic tanks.

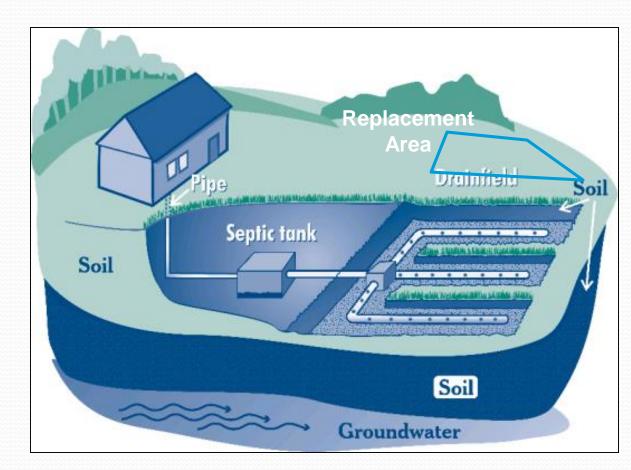
#### Factors that affect tank performance

- Gallons per day
- Waste strength
- Medications
- Temperatures
  - Inside & outside
- Household cleaners



## Parts of a Septic System

- Septic Tank
  - Dosing chamber with pump to elevate sewage if not gravity fed
- Drainfield
  - Variety of systems addressed in basic & complex systems
  - Replacement Area



#### DRAINFIELDS









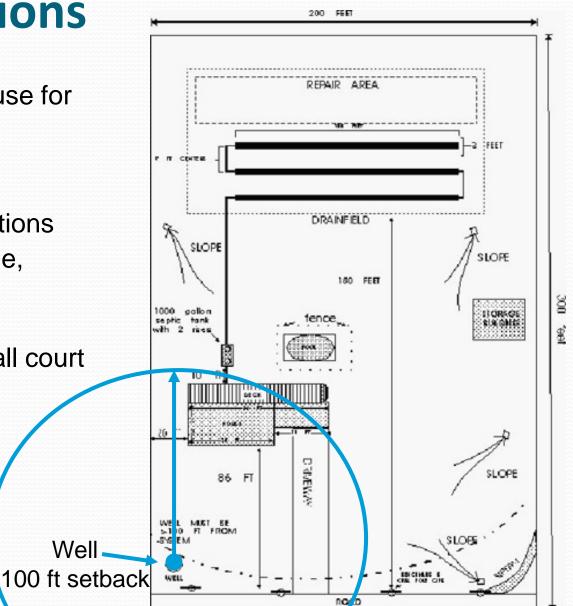
#### **Drainfield Placement**

- Is it where test holes were dug at?
- Are conditions suitable for installation?
- Replacement areas need to be at least 6 feet from existing drainfield.
- Systems cannot be placed in fill material.
- Are all setbacks capable of being met?
- WHERE'S THE WELL?

#### **Site Considerations**

- Prior Land Use
  - driveway or other cause for compaction
  - foreign soils, buried materials, Wells
- Future Land Use Restrictions
  - future building, garage, shop
  - parking lot
  - Pool, tennis/basketball court



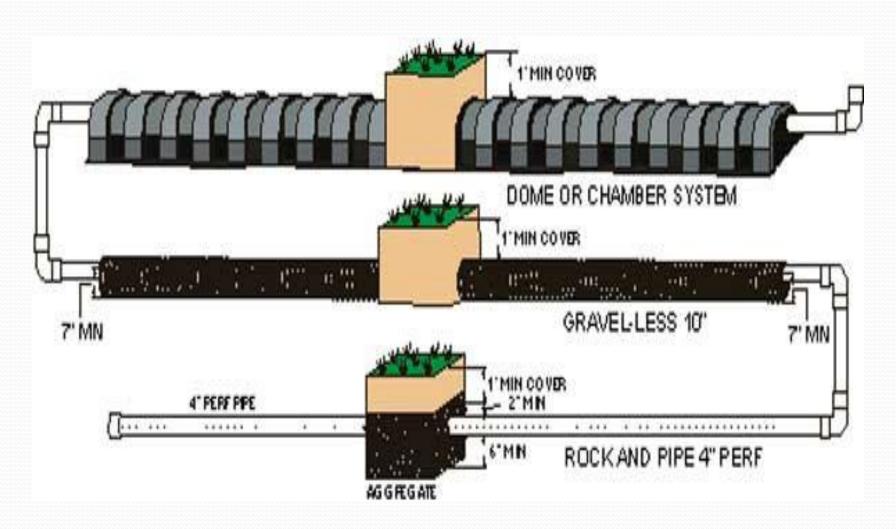


#### **Septic Tank and Wastewater Flow Sizing**

#### **Options Evaluated - 3 bedroom home**

Ontario, Canada 4 bed =  $500 \text{ GPD} + \text{m}^2$ New Jersey 500 GPD + 150 GPD /bedroom Pennsylvania 400 GPD + 100 GPD /bedroom N.C. 360 GPD + 120 GPD /bedroom MT 350 GPD 450 GPD + 150 GPD /bedroom Maryland Louisiana 400 GPD + 100 GPD /bedroom Illinois 600 GPD + 200 GPD /bedroom 375 GPD + 75 GPD /person **New Mexico** 450 GPD + 150 GPD /bedroom Arizona Arkansas 450 GPD + 150 GPD /bedroom 250 GPD + 50 GPD /bedroom Idaho

#### **Drainfield System Types**



#### **Gravel or Gravelless?**







## **Gravel System**



#### **Gravelless Chambers**



#### **Issues with Gravelless Chambers**

 Ground Squirrels – Use equal distribution or place wire fencing along bottom of trenches



#### **Sewage System Criteria**

Item	All Soil Groups		
Length of individual distribution laterals	100 ft max		
Grade of distribution pipes and trench bottom	Level		
Width of trenches	6 ft max		
Depth of trenches	2-4 ft deep		
Undisturbed earth between trenches	6 ft		

#### **Sewage System Criteria**

Item	All Soil Groups		
Undisturbed earth between septic tank and trenches	6 ft min		
Depth of aggregate – total	12 inches min		
Over distribution laterals	2 inches min		
Under distribution laterals	6 inches min		
Depth of soil over aggregate	12 inches min		
Aggregate size	$\frac{1}{2}$ to $\frac{21}{2}$ inches, free of fines		

Separation Distances Drainfield						
Feature of Interest	Septic Tank	Soil Type A	Soil Type B	Soil Type C		
<b>Public</b> wells, springs, or suction lines	100 ft	100 ft	100 ft	100 ft		
Other wells, springs, or suction lines	50 ft	100 ft	100 ft	100 ft		
<b>Public</b> Water Distribution lines	25 ft	25 ft	25 ft	25 ft		
Other water distribution lines	10 ft	25 ft	25 ft	25 ft		
Permanent or Intermittent surface water	50 ft	300 ft	200 ft	100 ft		
Temporary surface water, irrigation canals, and ditches	25 ft	50 ft	50 ft	50 ft		

# Separation Distances

	Drainileid			
Feature of Interest	Septic Tank	Soil Type A	Soil Type B	Soil Type C
Down slope cut or scarp: impermeable layer above base	25 ft	75 ft	50 ft	50 ft
Down slope cut or scarp: impermeable layer below base	25 ft	50 ft	25 ft	25 ft
Crawl space or slab	5 ft	10 ft	10 ft	10 ft
Basement	5 ft	20 ft	20 ft	20 ft
Property Line	5 ft	5 ft	5 ft	5 ft
Seasonal high water level	2 ft	1 ft	1 ft	1 ft

# **Equal Distribution**



 Effluent from the septic tank is directed equally into each drainfield leg

#### **Equal Distribution**

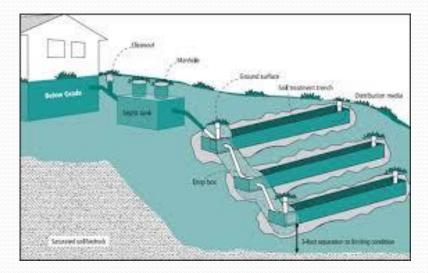
#### **Distribution Box (D-box)**

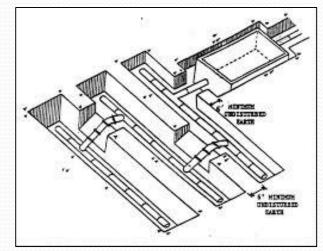


#### **Serial Distribution**

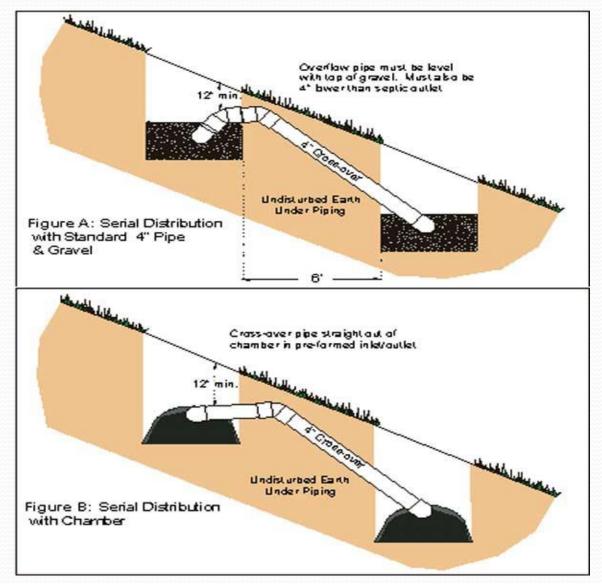
- Effluent from the septic tank fills one drainfield leg at a time, before overflowing to the next leg.
- Cannot use combination of serial and equal distribution





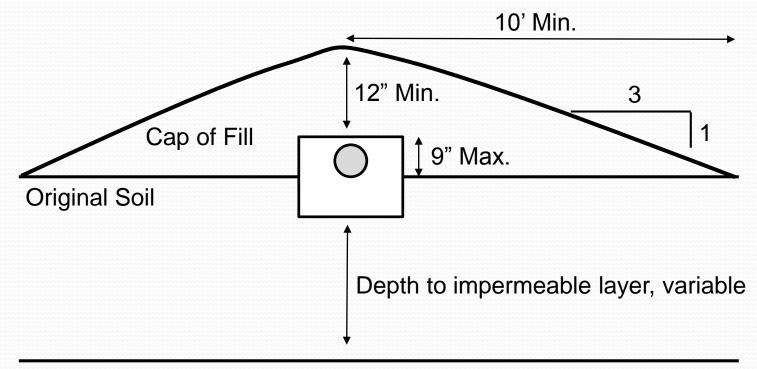


#### **Serial Distribution**



#### **Capping Fill Trench**

- Utilized when there is not adequate natural soil depth.
- Bottom of trench is 3" to 24" deep.



Impermeable layer

#### **Construction of Capping Fill Trenches**

- Entire drainfield area is scarified to a depth of 6-8"
  - Use chisel plow or backhoe teeth to disrupt vegetative mat
  - NO smearing soil
  - Avoid compaction
- Do not remove natural soil
- Edges of finished cap should be at least 10 feet beyond the nearest trench sidewall
- Finished side slopes should be at a 3 to 1 grade.
- Use of equipment with pneumatic tires is prohibited on fill or cover.
- Must have 12" of cover (or more).
- Site may not exceed 12% slope if drainfield extends above natural soil, or 20% slope when drainfield is at or below natural soil.
- Fill material must be same as or one soil design group finer than natural soil.

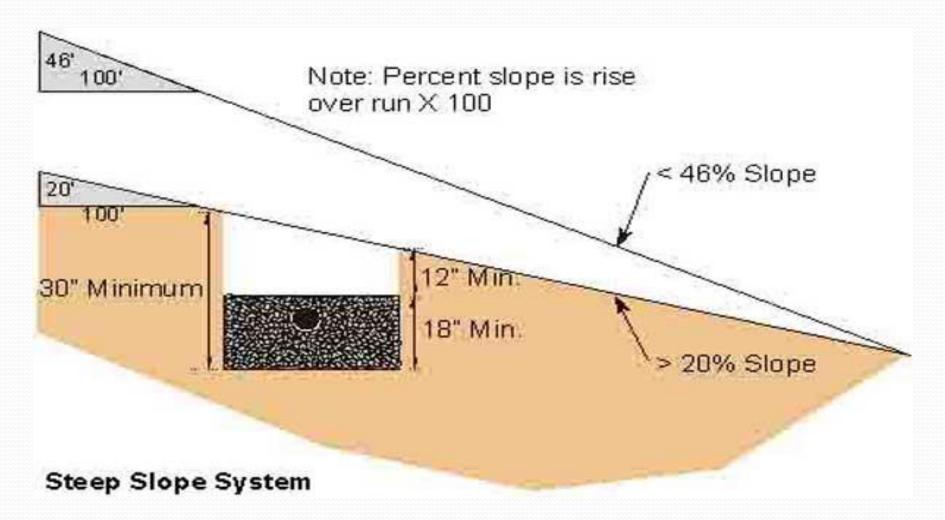
#### **Capping Fill Trench**

Inspections:

- Site soils texture, fill soil texture, scarification or vegetative mat disruption process will be inspected by the EHS.
- The installed trenches will be inspected by the EHS.
- Final inspection after covering may be conducted by the EHS to investigate the degree of incorporation of fill soil with the original soil.



#### **Steep Slope System**

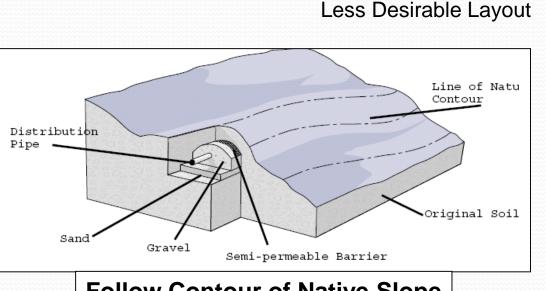


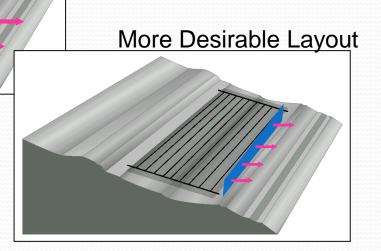
#### **Steep Slope System Cont.**

- The soil must be well drained, with no evidence of saturation, and of Soil Design Group A or
   B with no evidence of textural change in the effective depth.
- Parallel trenches must be separated by at least 8 feet of undisturbed soil.
- If more than one trench is used serial distribution is required.



# Minimizing Linear Loading to Protect lowest trench loading



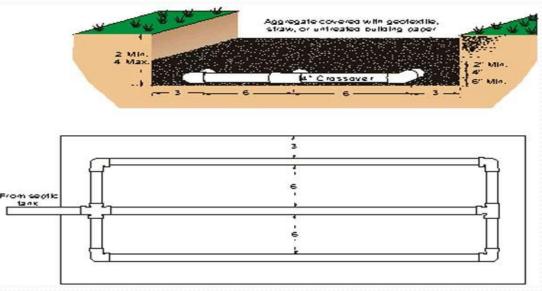


Follow Contour of Native Slope

#### **Absorption Beds**

- Slopes less than 8%
- Do not drive rubber tires on bottom of bed
- Distribution laterals must be spaced on not greater than 6' centers
- Sidewalls may not be more than 3' from any distribution lateral





#### **Placement and Landscaping Issues**



#### **Factors that effect Drainfields**



- Gallons per day
- Overflow of solids
- Garbage disposals and grinder pumps.
- Water softener brine
- Careless users
- Lack of maintenance!

#### **Extending the life of a drainfield**

- Increasing tank capacity extends the retention and treatment time of septic tank effluent. This provides a better quality of effluent being dispersed to the drainfield.
- Effluent Filters Catch additional fine materials that would otherwise enter the drainfield.
- Regular maintenance and pumping of the septic tank.



#### **Outlet Baffles with Filters**



## Privy

- Composting toilets
- Incinerating toilets
- Pit privies
- Vault privies

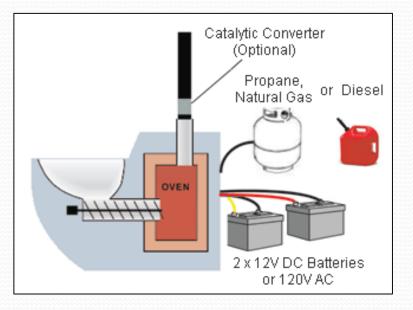


#### Requirements

- The structure will not have water under pressure
- Privies are for the disposal of nonwater-carried human excreta
- The chamber must be vented to the outside
- More likely than not you will have to install a grey water sump with the privy.

### **Composting and incinerating toilets**

- Toilets must be on the approved components list, section five of the TGM
- Installed and operated in accordance with the manufacturers guidelines





## **Pit Privy**

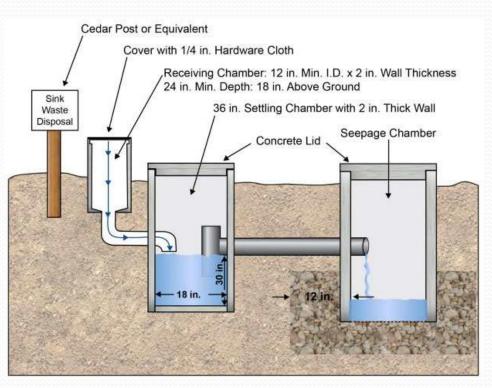
- The pit should be 3 to 6 feet deep and have a volume of about 50 gallons per seat.
- Cracks crevasses and openings of the building are not to exceed 1/16<sup>th</sup> of an inch
- The vent should be 7 square inches per seat and extend 12 inches above the roof.
- Pit must be abandoned when sewage comes within 16 inches of the ground surface, cover with dirt and mark site.
- Must meet most of the standard setbacks

## Vault privy

- Vault must either be on the approved components list, or made using a modified septic tank and meet the pit privy construction standards
- Maintenance access located outside the structure with a minimum diameter of 8 inches.
- Volume of at least 375 gallons per seat, 500 gallon minimum.
- Must meet septic tank setbacks

## **Grey Water Sump**

- Limited to a flow of 10 gallons per day
- Greywater is handcarried. It cannot be pumped to the disposal system
- Minimum 100 feet from surface water and meet all other standard system setbacks.
- Must be clearly labeled if system is in a public place



# Failing Systems...

- Age
- Improper Design
- Poor installation
- System Overload
  - Hydraulically
  - Organically





# **Failing systems**



## BIOMAT



# **Signs of Failure**



## **Replacing a Failed System**

- Why did the system fail?
- Is the old system still usable?
- Size and placement of new system.
- The new system must be at least 6' from the existing system.
- Permits are required for replacement systems.



## "Last resort" Systems

#### Seepage Pits

- Allowed as a "last resort"
- Site must be suitable in all respects except it is not large enough
- Pit bottom no deeper than 18 feet
- No C type soils

#### Holding Tanks

 Only allowed under emergency situations by approval of the director. All Conditions of Approval set forth in Idaho Code must be met.

### Systems not allowed

 Systems placed in fill material (unless property owners follow an extensive, multi-year, site modification plan)

## Last but not Least!

- Make sure your installation meets all requirements set forth on permit.
- Watch your setbacks, including setbacks to neighboring properties.
- Schedule final inspection in advance with EHS.
- Confirm that inspection has been completed and approved before covering system.

