Residential On-Site Septic System Training ROSS(T)

Provided By:
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A Homeowner **can** evaluate the following system types:

- **Gravity**
- **Pressure Distribution (?)**
- **Mound (?)**
- **Sand Filter (?)**

A Homeowner **cannot** evaluate the following system types:

- **Sand Filters (?)**
- **Aerobic Treatment Units (ATU)**
- **Community drainfields**

If you do not know your system type refer to your OSS permit, the ROSS study guide, or contact the Environmental Health Division.

Gravity Drainfield (gravel)

Gravity Drainfield (chambers)

Pressure Distribution Drainfield (gravel)

Pressure Distribution Drainfield (chambers)

Pressure Mound

Sand Filter

Now that you know the type of system you'll be evaluating, let's go over the paperwork.

Residential Report of Septic System Status (ROSS) form (illustrated on the next page and available on the website):

This document is a one page checklist that you will use to record your evaluation results and submit to the Health Department. It is divided into four categories:

Septic Tank *(questions 1-5)*
Pump Tank *(questions 6-10)*
Drainfield *(questions 11-13)*
Sand Filter *(questions 14-16)*

The questions on the following slides are numbered and shown in red and correspond to the questions on the ROSS form.

TUOLUMNE COUNTY

48 W. YANEY AVENUE
SONORA, CA, 95370
Telephone: 209-533-5633

TUOLUMNE COUNTY ENVIRONMENTAL HEALTH
ON-SITE SEWAGE SYSTEM
RESIDENTIAL REPORT OF SEPTIC SYSTEM STATUS CHECKLIST (ROSS)

Date of Inspection _____ Tax Parcel # _____

Site Address _____ City _____

Owner _____ Phone _____

OPERATIONAL STATUS: ☐ **Satisfactory** ... ☐ **Maintenance Needed** ..... ☐ **Maintenance Performed** ..... ☐ **Failure**

OSS TYPE: *Check One*

☐ Conventional Gravity ☐ Pressure Distribution ☐ Mound
☐ Sand Filter w/ Pressure Dist. ☐ Sand Filter w/ Mound ☐ Non-Pressurized Mound
☐ Pump to Gravity Distribution ☐ Other _____

PERMIT STATUS: ☐ Permit on File with TCEHD ☐ No Permit on File – OSS Drawing Required (Must use 8 ½" x 11")

SEPTIC TANK – ***Everyone must complete this section.***

1. Is your inlet baffle intact and in good condition? ..... ☐ Yes ..... ☐ No
2. Is your outlet baffle intact and in good condition? ..... ☐ Yes ..... ☐ No
3. Did you clean your outlet baffle filter? ..... ☐ Yes ..... ☐ No ..... ☐ N/A
4. Is the effluent level at the base of the outlet pipe? ..... ☐ Yes ..... ☐ No *(see below)*
   If not, is it above or below the invert (bottom) of the outlet pipe? ..... ☐ Above ..... ☐ Below
5. Does your tank need pumping? ..... ☐ Yes ..... ☐ No

PUMP TANK – *Fill out this section if your septic system has a pump and pump tank.*

6. Are there solids present in the pump tank? ..... ☐ Yes ..... ☐ No
7. Is your Pump Vault Basket Screen Filter intact and not collapsed? ..... ☐ Yes ..... ☐ No
8. Does your pump tank have a control panel? ..... ☐ Yes ..... ☐ No ..... Brand _____
9. Does your Alarm Float work? ..... ☐ Yes ..... ☐ No
10. Does your timer setting still match your approved design? ..... ☐ Yes ..... ☐ No

DRAINFIELD – ***Everyone must complete this section.***

11. If inspection ports are present, is sewage ponding in the ports? ..... ☐ Yes ..... ☐ No ..... ☐ N/A
    Is the ponding still present after 2 hours? ..... ☐ Yes ..... ☐ No
12. Is there surfacing effluent present over the drainfield? ..... ☐ Yes ..... ☐ No
13. Does effluent ever surface over the drainfield? ..... ☐ Yes ..... ☐ No

SAND FILTER – *Fill out this section if your septic system has a sand filter.*

14. If inspection ports are present, is sewage ponding in the ports? ..... ☐ Yes ..... ☐ No ..... ☐ N/A
    Is the ponding still present after 2 hours? ..... ☐ Yes ..... ☐ No
15. Is there surfacing effluent over the sand filter? ..... ☐ Yes ..... ☐ No
16. Does effluent ever surface over the sand filter? ..... ☐ Yes ..... ☐ No

NOTES – if maintenance was needed or performed, please describe: *(please attach more pages if necessary)*

_____

I certify that I have performed the required OSS evaluation on the above referenced property. The information submitted in this report is true and correct at the time this OSS was evaluated. I may be contacted by TCEHD to follow up on the results of this evaluation.

Received by: _____ _____ _____

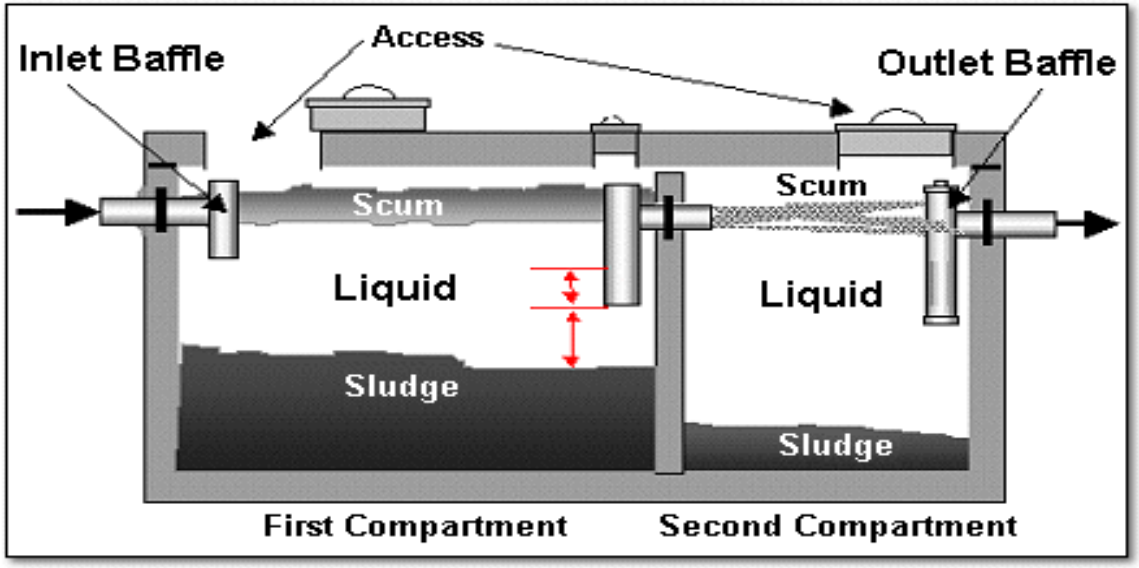
Signature **Print** **Date**

Now that you know your system type and what the ROSS form looks like,

Let’s get started!

The following slides will follow the categories and associated numbering of the questions on the ROSS to make this simple.

SEPTIC TANK



The septic tank provides treatment, solids volume reduction and separates dense solids from floating solids to produce somewhat clarified effluent.

Remove lids from the tank

1. Is your Inlet Baffle intact and in good condition as shown above?

This baffle slows sewage entering your tank and allows the liquid and solids to move freely into the tank in a downward direction, encouraging settling.

a. Is there a build-up of soap or grease, or blockage?
b. Is it still intact and attached to tank (replace if broken, or call a professional to help)?

2. Is your Outlet Baffle intact and in good condition as shown above?

a. Is there a build-up of soap or grease, or blockage?
b. Is it still intact and attached to tank (replace if broken, or call a professional to help)?

3. Did you clean your outlet baffle filter?

- The purpose is to reduce the quantity of solids flowing out of the septic tank.
- It is recommended that the outlet filter be cleaned once a year, unless heavy use requires it to be cleaned more frequently.
- Clean the outlet filter by pulling it out of the baffle and rinsing it off over the first compartment of the septic tank.

4. Is the effluent level at the base of the outlet pipe?

The effluent level in the septic tank should never be observed above or below the base of the outlet pipe. Contact a professional to help troubleshoot if the liquid level is abnormal.

If the effluent level is above the base of the outlet, this may indicate a problem with your system. This can be caused by a blockage in the outlet pipe or distribution box or even a failed drainfield that cannot accept any more effluent.

If the effluent level is below the base of the outlet pipe, this means your tank is not watertight and is allowing sewage to leak from the tank. This is a failure.

See the next two slides for pictures of normal and abnormal effluent levels.

Normal effluent level at outlet baffle

Effluent level above the outlet baffle and into the riser

5. Does your tank need pumping?

Pumping frequency depends on your habits, your tank volume, and how you use your system. Pumping is important to remove accumulated solids in the tank. If pumping is not done, solids will accumulate in the tank to a point where they will enter the drainfield through the outlet baffle.

To determine if your septic tank needs pumping, you must measure the scum mat and sludge level in all compartments. Tools that are helpful to properly inspect a septic tank to see if pumping is needed:

- Tape Measure
- Long stick/pole
- "Flap" on end of stick for scum (L-shaped device)

Measure Scum Depth

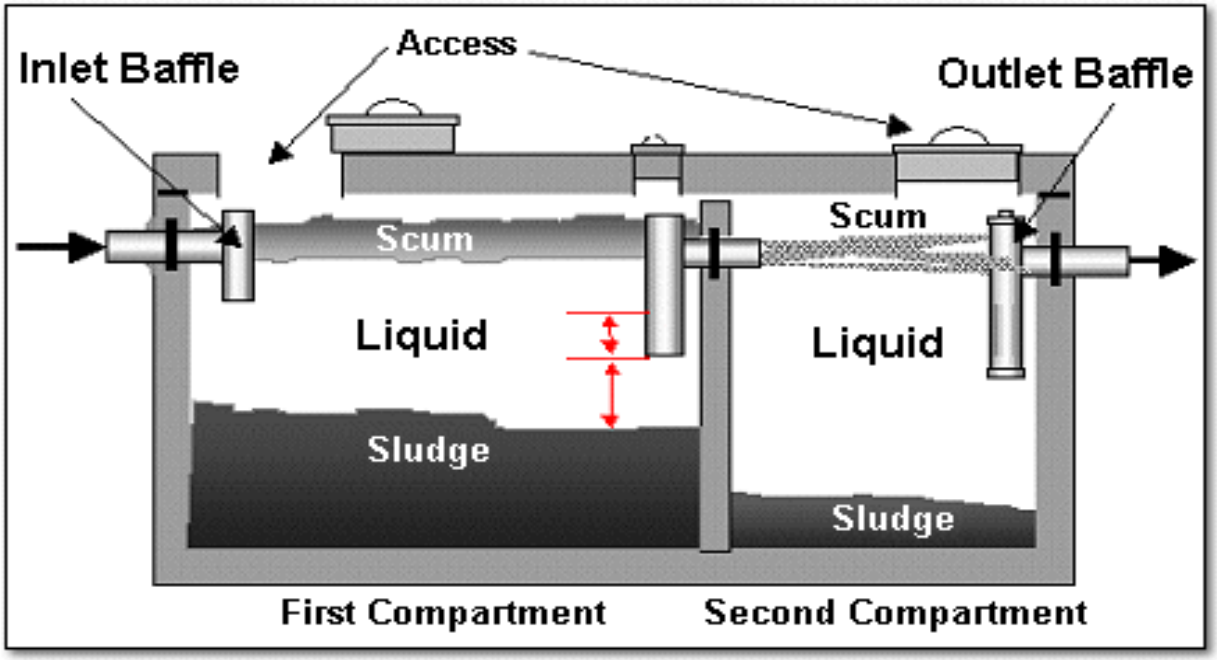
To measure the depth of scum in your tank, you will need to carefully break through the floating material covering the liquid in your tank. Using a shovel, dowel or similar tool, slowly push through the floating layer of scum. The scum will be thick and will create resistance to anything being pushed through it. Continue to push the shovel or tool into the scum layer until it breaks through the scum and into the liquid. The instant you break through the scum layer, remove the tool. Using a tape measure, measure the water or scum stain on the tool. This measurement is the scum depth. **This measurement should be taken in inches.**

Measure Sludge Depth

To measure the depth of accumulated sludge, you will again slowly and carefully push the tool vertically into the tank. Again, the tool will be moved through the scum and into the liquid. As you continue to allow the tool to move deeper into the tank, you will begin to feel resistance. This time, the resistance may be less easy to detect. The slight resistance that you will feel is the top of the sludge. At this point, remove the tool and again measure the tool from the liquid line that will be left on the tool. Subtract this measurement from the total tank depth to figure out the total accumulated sludge depth. **This measurement should be taken in inches.**

The tank will need to be pumped if:

a. The scum layer is within 3” of the bottom of the center wall baffle and/or within 1” of the top of the center wall baffle;
b. The top of the sludge layer is within 12” from the bottom of an outlet baffle;
c. The liquid levels are not normal – either too high or too low. Contact a professional to help troubleshoot the cause of the abnormal liquid level.

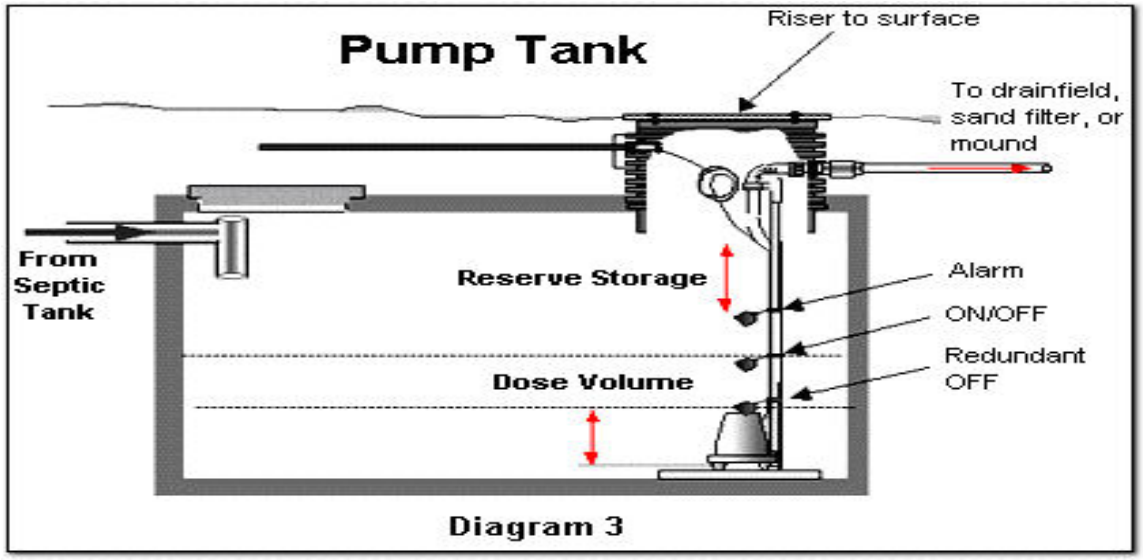


You are now done evaluating the Septic Tank.

Replace the lids, making sure they fit. Assure they are in satisfactory condition and will keep soil materials from passing into the tank. If there are any risers, make sure the covers are properly **secured**.

If you have a pump chamber, we will evaluate that next. If you do not have a pump chamber you can proceed to the drainfield section and skip questions 6-10 on the ROSS.

PUMP CHAMBER



The pump chamber provides a means for sufficient volumes of effluent to be collected to allow pre-determined doses to be discharged to mounds, sand filters, and/or pressure distribution drainfields. It also allows reserve volumes of sewage to be stored during power outages, high use, or power failures.

Take the lid off of the pump tank

6. Are there any solids present in the pump tank?

Unlike the septic tank, the effluent in the pump tank should not have a floating mat or an accumulation of any settled solids. Solids in the pump tank can enter the pump where they will cause damage to the pump and end up in your drainfield.

It is recommended the pump tank be pumped when:

- There is any measurable sludge or scum noted in the chamber.
- The pump fails or needs servicing or the floats need re-setting.

7. Is your pump vault basket screen filter intact and not collapsed?

- The screen will accumulate some solids from the septic tank and through bacterial growth. If the screen becomes significantly plugged, it may collapse inwardly toward the pump.

- Pull the screen out and clean it by rinsing it off into the septic tank.

8. Does your pump tank have a control Panel? If yes, what is the Brand name?

Panel for an “On Demand” pump. System alarm only box.

Panel for a “timed dosing” system. Timer controls are inside.

9. Does your alarm float work?

- The alarm float is the highest float in the tank and is meant to alert you if the effluent level is near the top of the tank due to a pump failure or during times of high water use.

- To activate your alarm simply pull up on the alarm float. You should hear a loud buzzing sound.

Timer

10. Does your timer setting still match your approved design?

The timer has an “on” time and “off” time, that were calculated at the time your system was designed in order to ensure that the amount of effluent that is pumped to your drainfield does not exceed the design flow.

DRAINFIELD

The drainfield is the final point of disposal for all of the sewage produced inside your house. The drainfield is the component where the effluent enters the soil for the final treatment and dispersal.

The sewage is distributed via gravity for those that have a gravity system (conventional gravity, pump to gravity, and non-pressurized mound). The sewage is distributed via pressure for those that have a pressure system (sand-filter w/ pressure distribution, sand-filter w/ mound, pressure distribution, and mound).

As a homeowner, evaluating the drainfield is going to consist of observing the area around and over the drainfield and also the condition of the drainfield itself if you have inspection ports.

- *Drainfields with inspection ports*

A drainfield with inspection ports is much easier to evaluate. Simply remove the lids or caps from each inspection port. The inspection ports are located at the far end of your drainfield and extend to the bottom of the drain rock in your drainfield.

Evaluating the inspection ports is simple and can tell you a lot. Your inspection ports should be dry at the bottom. If you observe liquid ponding in the bottom of any inspection port, you should re-inspect it frequently enough to determine if the liquid in the port was just a one-time occurrence, or if it is remaining in the port over time.

Continually ponding liquid in any one or more inspection ports is an indication of a serious problem. Ponding liquid is an indication of the soil's inability to absorb the liquid as fast as it should. Ponding in one inspection port, while others remain dry, is a good indication that liquid is being distributed unequally (check distribution box or manifold).

- *Drainfields without inspection ports*

If you do not have inspection ports, it will be difficult to determine how well your drainfield is functioning. The best you will be able to do is to walk the area over and around it. Look closely at areas down-slope of your drainfield. Check for signs of soggy areas, or even wet areas. Any areas near your drainfield, appearing to be abnormally soggy or wet, can be signs of a failing or malfunctioning drainfield.

If you find signs of surfacing effluent or exceptionally soggy areas, you should contact a professional as soon as possible. Continuing to use water when your drainfield is not functioning properly may lead to a failure. A professional may be able to help you fix the problem prior to a complete failure.

Multiple Inspection Ports

Inspection Ports Prior to Backfill

11. If inspection ports are present, is sewage ponding in the ports?

If there is sewage ponding in the ports at the time of your observation, re-check them after approximately 2 hours to determine if the ponding is still present.

12. Is there surfacing effluent over the drainfield?

13. Does effluent ever surface over the drainfield?

Sewage should always remain below ground. Sewage should never be surfacing over the drainfield. If sewage is surfacing, this is a failure and you must contact the Environmental Health Division to help you through the process of addressing the failure.

SAND FILTER

The sand-filter provides pre-treatment before final treatment and dispersal occurs in the drainfield. Sand-filters are used on sites that do not have the required soil depth to permit only a drainfield. A typical system utilizing a sand-filter would consist of a septic tank, a pump tank pumping into the sand-filter where the effluent is contained and collected. Finally, the effluent is pumped out of the sand-filter to the drainfield.

If you do not have a sand filter you can proceed to the Paperwork section and skip questions 14-16 on the ROSS.

14. If inspection ports are present, is sewage ponding in the ports?

If there is sewage ponding in the ports at the time of your observation, re-check them after approximately two hours to determine if the ponding is still present.

15. Is there surfacing effluent over the sand filter?

16. Does effluent ever surface over the sand filter?

Sewage should always remain below ground. Sewage should never be surfacing over the drainfield. If sewage is surfacing, this is a failure and you must contact the Environmental Health Division to help you through the process of addressing the failure.

The Paperwork

- ✓Fill out the **R**esidential **R**eport **o**f **S**ystem **S**tatus Checklist (**ROSS**) complete all sections that apply to your system type.
- ✓Use N/A for any item that does not apply.
- ✓Include a site sketch if you do not have one or if the as-built is not accurate. Please refer back to the study guide for site plan details.
- ✓Submit the results to TCEHD and save a copy for your records.

You Can Never Include Too Much Information

There may not be enough room on the ROSS form or checklist notes to explain everything that you have observed during the evaluation. A separate page narrative summary of the findings can be attached on an $8^{1/2}$" x 11"sheet of paper.

Copies of photos can be very helpful in documenting conditions during and after the evaluation and can be submitted with the ROSS and narrative.