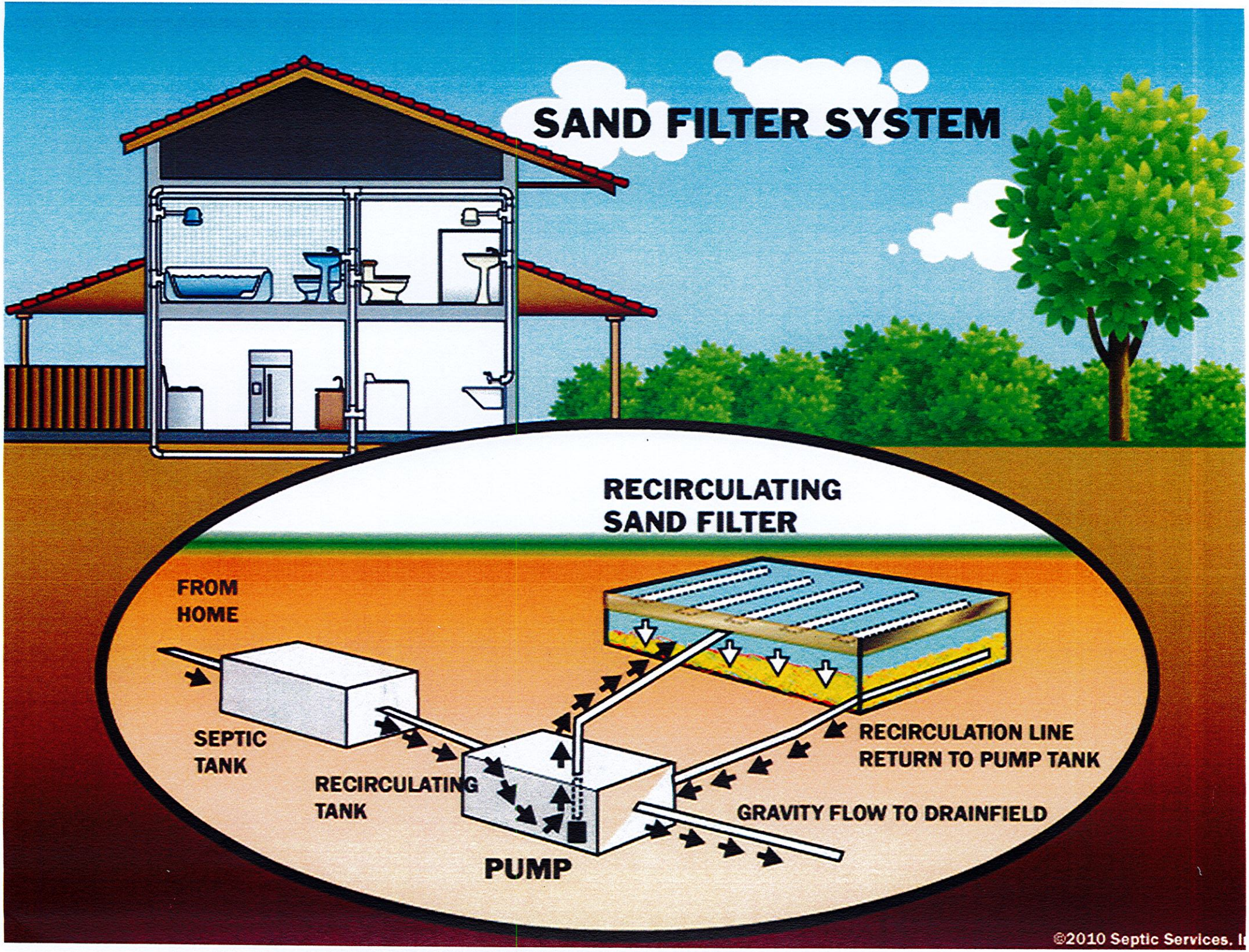
SAND FILTER SYSTEM
RECIRCULATING
SAND FILTER
FROM
HOME
SEPTIC
TANK
RECIRCULATING
TANK
PUMP
RECIRCULATION LINE
RETURN TO PUMP TANK
GRAVITY FLOW TO DRAINFIELD
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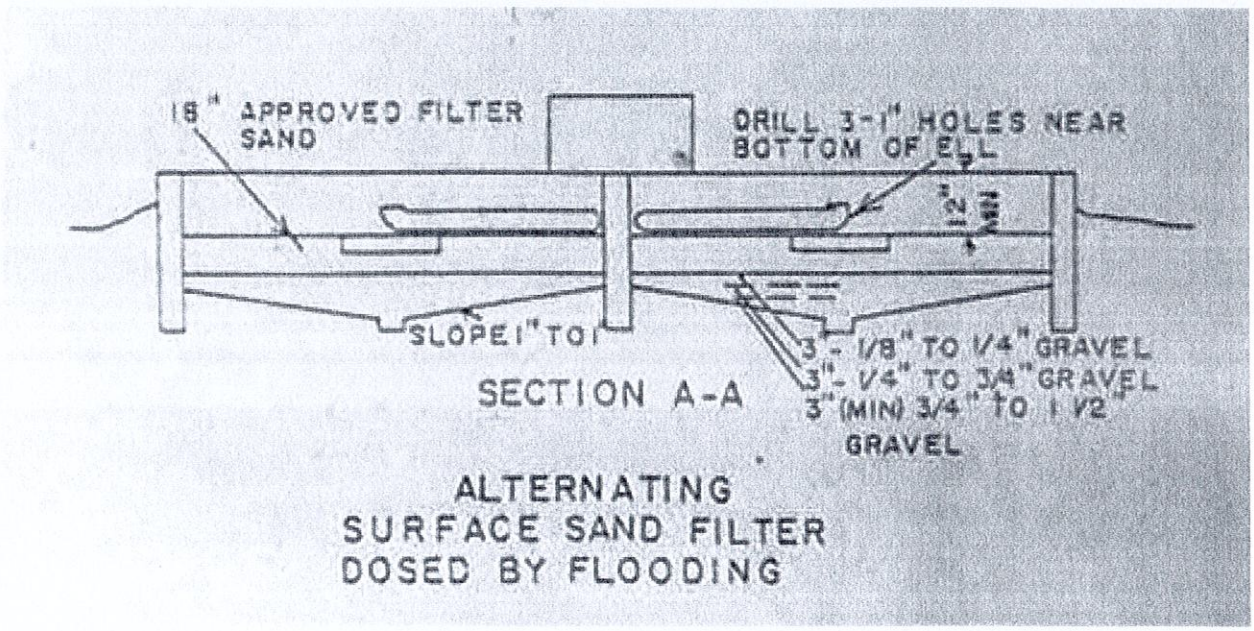
SINGLE PASS OR INTERMITTENT SAND FILTERS

Sand filters produce a high quality effluent with typical concentrations of 5 mg/L or less of biochemical oxygen demand (BOD) and suspended solids (SS), as well as nitrification of 80% or more of the applied ammonia. Phosphorus removals are limited, but significant fecal coliform bacteria reductions can be achieved.



A single pass or alternating sand filter must:

- Have a container that is watertight on the bottom and all sides. ‘

- Must provide one square foot of filter area per 20 gallons of flow per day.
- Must contain the following:
  At least 3inches of ¾-1/2 inch gravel
  At least 3inches of ¼ -3/4 inch gravel
  At least 3inches of 1/8 to1/4 inch gravel
  18 " of approved sand

- The sand used in alternating surface sand filters shall be coarse, clean sand of uniform size. Effective size of 0.5 to 1.5 mm in diameter with a uniformity coefficient of no greater than 3.0 and less than one percent (0.15%) fines passing a one hundred (200) sieve.

A splash pad should be provided to prevent scouring of the sand, thereby preventing use of the entire filter surface.
It is recommended that the filter should be dosed a minimum of 8 times per day to allow small volumes of flow to be filtered each time, to ensure proper treatment and to allow for the maximum oxygen transfer between doses.

Maintenance:

Use one filter at a time. Switch the flow to the other filter when the filter begins to pond or when heavy solids or weeds appear. **Allow the clogged filter to rest and dry completely before removing solids and raking level. Do not till! This will work solids down into the filter causing premature failure.**

If you are getting significant solids on the filter, you may need to pump out the dosing tank. You can use a core sampler to check the sludge level in the dosing tank.

Also the float tree and pump should be checked to make sure that they are working properly during each visit. The float tree should be pulled annually and the floats sprayed off. The intake screen on the pump should be cleaned as well.

Sand will need to be replaced as dirty sand is removed so a stock of refill sand should be kept on hand. Use a tile probe to measure the sand depth.

The solids, weeds and sand removed from the sand filter must be double bagged and disposed of in a landfill. DO NOT THROW THE DIRTY SAND ON THE GROUND. DEP will write an NOV for potentially contaminating groundwater.

Disinfection always follows the sand filters.