

SHASTA COUNTY
DEPARTMENT OF RESOURCE MANAGEMENT
ENVIRONMENTAL HEALTH DIVISION



SEPTIC TANK AND LEACH LINE
DESIGN, CONSTRUCTION, AND INSTALLATION
GUIDELINES

SEPTIC TANK

I. Distance Provisions:

- a. See Table 1

II. Construction of New or Replacement Tanks:

- a. Septic tanks shall be watertight and constructed of sound and durable materials that are not subject to excessive corrosion or decay. Wooden septic tanks are prohibited. Each tank shall be structurally designed to withstand all anticipated earth or other loads and shall be installed level and on solid ground. Pre-cast or pre-molded tanks are readily available. Contact the Shasta County Environmental Health Division for tank specifications should you choose to construct the tank yourself.
- b. Septic tanks shall have a minimum of two compartments. The inlet compartment of any septic tank shall be two-thirds of the total capacity of the tank, but not less than 500 gallons liquid capacity, and shall be at least three feet in width and five feet in length. Liquid depth shall be not less than two feet and six inches. The secondary compartment of any septic tank shall have a capacity of one-third of the total capacity of the tank.
- c. Access to each septic tank shall be provided by at least two manholes 20 inches in minimum dimension or by an equivalent removable cover slab. One manhole shall be located over the inlet and one over the outlet. Whenever a first compartment exceeds 12 feet in length, an additional manhole shall be provided over the baffle wall. Septic tanks installed under concrete paving or blacktop shall have the required manholes accessible by either extending the manhole openings to grade in a manner acceptable to the Shasta County Director of Environmental Health, or providing a removable concrete or other approved section, not less than 20 inches in the least dimension, in the concrete paving or blacktop and located directly over the required manholes.
- d. The inlet and outlet pipe T-fittings shall extend four inches above and at least 12 inches below the liquid surface. The invert of the inlet pipe shall be at a level not less than two inches above the invert of the outlet pipe.
- e. Inlet and outlet T-fittings and compartment partitions shall have a free vent area equal to the required cross-sectional area of the house sewer or private sewer discharging into the tank to provide free ventilation above the water surface from the disposal field through the septic tank, house sewer and vent stack to the outer air.

- f. The total depth shall exceed the liquid depth by at least nine inches. The cover of the septic tank shall be at least two inches above the vent openings.
- g. Partitions or baffles between compartments shall be of sound and durable material and shall extend at least four inches above the liquid level. An inverted fitting equivalent in size to the tank inlet, but in no case less than four inches in size, shall be installed in the inlet compartment side of the baffle with the bottom of the fitting placed midway in the depth of the liquid. Wooden baffles are prohibited.

LEACH LINES

I. Distance Provisions:

- a. See Table 1

II. Construction:

- a. The amount of leach field required for expected water use shall be determined by percolation rates unless prior approval has been received from the Environmental Health Division. The amount of leach lines required will be specified in your sewage disposal system permit.
- b. The overall depth of the leach line trench is specified on your sewage disposal system permit and is determined by soil depth and conditions at the site.
- c. The width of the trench is generally two (2) feet. The exact width of the trench required will be specified in your sewage disposal system permit.
- d. Leach lines shall be constructed using an approved filter material such as crushed stone, gravel, cinder, or slag. Filter material shall be clean in appearance and vary in size from 3/4" to 2-1/2" and shall be otherwise acceptable to the Director of Environmental Health.
- e. In general, 12" of filter material is placed under the leaching pipe in the leach trench. The exact depth of filter material required under the pipe will be specified in your sewage disposal system permit. The leach pipe shall be completely encased by filter material, and a minimum of 2" of filter material is to be placed over the pipe.
- f. A layer of straw, untreated building paper, filter fabric, newspaper, or other similar material as approved by the Environmental Health Division Manager shall protect filter material from the dirt backfill.

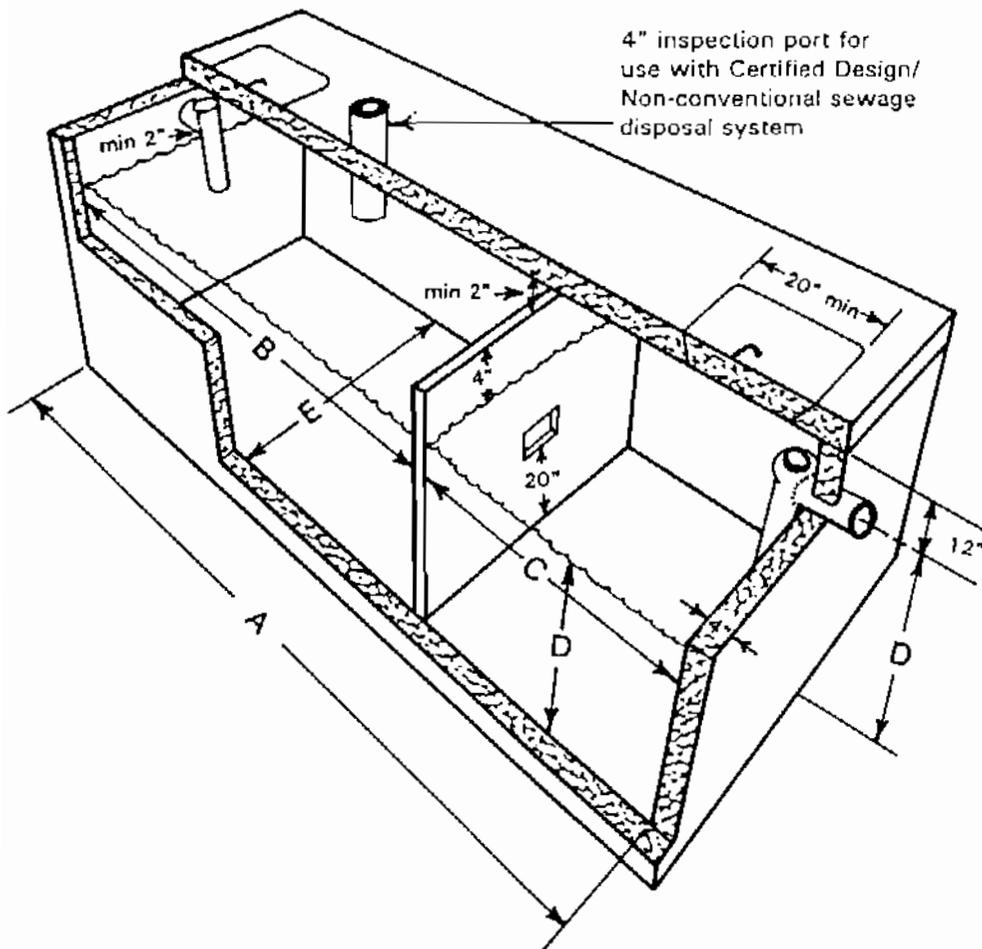
- g. No single leach line shall exceed 100 feet in length.
- h. When there is more than one leach line, each line shall be of equal length unless prior approval has been received from the Environmental Health Division.
- i. Minimum spacing between leach lines is ten feet measured from the center of the trenches.
- j. Leaching pipe for gravity flow systems shall be perforated, approved material with a minimum diameter of 3 inches. Smaller diameter pipe may be approved for pressurized systems.
- k. The leach line pipe shall have a maximum grade of four (4) inches per one hundred (100) feet.
- l. Leach lines shall not be located in dredger tailings or gravel bars adjacent to streams or lakes.
- m. Leach lines are not to be installed in (1) unstabilized fill, (2) steeply sloping ground, (3) poorly drained or saturated areas.
- n. A watertight distribution box shall be installed at any junction of two or more effluent lines. (See back page for construction details).
- o. The minimum backfill over a leach line is six (6) inches. The maximum backfill over a leach line is thirty-six (36) inches.
- p. There must be no water in the leach line trenches when the gravel is added.
- q. The site of the leach field and 100 percent replacement area shall not be covered by asphalt, concrete, or other impervious material, or subject to vehicular traffic or other activity which would adversely affect the soil or leach lines.
- r. The system shall not be backfilled or put into use until it has been inspected and approved by the Environmental Health Division. Before the final inspection, it shall be complete and all portions shall be accessible for inspection.
- s. The Environmental Health Division Manager may set more stringent requirements than these standards where such higher requirements are essential to maintain a safe and sanitary condition.

Table 1			
Minimum Horizontal Distance (in feet) Required Between:	Building Sewer	Septic Tank	Disposal Field
Building or Structures ¹	2	10	10
Property Lines	Clear	5	10
Wells	50 ²	50	100
Domestic on Site Water Line	5 ³	5	5
Public Water Main	10 ⁴	10	10
Springs	50	50	200
Ephemeral Streams	50	50	50
Intermittent and Perennial Streams ⁵	50	50	100
Lakes ⁶	50	50	200
Road Cuts or Excavations			50
Disposal Field		5	8
Distribution Box		5	

NOTES:

When disposal fields are installed in sloping ground, the minimum horizontal distance between any part of the leaching system and ground surface shall be fifteen (15) feet.

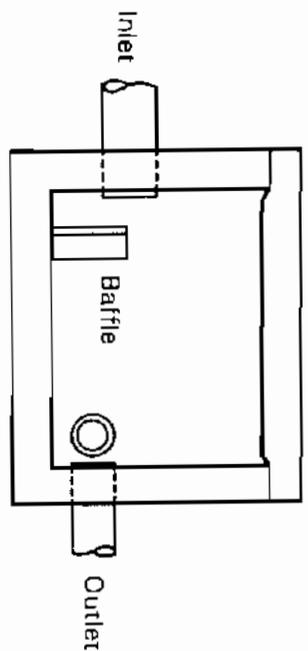
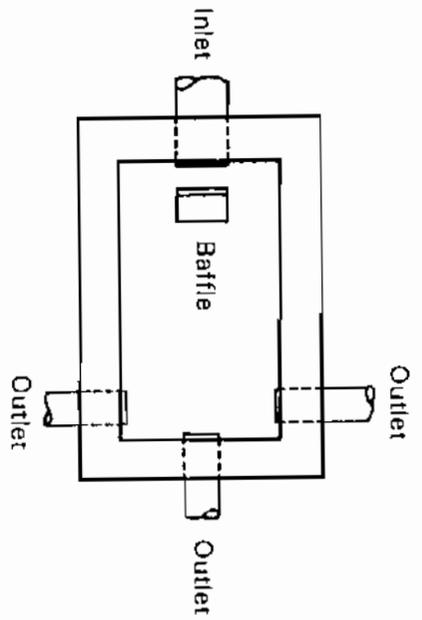
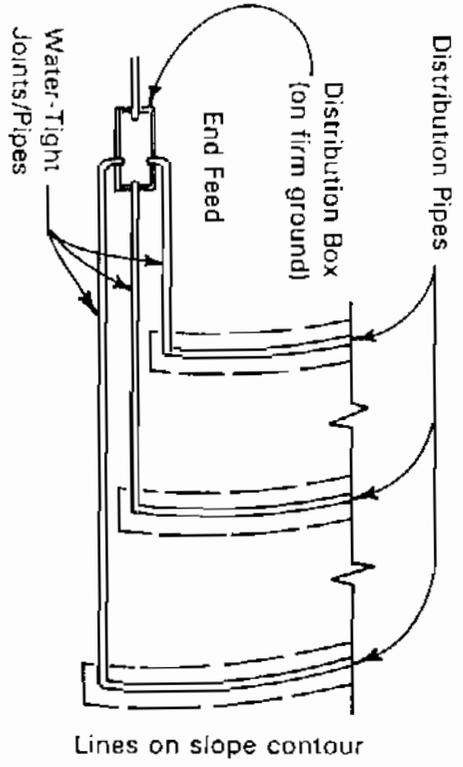
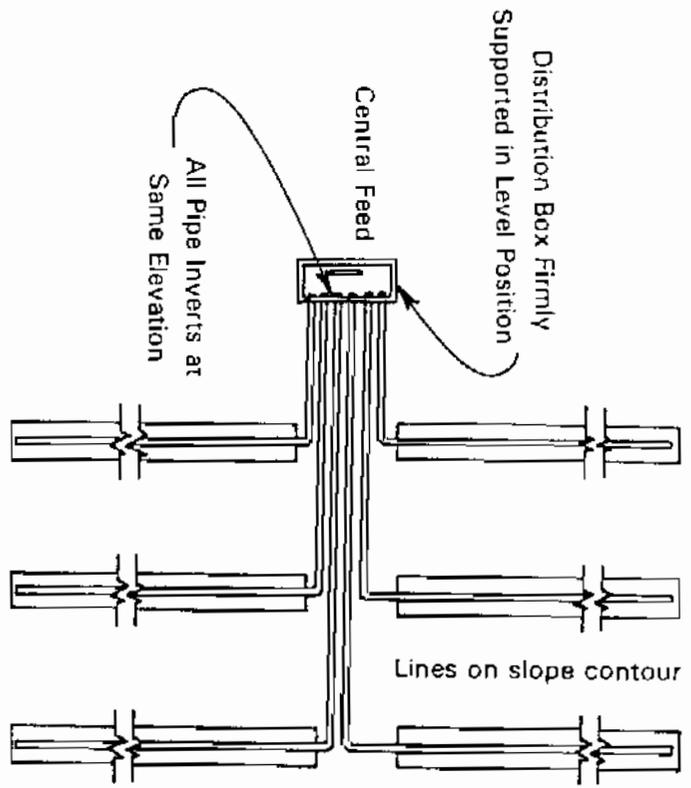
1. Including porches and steps, whether covered or uncovered, breezeways, roofed portecocheres, roofed patios, carports, covered walks, covered driveways and similar structures or appurtenances.
2. All drainage piping shall clear domestic water supply wells by at least fifty (50) feet. This distance may be reduced to not less than twenty-five (25) feet when the drainage piping is constructed of materials approved for use within a building.
3. See Section 1108 of the Uniform Plumbing Code.
4. For parallel construction - for crossings, approval by the Environmental Health Division shall be required.
5. Includes irrigation ditches and natural and artificial drainage ways with either intermittent or continuous flows. This distance is to be measured from the 10-year flood line or top of bank or other evident high-water line or the expected 10-year flood line.
6. Includes lakes, ponds, reservoirs, and other bodies of standing water, as measured from the high-water line or spillway elevation. **For lakes that are uphill from the disposal field, the setback may be reduced to 100 feet.**



CAPACITY OF SEPTIC TANKS - with commonly found tank dimensions

Single Family Dwellings												
Number of Bedrooms	Without Garbage Disposal					With Garbage Disposal						
	Approximate Gallons	A	B	C	D	E	Approximate Gallons	A	B	C	D	E
1	750	8	5	3	4	4	1,100	9	6	3	4	4
2 or 3	1,100	9	6	3	4	4	1,500	10	7	3	4.5	4.5
4	1,500	10	7	3	4.5	4.5	2,000	12	8	4	5	5
5	2,000	12	8	4	5	5	2,600	varies				

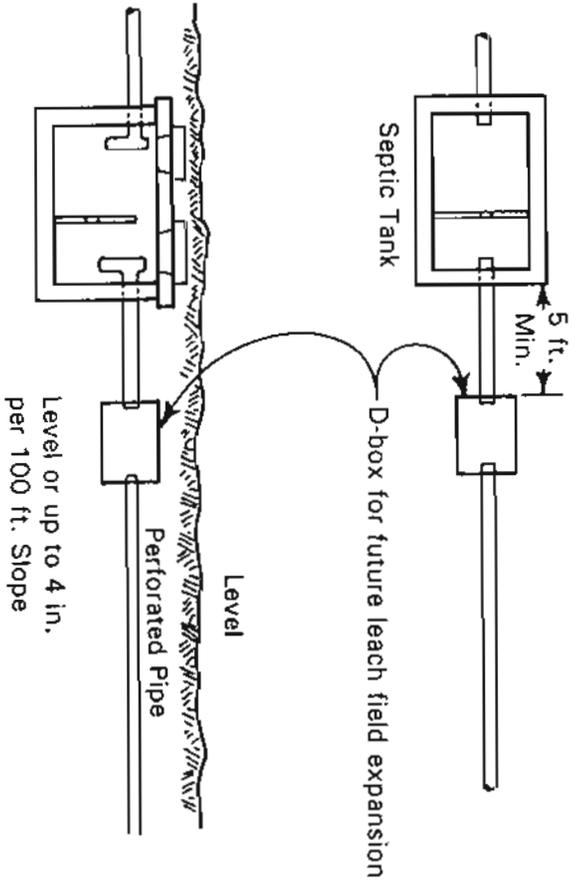
TYPICAL DISTRIBUTION BOX NETWORK FOR SLOPING GROUND



TYPICAL DISTRIBUTION BOXES

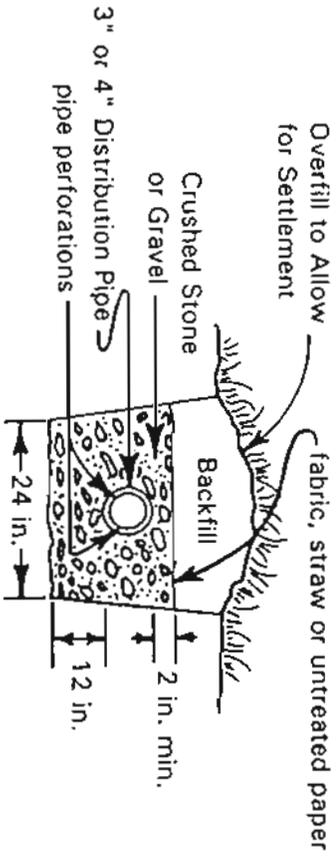
SINGLE LINE DISTRIBUTION NETWORK

Watertight Pipes and Joints



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TYPICAL LEACH LINE CROSS SECTION



Dimensions may vary in your septic system permit.

CLOSED LOOP DISTRIBUTION NETWORK

