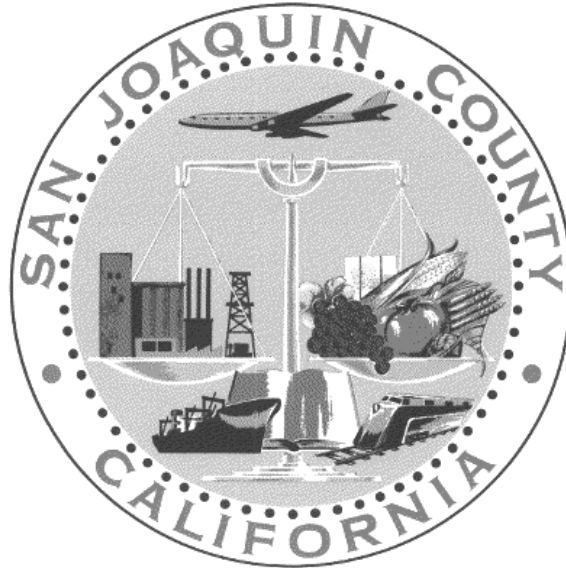


San Joaquin County



Onsite Wastewater Treatment Systems Standards

(San Joaquin County Ordinance Code Section 9-1105)

Amended by San Joaquin Local Health District May 23, 1989

Amended by Board of Supervisors December 11, 2001, R-01-828

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1. GENERAL REQUIREMENTS

- 1.1 All buildings or structures that have plumbing fixtures or facilities shall have a means of wastewater collection, treatment and disposal approved by the Environmental Health Department.
- 1.2 All Onsite Wastewater Treatment Systems (OWTS) shall conform to the requirements of the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems Policy (OWTS Policy), the San Joaquin County Onsite Wastewater Treatment Systems Local Agency Management Program (LAMP), Title 9 of the Ordinance Code of San Joaquin County, and these standards.
- 1.3 The type, size, and scope of all new OWTS shall be determined at the time of the planning and building permit application process.
- 1.4 The location, installation and maintenance of the OWTS and each part thereof shall be such that it will function as originally approved, in a sanitary manner, and will not create a nuisance or endanger the safety of any water supply, ground water or surface water. In determining a suitable location of the system, consideration shall be given to the size and shape of the lot, the location of buildings, slope of ground surface, depth to ground water, proximity of existing future water supplies and expansion of system or connection to future public sewers.
- 1.5 No part of any OWTS shall be located nearer than the distances shown in Table 1.5 from water supplies, property lines, structures and other features. The following areas are also considered unsuitable for the location of dispersal systems or expansion areas.
- 1.5.1 Areas within any easement which is dedicated for surface or subsurface improvement.
- 1.5.2 Paved areas or areas occupied or to be occupied by structures.
- 1.5.3 Areas not owned or controlled by property owners unless said area is dedicated for waste disposal areas.

Table 1.5 – Setback Requirements

Setback Descriptions	All OWTS (Meets or Exceeds Tier 1 Requirements)			Existing, Non-Conforming OWTS (Lots Where OWTS Cannot Meet Tier 1 Requirements)		
	Septic Tank/ Treatment Plant	Leach Lines and Sumps up to 8' Depth	Seepage Pits or Sumps >8' Depth	Septic Tank	Leach Lines and Sumps up to 8' Depth	Seepage Pits or Sumps >8' Depth
Water Well – Private	100'	100'	150'	50'	50'	100'
Water Well – Public	150'	150'	200'	100'	100'	150'
Streams,	100'	100'	100'	50'	100'	100'

Waterways*						
Lakes, Reservoirs**	200'	200'	200'	50'	200'	200'
Drainage Course or Ephemeral Stream**	100'	100'	100'	25'	50'	50'
Private Pond-Recreational Contact	200'	200'	200'	50'	200'	200'
Private Pond-No Recreational Contact	100'	100'	100'	50'	100'	100'
Storm Drainage Ponds <6' Depth	10'	10'	10'	10'	10'	10'
Property Line**	25'	50'	75'	5'	5'	5'
Structures	5'	10'	10'	5'	10'	10'
Cut or Fill Bank ⁺	10'	+	+	10'	+	+
Unstable Land Mass	100'	100'	100'	100'	100'	100'
Lake, Reservoir, Flowing Water Body for OWTS 0 - 1,200 feet of Surface Water Intake of Public Water System	100'	400'	400'	n/a	n/a	n/a
Lake, Reservoir, Flowing Water Body for OWTS 1,200-2,500 feet of Surface Water Intake of Public Water System	100'	200'	200'	n/a	n/a	n/a

* As measured from the line which defines the limit of a 100 year frequency flood.

** As measured from the edge of the channel.

+ Distance in feet equals four times the vertical height of the cut or fill blank. Distance is measured from the top edge of the bank.

++ When individual wells are used.

*+ As measured from the high water line.

- 1.6 Ground slope in the disposal area shall not be greater than (30) percent.
- 1.7 The OWTS shall be located down slope of any water supply if the slope of terrain is 5% or greater.
- 1.8 The lot size shall be sufficient to permit proper location, installation and operation of the OWTS.
- 1.9 The installation of OWTS in low areas and orchards subject to flooding, or in areas where groundwater reaches the surface at certain times of the year, is not acceptable unless approved by the Director of the Environmental Health Department.
- 1.10 Design of the OWTS shall be determined on the basis of location, type of soil and groundwater level as determined by the soil suitability and nitrate loading studies, percolation tests and/or soil profile tests.
 - 1.10.1 The OWTS shall be designed to receive all domestic sewage and wastewater from the property. Only domestic sewage is allowed to discharge into the

OWTS. No basement, footing or surface drainage or discharge from water softener, iron filters, pool filters, or water treatment systems shall be permitted to enter any part of the OWTS.

1.10.2 The OWTS shall consist of a building sewer, a septic tank, distribution box, and a drainage system. Holding tank systems, alternative treatment systems, and lift or pump stations may also be included in an OWTS. Alternative treatment systems and engineered systems will be evaluated on their specific design.

- a) Where soil porosity and available land area permit, the drainage system shall consist of a subsurface horizontal leaching field.
- b) Where soil porosity and available land area do not permit the use of a shallow subsurface horizontal leaching field, and an adequate absorption soil stratum can be found at a greater depth without endangering ground or surface waters, the effluent may, in combination with a shallow subsurface horizontal leaching field, be discharged into one or more sumps or seepage pits, to a maximum depth of 25 feet.
- c) Alternative treatment systems or engineered systems may be proposed in lieu of a standard septic system. The alternative treatment system or engineered system must be designed by a Qualified Professional, as defined in the *Water Quality Control Policy For Siting, Design, Operation, and Maintenance Of Onsite Wastewater Treatment Systems* as adopted by the State Water Resources Control Board on June 19, 2012, and must meet the discharge requirements set by the Environmental Health Department or the Central Valley Regional Water Quality Control Board for the particular system or plant.
- d) Holding tank systems, alternative treatment systems and engineered systems are required to obtain an annual operating permit from the Environmental Health Department when monitoring, sampling, and reporting is required, or as determined necessary by the Director of Environmental Health. Other OWTS may be required to obtain an annual operating permit, as determined necessary by the Director of Environmental Health.
- e) The dispersal field shall maintain the minimum distance from groundwater as noted in the table below.

Table 1.10.2 - Minimum Soil Depth from the Bottom of the Dispersal System to Groundwater

Percolation Rate	Minimum Depth
≤1 MPI	Engineered System Required
1 MPI ≤ 5 MPI	Twenty (20) Feet*
5 MPI ≤ 30 MPI	Eight (8) Feet*
30 MPI ≤ 120 MPI	Five (5) Feet
> 120 MPI	Engineered System Required
MPI = minutes per inch	

*Note: Or as mitigated by the system design or enhancement

1.11 Minimum Sizes:

1.11.1 Septic System

- a) The minimum OWTS for any mobile home, or floating home shall be computed as a two (2) bedroom system unless the home, mobile home, or floating home has more than two (2) bedrooms, except for homes under 500 square feet in size, which can be computed as a (1) bedroom residence.
- b) Dens and family rooms, which contain a closet, shall be considered bedrooms.

1.11.2 Expansion Area

- a) For all OWTS installation, including single-family dwellings, multiple-dwelling units, trailer courts, mobile home parks, and commercial or industrial units, open land area must be available for addition to the original OWTS. This land area is to be at least 100% of the amount required by the original OWTS.
- b) On discretionary land use applications and in other warranted situations, the Director of the Environmental Health Department may require the installation of a double leach field system with an alternating distribution box at the time of construction.

1.12 Operation and Maintenance

1.12.1 All engineered designed OWTS shall be operated and maintained pursuant to an Operations and Maintenance Plan compiled by the OWTS designer.

1.12.2 All standard OWTS shall be operated and maintained pursuant to the following:

- a) Septic tanks shall be pumped on a regular basis, but at least once every three years. The frequency of pumping may be modified based on actual measured scum and sludge accumulation rates.
- b) Effluent filters shall be cleaned or replaced in accordance with the manufacturer's recommendations.
- c) All at grade risers shall be maintained secure at all times.

1.12.3 All advanced treatment systems and OWTS with lift stations and alarm systems shall have a written OWTS Operations and Maintenance Plan developed by a qualified professional and approved by the Environmental Health Department at the time of installation.

- a) The property owner shall ensure that the OWTS Operations and Maintenance Plan is implemented as written. Changes to the plan must be submitted in writing to the Environmental Health Department for approval.

1.12.4 All septic tank pumping records shall be maintained by the property owner for a minimum of six years and shall be provided to the Environmental Health Department upon request.

1.13 Prohibited Uses – The drilling, constructing, using, maintaining, or operating of the following uses are hereby declared to be public nuisances and are prohibited:

- a) Sewer Wells;
- b) Pit Privies;
- c) Cesspools;
- d) OWTS utilizing supplemental treatment without requirements for periodic monitoring or inspections.

1.14 Prohibited Discharges - Owners or those who maintain private on-site wastewater disposal facilities shall prohibit any of the following to flow or enter into a disposal system:

- a) **Automobile and Garage Waste.** Waste water from automobile washing or garage floors;
- b) **Storm Drainage.** Roof drainage or drainage waste resulting from natural runoff or irrigation;
- c) **Solvents and Toxics.** Gasoline, cleaning solvents, paints, thinners, oils, or greases other than normal residential kitchen wastes;
- d) **Solids.** Cloth, rope, metals, and solids of any kind;
- e) **Garbage.** Garbage and similar waste material except when processed by approved garbage disposal units;
- f) **Kitchen Wastewater.** Wastewater from any restaurant, bar, or other kitchen where food is prepared for public consumption unless first directed through an approved grease trap, as required by the Uniform Plumbing Code;
- g) **Air Conditioners.** Waste drainage from water cooled refrigeration air conditioning;
- h) **Hazardous Wastes.** Waste from hazardous materials;
- i) **Backwash.** Backwash from water softeners, iron filters, and swimming pools;
- j) **Truck Terminal Wastes.** Oil, grease, grit, and miscellaneous waste from operation of truck terminal, including wash water from trucks and garage floors;
- k) **Recreational Vehicle Holding Tank Waste.** Wastes dumped from recreational vehicle holding tanks;
- l) **Industrial and Manufacturing Wastes.** Wastes from non-domestic sources, including from industrial or manufacturing processes; and
- m) **Food Processing Wastes.** Wastes from commercial food manufacturing or food production processes, excluding retail food facilities.

2. PERMITTING AND INSPECTION

- 2.1. Application for any OWTS Installation Permit required by Section 9-110.3 of the Ordinance Code of San Joaquin County shall be made by the owner of the property involved or his authorized representative. If owner's representative is other than a contractor licensed by the State of California, and is not exempt under Section 7044 of the Business and Professions Code or Section 3800 of the Labor Code, the application for the Sanitation permit will not be accepted. It is the responsibility of any and all persons performing any part of the repair or installation of an OWTS to ascertain that a valid Sanitation Permit has been issued by the Director of Environmental Health prior to the initiation of any repair or installation.
- 2.2. All installations shall be installed as designed and approved. Any variation from approved design shall require a new OWTS Installation Permit and prior approval from the Environmental Health Department. The sanitation permit application shall include a plot plan drawn to reasonable scale with the following information:
 - 2.2.1. Owner's name, street address and job address.
 - 2.2.2. Names of streets or roads fronting the property.
 - 2.2.3. Outline of property giving dimensions and north direction.
 - 2.2.4. Dimensions, outlines, and locations of all existing and proposed structures, including hard surfaces such as patios, driveways and walks.
 - 2.2.5. Location of house sewer outlet and proposed location of septic tank and disposal system on the property.
 - 2.2.6. Location and nature of any existing OWTS on the property.
 - 2.2.7. Location of any existing trees which may affect location of septic tank or disposal system.
 - 2.2.8. Location of any existing or proposed well, domestic or irrigation, in use or abandoned either on this property or within 200 feet of the property line.
 - 2.2.9. Source of domestic water supply.
 - 2.2.10. Location of any surface water intake locations within 2,500 feet of the OWTS.
 - 2.2.11. Total square footage of lot, and of all buildings.
 - 2.2.12. Set back requirements of front, back and sides.

- 2.3. OWTS Installation Permits shall be valid for one year from date of issue to install the system. An additional one-year extension may be approved by the Director of the Environmental Health Department.
- 2.4. The sanitation permit shall be posted at a suitable location on the property when work commences, and shall remain posted until inspection and final approval by the Director of the Environmental Health Department.
- 2.5. Final approval of the Sanitation Permit may be withheld until:
 - 2.5.1. Location and/or installation of the well is approved.
 - 2.5.2. Structures and all accessory construction as indicated on the plot plan are completed.
 - 2.5.3. Any wells or structures to be removed are properly abandoned.
 - 2.5.4. Compliance with any other conditions specified on the permit has been affected.
- 2.6. OWTS Installation Permits shall be required for holding tank systems, alternative treatment systems, and engineered systems, and associated effluent disposal fields. Proposals for holding tank and engineered systems prepared by a Qualified Professional shall be submitted to the Director of the Environmental Health Department for approval.
- 2.7. A separate OWTS Installation Permit shall be required for the disposal system for each separate structure on the same property.
- 2.8. An OWTS Installation Permit shall be required for the installation of a vaulted privy as deemed acceptable by the Director of the Environmental Health Department.
- 2.9. An OWTS Installation Permit shall be required for repair of any part of the septic tank and/or leach field, other than pumping of the septic tank by a licensed septic tank pumper.
- 2.10. Annual Operating Permits and Inspections
 - 2.10.1 An Annual Operating Permit is required for alternative treatment systems, engineered systems, holding tank systems, or any other OWTS that requires monitoring, sampling, and reporting.
 - 2.10.2 The monitoring, sampling and reporting required is based on the OWTS design performance parameters and is determined at the time of approval or as needed to prevent nuisance conditions or impact to ground or surface waters.
 - 2.10.3 The frequency of OWTS inspections shall be at least two times per year. This frequency may be adjusted based on actual system performance.

2.10.4 Owners of OWTS shall maintain monitoring, maintenance, and operations records for five years and shall provide to the Environmental Health Department upon request.

3. LAND AREA REQUIREMENTS

- 3.1 Density: For parcels utilizing an OWTS and a domestic well water supply, a minimum average density of two acres per single family dwelling is allowed, based upon acceptable results of the soil suitability/nitrate loading studies. For parcels utilizing an OWTS and is being served by a public water service, a minimum density of one acre per single family dwelling is allowed, based upon acceptable results of the soil suitability/ nitrate loading studies. The development of additional housing units over the minimum average density requirements listed above is allowed only where a soil suitability/nitrate loading study has been conducted and shows that the area is suitable for additional OWTS and that any impact to groundwater has been mitigated. **PLANNING DEPARTMENT APPROVAL ON THE PLOT PLAN IS A PREREQUISITE.**
- 3.2 Development on parcels where public sewage will be available: The ratio of lot size to house size and the size of the required septic system may be varied through the issuance of a Special Permit approved by the Director of the Environmental Health Department or designee.
- 3.2.1 As a condition of the issuance of the Special Permit, the property must be connected to the public sewer within (30) days of availability to connect, regardless of whether or not the septic system is failing.
- 3.2.2 A failure to comply is a public nuisance subject to enforcement remedies authorized by Title 8, Division 5 of the Ordinance Code of San Joaquin County.
- 3.2.3 A prerequisite for the issuance of a Special Permit, pursuant to this subsection, will be the Board of Supervisors approval and funding of public sewage, which will subsequently serve the affected parcel. A "will serve" letter will be required from those utilities, which are not under the direct control of the Board of Supervisors.
- 3.3 Removal of accessory structures may be required prior to approval for OWTS repairs. Details on the plot plan must be complete, including planned sidewalks, driveways, etc. on new construction.
- 3.4 A public entity, as defined in the State of California Government Code Section 53090 et seq., shall be formed with powers and responsibilities defined herein for all subdivisions having 100 lots or more. Subdivisions with less than 100 lots which threaten to cause water quality or public health problems shall also be required to form a public entity.
- 3.5 Estate type zoning (R-R1) shall require a double leach field system with an alternating distribution box to be installed at time of construction.

- 3.6 New land developments are subject to sewage disposal provisions as set forth in the Development Requirements of the San Joaquin County Planning Title.
- 3.7 Soil Suitability and Nitrate Loading Studies
- 3.7.1 A Soil Suitability and/or Nitrate Loading study shall be required of all new development for parcels utilizing an OWTS.
- 3.7.2 The Soil Suitability and Nitrate Loading study shall be conducted pursuant to the requirements in section 9-1105.2(d) of the San Joaquin County Development title.
- 3.7.3 Any potential impact from the proposed OWTS on ground or surface water quality must be mitigated with approval from the Environmental Health Department.
- 3.7.4 The Soil Suitability and Nitrate Loading study shall address the minimum density of dwelling units allowed for the parcel. Proposed dwelling units above the minimum one dwelling per two acres density shall be addressed in an additional study prior to the issuance of a building permit, if not included in the original study.
- 3.8 Percolation Testing
- 3.8.1 Percolation rates shall be required for all new development on parcels that utilize OWTS. Each separate lot proposed in any subdivision must have a percolation rate established. Percolation tests shall be conducted in accordance with the EPA *Design Manual- Onsite Wastewater and Disposal Systems* or a method approved by the Director of Environmental Health.
- 3.8.2 The number and locations of percolation tests may be specified on the division of land plat or the land development plan by the Director of Environmental Health. Depth of test hole shall not exceed forty-two (42) inches. Percolation tests must be done within the proposed sewage disposal area. In areas where a shallow percolation test may fail, a second percolation test may be done at a depth no greater than twenty-five (25) feet, on approval by the Director of Environmental Health, providing water table separation distances are met.
- 3.8.3 Percolation rates and soil profiles must be done by a Qualified Professional and observed by a Registered Environmental Health Specialist. Advance notice shall be given so that the performance of a percolation test may be observed. A permit from the Environmental Health Department is required.

- 3.8.4 Areas that are within the minimum setback distances which are necessary to provide protection to water quality and/or public health shall not be used for waste disposal. The following areas are also considered unsuitable for the location of disposal systems or expansion area:
- a) Areas within any easement which is dedicated for surface or subsurface improvement.
 - b) Paved areas.
 - c) Areas not owned or controlled by property owners unless said area is dedicated as a recorded easement for waste disposal purposes.
 - d) Areas occupied or to be occupied by structures.
- 3.8.5. A soils profile of the division of land or land developments shall be made to a depth of at least ten (10) feet where the water table or clay strata's are unknown.
- 3.8.6 Any division of land or new land development having a slope greater than 10% will be evaluated on an individual basis.
- 3.8.7 The percolation rate in the disposal field shall be no greater than sixty (60) minutes per inch or less than one (1) minute per inch. Percolation rates for seepage pits shall be no greater than thirty (30) minutes per inch. Mitigation by system design or enhancement is required for parcels with percolation test results not meeting these criteria.
- 3.9 There shall be a minimum of a five (5) foot separation between the bottom of the leach trench and perched water or the static groundwater table.
- 3.10 In areas of known high ground water tables, a subsurface boring or trench shall be completed to determine the depth of the water table for all parcels proposing to utilize OWTS.
- 3.11 A minimum ten (10) foot separation is required between the bottom of a seepage pit or sump greater than eight (8) feet deep and the groundwater table. Greater depths are required if soils do not provide adequate filtration.
- 3.12 Land developments or other development proposals utilizing OWTS with an average daily flow of less than 10,000 gallons shall be permitted by San Joaquin County Environmental Health Department for compliance with the OWTS Policy, the San Joaquin County LAMP, and these Standards.
- 3.13 Development proposals utilizing OWTS with an average daily flow of 10,000 gallons or greater shall be submitted to the California Regional Water Quality Control Board - Central Valley Region for waste discharge requirements and shall be in compliance with all California Regional Water Quality Control Board – Central Valley Region waste discharge requirements prior to the recordation of the subdivision map or

issuance of the building permit. A public entity may be required prior to any discharge of waste.

- 3.14 Short time, interim use of individual septic tanks - leaching systems may be acceptable in areas which do not meet these standards if sufficient, dependable funding of community collection, treatment and disposal is demonstrated and a plan and time schedule for implementation is being followed, upon approval by the Director of Environmental Health.

4. SEPTIC TANK REQUIREMENTS

- 4.1 Plans for all pre-fabricated septic tanks shall be submitted by a Registered Engineer to the Director of Environmental Health for approval. Such plans shall show all dimensions, reinforcing, structural calculations and such other pertinent data as may be required.
- 4.1.1 All septic tanks shall be constructed of sound, durable concrete or other approved materials not subject to excessive corrosion or decay, and shall be watertight. Each such tank shall be structurally designed to withstand all anticipated earth or other loads and shall be installed level and on a solid bed. Redwood septic tanks are not acceptable.
- 4.1.2 The minimum compressive strength of any concrete septic tank wall or floor shall be two thousand (2000) pounds per square inch. Concrete septic tank covers shall be reinforced and shall have a minimum compressive strength of twenty-five hundred (2500) pounds per square inch. All septic tanks covers shall be capable of supporting an earth load of not less than three hundred (300) pound per square foot when the maximum coverage does not exceed three (3) feet.
- 4.1.3 Septic tanks shall have a minimum of two (2) compartments. The inlet compartment of any septic tank shall not be less than two-thirds (2/3) of the total capacity and length of the tank. Access to each compartment shall be provided by a manhole twenty-two (22) inches in minimum dimensions, one of which shall be located over the inlet and one over the outlet.
- 4.1.4 The recommended liquid depth of the septic tank shall be 4 ½ feet with a Maximum depth of six (6) feet. The length of the septic tank shall be at least two (2) times the width. The air space above the liquid depth shall be eight (8) inches. There shall be a clearance of two (2) inches between the cover and all partitions and baffles or a two (2) inch ventilation hole.
- 4.1.5 The specifications and procedure for poured-place septic tanks are as follows:
- a) The bottom of the septic tank is poured first with at least four (4) inches of concrete mix. Three-eighths (3/8) inches of rebar steel, eighteen (18) inches on center and doveled out for sides and baffles, is to be installed in the forms. At least six (6) inches of rebar is doveled out for sides and baffles of the tank. The top of the septic tank is poured last and shall have rebar eighteen (18) inches on center with six (6) inches of concrete or twelve (12) inches on center with six (6) inches of concrete or twelve (12) inches on center with four (4) inches of concrete. Concrete sections two (2) feet wide may be poured and placed on the top of the tank. (No manhole will be necessary if two (2) foot sections are used and easily removable).

- b) Concrete blocks, six (6) inch minimum may also be used with three eighths (3/8) rebar sixteen (16) inches on center for sides of septic tank only. Concrete block walls shall be doweled six (6) inches, solid filled with concrete, and inside walls troweled smooth with cement grout.

- 4.1.6 Construction shall be such as to insure the tank being watertight and to prevent the entrance of rainwater or surface drainage.
- a) The inlet pipe must be vented and four (4) inches in diameter and shall extend approximately six (6) inches above the water line and twelve (12) inches below the water surface of the tank and within the area of the manhole.
 - b) The outlet pipe must be vented and four (4) inches in diameter and shall extend at least six (6) inches above and eighteen (18) inches below the water surface.
 - c) The invert of the inlet pipe shall be at least two (2) inches above the invert of the outlet pipe.

4.1.7 Design of the septic tank shall be such as to assure uniform horizontal flow throughout its entire length. The septic tank shall have a minimum retention time of twenty-four (24) hours for all sewage.

4.1.8 The septic tank shall be at least five (5) feet from any property line and five (5) feet from any foundation, structure, swimming pool or driveway if the tank is watertight.

4.1.9 For floating homes or island installations, the septic tank is to be placed at least one hundred (100) feet inland from the high tide water line on the island side of the levee. The flex line from floating home to septic tank must be above the water level and must be so installed as to provide gravity flow in the entire line, to either the septic tank or back to the pump.

4.1.10 The required minimum capacity of the septic tank for dwellings shall be based on the number of bedrooms contemplated or existing. Dens and family rooms shall be considered as bedrooms if closets are installed.

4.1.11 The following table shall be used for computing septic tank capacities for dwellings:

a)	1-3 Bedrooms.....	1200 gallons
b)	4 Bedrooms.....	1600 gallons
c)	5 Bedrooms.....	2000 gallons
d)	6 Bedrooms.....	2400 gallons
e)	Duplex 2-4 Bedrooms	2000 gallons
f)	Triplex 5-6 Bedrooms	2400 gallons
g)	Fourplex 7-8 Bedrooms	3000 gallons

- h) Multiple family residences and apartment houses No more than 4 units per system, unless approved package treatment plant is installed

4.1.12 For commercial establishment - the Base Tank Capacity (BTC), a minimum of 1200 gallons is to be installed, plus the Average Daily Flow (ADF). For ADF above 1500 gallons, the Calculated Tank Capacity (CTC) may be calculated at 1,125 gallons plus 75% of the average daily flow or $V=1,125 + 0.75 \text{ ADF}$.

4.2 Traffic slabs over concrete septic tanks shall be designed by a Registered Engineer.

4.3 Fiberglass septic tanks will be approved on an individual basis only after review of design criteria and certification by a Sealer of Weights and Measure for capacity. The following specifications shall apply to the installation of all fiberglass septic tanks:

- a) The tank bed must be prepared by using compacted clean sand as per tank manufacturer's specifications.
- b) The tank shall be set on a compacted sand bed and the surrounding excavation backfilled with clean sand, well compacted, to within eighteen (18) inches of the top of the tank.
- c) The remainder of the excavation shall be filled with loose soil free of rocks.
- d) The fiberglass septic tank shall be equipped with Schedule 40 Plastic pipe and four (4) inch "T's" at the inlet and outlet.
- e) Inlet and outlet joints shall be watertight.

4.4 All abandoned septic tanks, or those to be abandoned, shall be destroyed by removal or filling with earth, sand or other approved material. (Uniform Plumbing Code, Section 722.2, 722.3, 722.4 and 722.5).

4.5 Any septic tank, holding tank, alternative treatment tank, or package treatment tank that is no longer receiving sewage or wastewater from approved plumbing fixtures or facilities shall be considered abandoned and must be destroyed.

4.6 A permit is required to destroy a septic tank. A septic tank shall not be considered properly destroyed until a permit has been obtained and the tank is removed or filled with approved material and inspected by the Environmental Health Department.

4.7 Septic tanks shall only be cleaned and pumped, and the waste disposed of, by a business registered pursuant to Section 117420 of the California Health and Safety Code.

5. RESIDENTIAL ONSITE WASTEWATER TREATMENT SYSTEMS

- 5.1 The siting, design, operation and maintenance of all new residential OWTS must meet the provisions of the soil suitability and nitrate loading study for that specific parcel and these standards. A standard septic design, as outlined in these standards, is allowed provided the OWTS meets all required OWTS standards and a standard system is supported by the soil suitability and nitrate loading study findings.
- 5.2 Any parcel proposing to utilize a new OWTS that does not meet the provisions for a standard system design under these standards or requires mitigation pursuant to the soil suitability and nitrate loading study for that specific parcel, may utilize an alternative treatment system or an engineered system designed by a Qualified Professional and approved by the Environmental Health Department.
- 5.3 All unattached habitable structures on the same property shall have a separate OWTS.
- 5.4 A shop or other structure that is an accessory to the main dwelling unit may connect to the OWTS serving the dwelling unit. All other structures shall have a separate OWTS.
- 5.5 All new OWTS shall have risers installed over the tank access holes where the tank has more than two (2) feet of cover.
- 5.6 All at grade access lids to the tank shall be locked or otherwise secured.
- 5.7 All new OWTS shall have an NSF/ ANSI certified filter installed at the septic tank effluent discharge pipe.
- 5.8 Minimum Repairs
 - 5.8.1 All OWTS experiencing reduced or slower leach field absorption rates under normal design parameters is considered in a state of failure and shall be repaired.
 - 5.8.2 All sewage or wastewater must be prevented from surfacing from an OWTS by pumping by a business licensed pursuant to Health and Safety Code Section 117415.
 - 5.8.3 A minimum OWTS repair shall equal the amount of leach line needed for an additional bedroom as deemed necessary by the Director of Environmental Health. An OWTS repair shall meet existing standards of construction and design.

- 5.8.4 Where an OWTS has a failure rate of two failures in a ten (10) year period a replacement dispersal field is required.
- 5.8.5 All existing brick lined or open pits shall be completely rock filled even if intended for continued use.
- 5.8.6 All metal, fiberglass, or cement septic tanks that are in a state of disrepair, are showing signs of deterioration, or are no longer water tight must be replaced. All redwood septic tanks shall be replaced at the time of an OWTS repair.
- 5.8.7 Repairs may be approved between individual leach lines if the parcel has no other applicable area to repair leach system.

6. COMMERCIAL ONSITE WASTEWATER TREATMENT SYSTEMS

- 6.1 Septic tanks for commercial OWTS must comply with the requirements in Section 4 of these standards.
- 6.2 An appropriately sized and designed grease receptor shall be required for all commercial food establishments or where any activity occurs which produces a grease content over and above the normal grease content found in domestic sewage.
- 6.3 All grease receptors shall be maintained in good working order and shall be pumped at a frequency that prevents grease from surfacing or entering into the OWTS and leach field.
- 6.4 A soil suitability and/or nitrate loading study shall be required where changes are proposed to the use or occupancy of the facility or site, or where there will be changes to the approved wastewater characteristics or volumes, or where modifications to the OWTS is required.
- 6.5 Any commercial OWTS which has had more than one repair in the previous ten year period due to dispersal field failure shall be evaluated by a Qualified Professional.
- 6.6 The following Water Use Computation Table shall be used to determine the average daily flow for Commercial Establishments:

Table 6.6 - Water Use Computation Table

Type of Establishment	Gallons Per Person Per Day (Unless otherwise indicated)
a) Rooming Houses	50 gal/per
b) Boarding Houses	60 gal/per
c) Motels/Hotels	50 gal/per
d) Restaurants and cocktail lounges	100 gal/seat or 35/per
e) Bars or cocktail lounges	20 gal/per
f) Campgrounds with control bathhouse	35 gal/per
g) Recreational vehicle camps	100 gal/per space
h) Tourist camps with individual bath units	75 gal/per
i) Retail Markets with public toilets	150 gal/per fixture
j) Retail Markets without public toilets	0.1 gal/sq ft
k) Day camps (no meals served)	15 gal/per
l) Day schools and Day Care facilities w/o cafeterias, gyms or showers	15 gal/per
m) Day schools with cafeterias, gyms & showers	25 gal/per
n) Boarding Schools	100 gal/per
o) Day workers at schools/offices (per shift	30 gal/per
p) Institutions other than hospitals (involuntary)	175 gal/per

q) Industrial buildings (gallons/person/shift, exclusive of industrial waste) with food cafeteria.....	25 gal/per
r) Industrial Building no food cafeteria	15 gal/per
s) Picnic parks (toilet wastes only gal/picnicker).....	5 gal/per
t) Swimming pools and bathhouses	10 gal/per
u) Country clubs, per resident member	100 gal/per
v) Drive-in theaters, per car space (snack bar included).....	10 gal/per
w) Movie theaters, per auditorium seat (snack bar)	10 gal/per
x) Airports, per passenger	5 gal/per
y) Self-service laundries	1000 gal/machine
z) Stores, per toilet fixture (employee/public use)	150 gal/fixture
aa) Service stations (per vehicle served)	10 gal
bb) Public gathering (auctions, ball games, fairs, etc.)	10 gal/per
cc) Food preparation (wholesale)	250 gal/employee/shift
dd) Churches - no kitchen	5 gal/seat
ee) Churches - with kitchen	10 gal/seat
ff) Kennels.....	10 gal/dog

NOTE: Structure occupancies not classified above shall base their sewage flows on one-year actual water use of a similar occupancy supplied by applicant. Other flows may be proposed based on approved criteria, such as the *Manual of Septic-Tank Practice* or the *EPA Design Manual-Onsite Wastewater and Disposal Systems* for other flows.

6.7 Minimum Installation Requirements for Dormitory-Style Employee Housing

6.7.1 OWTS for Toilet Facilities Only:

TOILET FIXTURES	SEPTIC TANK CAPACITY	LEACHLINES*
1- 3	1200 gallons	
4- 5	1600 gallons	
6-10	2000 gallons	
11- and over	(plans to be reviewed)	

6.7.2 OWTS for Shower Facilities Only:

SHOWER FIXTURES	SEPTIC TANK CAPACITY	LEACHLINES*
1-5	1200 gallons	
6-10	1600 gallons	
11 and over	(Plans to be reviewed)	

6.7.3 OWTS for Kitchen Facilities Only:

PERSONS SERVED	SEPTIC TANK CAPACITY	LEACHLINES*
1-45	1200 gallons	
46-75	1600 gallons	
76-150	2000 gallons	

Note: When toilets, showers and kitchens are connected to one sewage disposal system, the minimum septic tank capacity and leaching line will be the sum of the requirements for each facility. However, these disposal systems may be installed separately.

*Please refer to Section 9 for subsurface disposal field requirements.

6.8 Minimum Repairs

- 6.8.1 The minimum repair for a commercial system shall be equal to 50% of the leach line requirement for the current peak use and shall meet the minimum setback requirements of Section 1 and the dispersal field requirements of Section 9.

7. ALTERNATIVE TREATMENT SYSTEMS AND ENGINEERED SYSTEMS

- 7.1. Alternative treatment systems are standard systems with additional enhancements above the required minimum to augment the treatment capabilities of the system. For example, additional septic tank capacity, additional length of leach line, or the addition of organic material under the leach line. Engineered systems are non-standards systems uniquely designed for a specific location or locations by a Registered Civil Engineer based on site specific information. Where engineered systems are required, complete design plans shall be submitted by a Registered Civil Engineer to the Director of Environmental Health for initial approval prior to beginning construction. The plans shall include the following:
- 7.1.1 A complete scaled plot plan of the area showing wells, structures, sanitary sewerage lines, water lines and total proposed land use.
 - 7.1.2 Total capacity of the system in gallons and organic load. Design criteria shall include a reserve capacity to accommodate a surge flow or increase in the average daily flow.
 - 7.1.3 Calculations showing ability of effluent to meet discharge standards as set by the Environmental Health Department.
 - 7.1.4 The source of data and the data calculations for the existing system design and any future expansion design shall be shown on the plans.
 - 7.1.5 The percolation rates of leach fields or seepage pits shall be calculated and figures shown on the plans. An expansion area equal in size to the original dispersal field shall be so designated on the plan to be utilized in the event of failure of the original dispersal field.
- 7.2 When any existing system is altered, all of the above specifications are to be resubmitted for approval by the Director of Environmental Health.
- 7.3 Mechanical and electrical equipment shall be of such durable hardware, workmanship and installation as to insure against operational failure with normal maintenance.
- 7.4 All installations shall be adequately protected against acts of vandalism or sabotage, which could result in a malfunction of the system. For package treatment plants, the entire system shall be fenced and a locked gate provided to protect against any unauthorized person gaining entrance into the area, which could lead to injury or loss of life.
- 7.5 A certified operator licensed pursuant to the California Water Code, Division 7, Chapter 9, with skill to cause the package treatment plant to be operated as designed, shall be available to operate the plant.

- 7.6 All work or works shall be done under applicable required permits and inspection by the required regulatory agency.
- 7.7 The installation and operation of alternative treatment or engineered systems shall not create a public nuisance in regard to odor nor cause a potential or immediate safety or health hazard to the public. The discharge of effluent shall not cause contamination of the water bearing strata or surface watercourses.
- 7.8 Final disposition of sewage effluent shall be in constant compliance with the discharge requirements as set by the Central Valley Regional Water Quality Control Board or the Environmental Health Department. Any deviation from these discharge requirements is a violation of Chapters 9-1110 and 9-1125 of the San Joaquin County Development Title and shall be declared a public nuisance.
- 7.9 Treatment plant tanks are to be installed on undisturbed soil excavated to required slope and elevation or on properly installed reinforced concrete foundation in such a manner as to prevent listing or settling, which may cause malfunction or leaking.
- 7.10 A grease receptor shall be required whenever any commercial food establishment is connected to the plant or any activity, which produces a grease content over and above the normal grease content found in domestic sewage. Grease receptors shall be required if it is determined from the analysis of the sewage influent or effluent that elevated grease levels prevail.
- 7.11 A grease receptor must be installed in front of the wet well (head works) to affectively screen out floating and suspended grease produced by commercial food operations. The grease receptor must be of sufficient size to retain the grease-laden sewage for a period suitable to remove the grease.
- 7.12 Regular monitoring by a certified sewage plant operator is required. Analysis required may include Biochemical Oxygen Demands, Dissolved Oxygen and settleable solids of plant influents and effluents and at such other points on stream as may be necessary. Average daily flows and peak flows after plant is in operation are to be determined by a reliable method. Copies of these analyses and operational records shall be furnished to the Director of Environmental Health and the Central Valley Regional Water Quality Control Board.
- 7.13 An auxiliary electrical power supply shall be available for the continued operation of the system. Portable power supply may be used if made available within a reasonable period of time in the event of a failure.

8.0 RESIDENTIAL AEROBIC TREATMENT PLANTS

- 8.1 Individual household aerobic sewage treatment systems must be engineer designed for determination of length of leach lines or number of pits. Design must be based on percolation rates for various types of soils and number of bedrooms to be served.
- 8.2 Once the design of a plant and disposal field has been approved the design shall be kept on file so that future installations will not require an engineered design.
- 8.3 The treatment plant must be designed to provide complete aerobic breakdown of the sewage.
- 8.4 The plant shell, motors, pumps, air circulating units, skimmers and sludge return, valves switches and any other mechanical device shall be of durable hardware and workmanship and subject to approval by the Director of the Environmental Health Department.
- 8.5 Individual household aerobic sewage treatment plants shall require the same minimum dispersal area as standard OWTS. The use of these plants shall not entitle a person to reduce parcel sizes.

9.0 SUBSURFACE DISPERSAL FIELD

- 9.1 Location of the dispersal field should be in an unobstructed and unshaded area. The minimum setbacks shall comply with the requirements of Section 1.
- 9.2 A leach line consists of a trench, filter material or rock-less chambers, a perforated pipe, filter protecting fabric, paper, or straw, and soil cover.
- 9.3 Where leach lines or seepage pits are installed, a watertight distribution box of sufficient size to accommodate the necessary field lateral lines shall be constructed at the head of each dispersal field with watertight inlet and outlets.
- 9.3.1 Each field lateral line shall be connected separately to a distribution box, shall not be subdivided, and shall provide equal distribution. Equal distribution is not required for repairs.
- 9.3.2 The invert of all outlets shall be level. The inlet invert shall be at least two (2) inches above the outlet.
- 9.3.3 The distribution box shall have a minimum inside dimension of twelve (12) inches and be at least twelve (12) inches deep with a solid impervious bottom.
- 9.3.4 A five (5) foot ABS Schedule 40 or equivalent tight line with a continuous soil barrier shall be installed between the septic tank, the distribution box and leach line.
- 9.4 Leach lines in the dispersal field shall be of the same width and shall meet the following:

9.4.1	Maximum length of individual leach line	100'
9.4.2	Minimum width of trench	24"
9.4.3	Maximum grade of perforated pipe	3" per 100'
9.4.4	Preferable grade of perforated pipe	2" per 100'
9.4.5	Distance between leach line	10' edge to edge
9.4.6	Minimum depth of rock below perforated pipe	12"
9.4.7	Minimum depth of rock over approved Perforated pipe	2"
9.4.8	Maximum depth of trench	42"
9.4.9	Minimum distance between leach line and septic tank	5'
9.4.10	Maximum soil cover over leach line	24"
9.4.11	Minimum soil cover over leach line	6"

9.5 Leach Lines

9.5.1 All exit lines from septic tank to dispersal field shall be of 4" A.B.S. Schedule 40 or equivalent and all joints glued or sealed according to ASTM Standards.

9.5.2 Leach lines shall be installed with approved 4" PVC perforated pipe or other approved material.

9.5.3 All bends used in the leaching lines shall have one tight joint at each end of the bend.

9.5.4 No leach line shall be placed under concrete, blacktop, roadway or structure. If necessary to cross under such construction, watertight lines of A.B.S Schedule 40 or other approved material shall be used. Leach lines and dispersal fields must be maintained in an open area and not compacted. Barricades may be required to maintain this area.

9.5.5 No additional credit shall be given for trenches wider than twenty four (24) inches.

9.5.6 Grade boards (optional) may be used in trenches for proper grading.

9.6 Filter material shall be graded and washed rock or other approved material.

9.6.1 Rock used for filter material shall be one (1) inch to two and one-half (2 ½) inches in diameter.

9.6.2 Materials shall be free of dust, sand, clay and fine material.

9.6.3 The filter material shall be protected from the earth backfill by untreated paper, filter fabric, straw, or other approved material.

9.7 Dispersal field requirements.

9.7.1 Where the soil suitability/ nitrate loading study supports a standard OWTS design for a parcel, the OWTS shall conform to the standardized minimum dispersal field requirements as noted in Table 9.7.1.

Table 9.7.1 – Standard OWTS Design Requirements

San Joaquin County Disposal Field Requirements

TANK	1200 GALLON			1600 GALLON	2000 GALLON
SOIL TYPE	1 BDRM**	2 BDRM	3 BDRM	4 BDRM	5 BDRM
SAND / SANDY Area: Manteca, S. Escalon, Ripon, French Camp NO PITS APPROVED FOR THESE AREAS. Leach Lines, Sumps, or Filter Beds Permitted.	80' 320 ft ²	160' 640 ft ²	240' 960 ft ²	320' 1280 ft ²	400' 1600 ft ²
SILT / SANDY CLAY / LOAM Area: Lodi Leach Lines and Sumps/Pits Permitted (Pits and sumps based on soil type and seasonal high depth to water).	90' 360 ft ² 42' LL + 1 - 36" Pit 42' + 49' = 91' LL Eq. 168+195=363 ft ² 46/54	180' 720 ft ² 2-42' LL + 2-36" Pits 84' + 98' = 182' LL Eq. 336+390=726 ft ² 46/54	270' 1080ft ² 2-80' LL + 2-42" Pits 160' + 114' = 274' LL Eq. 640+458=1098 ft ² 58/42	360' 1440ft ² 3-65' LL + 3- 42" Pits 195' + 171' = 366' LL Eq. 780+687=1467 ft ² 53/47	450' 1800ft ² 3-85' LL + 3-48" Pits 255' + 198' = 453' LL Eq. 1020+792=1812 ft ² 56/44
CLAY Area: Linden, Morada, E. Stockton / before Jacktone Rd. Leach Lines and Pits Permitted.	100' 400 ft ² 55' LL + 1 - 36" Pit 55'+49' = 104 LL Eq. 220+195=415 ft ² 53/47	200' 800ft ² 2-55' LL + 2-36" Pits 110'+ 98' = 208' LL Eq. 440+390=830 ft ² 53/47	300' 1200 ft ² 3-55' LL + 3-36" Pits 165'+147' = 312' LL Eq. 660+585=1245 ft ² 53/47	400' 1600 ft ² 3-80' LL + 3-42" Pits 240'+171'=441' LL Eq. 960+687=1647 ft ² 58/42	500' 2000 ft ² 4-70' LL + 4-42" Pits 280'+228'=508' LL Eq. 1120+916=2036 ft ² 55/45
HARD PAN Area: Farmington, N. Escalon, E. Stockton, S. Tracy Leach Lines and Pits Permitted (Sumps in most areas of Tracy based on soil type and seasonal high depth to water).	110' 440 ft ² 55' LL + 1- 42" Pit 55'+57' = 112' LL Eq. 220+229=449 ft ² 49/51	220' 880 ft ² 2-55' LL + 2- 42" Pits 110'+114' = 224' LL Eq. 440+458=898 ft ² 49/51	330' 1320 ft ² 3-55' LL + 3-42" Pits 165'+171' = 336 LL Eq. 660+687=1347 ft ² 49/51	440' 1760 ft ² 3-85' LL + 3-48" Pits 255'+198' = 453' LL Eq. 1020+792=1812 ft ² 56/44	550' 2200 ft ² 4-75' LL + 4-48" Pits 300'+264' = 564' LL Eq. 1200+1056=2256 ft ² 53/47
HIGH WATER TABLE AREAS: 100' Leach Lines Per Bedroom, Filter Bed, or Alternative System Approved by EHD Areas: Delta, W. Stockton, Thornton, W. Tracy FILTER BED: Multiply the length of leach line requirement by three (3) in sandy soils and four (4) in clay soils.	100' 400 ft ²	200' 800 ft ²	300' 1200 ft ²	400' 1600 ft ²	500' 2000 ft ²

Notes:

1. All computation are for a 2' wide trench with maximum 4 FT² equivalent per linear foot.
2. All one (1) bedroom homes over 500 FT² in size and one (1) bedroom mobilehomes are to be computed as two (2) bedrooms.
3. Any septic system work within the incorporated cites or within a sewage district will require an approval letter from the appropriate agency prior to the issuance of an EHD Sewage Permit.
4. All seepage pit calculations showing maximum infiltrative sidewall of 20' - best case senario.

- 36" Pit = 49' Leach Line
- 42" Pit = 57' Leach Line
- 48" Pit = 66' Leach Line
- 60" Pit = 84' Leach Line

2/16/2016 - Corrected Errors 2/3/2017

- 9.7.2 Method of calculating leach line requirements for all non-standard OWTS design: Multiply the Base Tank Capacity (BTC) plus the Average Daily Flow (ADF) of sewage by the Soil Factor noted below to determine the total lineal feet of leach line required.

Example: 1200 gallon BTC + 1200 gallon ADF = 2400 gallon CTC
 2400 x .225 Soil Factor = 540 lineal feet of leach line (two feet wide) for sandy clay loam.

Table 9.7.2 – Soil Factors

SOIL	SOIL FACTOR
Clay and/or Peat	.250
Silt and/or Sandy Clay Loam	.225
Sand and/or Sandy Loam	.200

- 9.7.3 Dispersal field application rates for engineer designed systems may also be determined using Table 3: Application Rates as Determined from Stabilized Percolations Rates as published in the *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* based on actual percolation rates from the dispersal area of the OWTS.

9.8 Filter Beds

- 9.8.1 The filter bed size will be computed on the following basis: Calculate the length of leach line requirement as noted in Section 9.6. Multiply this by three in sandy soils and four in clay soils. This gives the required minimum square footage of the filter bed.
- 9.8.2 The maximum depth of the filter bed shall be forty-two (42) inches.
- 9.8.3 The minimum depth of the filter material under the perforated pipe shall be twelve (12) inches.
- 9.8.4 There shall be a minimum of at least two (2) inches of filter material over the perforated pipe.
- 9.8.5 The filter bed shall be covered with untreated paper, filter fabric, straw, or other approved material prior to backfill.

9.9 Seepage Pits

- 9.9.1 Seepage pits may be used for final effluent disposal. Seepage pits shall only be installed at the terminal end of leach lines.
- 9.9.2 The filter material in the dispersal trench shall terminate at least five (5) feet from the pit excavation. The pit barrier trench shall be undisturbed soil

below the grade line of the tight line. Only soil shall be packed around conduit between leach line and pit. No rock or building paper will be approved in this five (5) foot area. The terminal end of this tight line must be elevated four (4) inches above the end of the leach line.

- 9.9.3 The diameter of each pit shall be at least thirty-six (36) inches. It shall not extend within ten (10) feet of the depth of the seasonal high water table. The maximum depth of any pit shall be (25) feet.
- 9.9.4 The seepage pit shall contain a vertical four inch perforated leach pipe extending to the pit bottom and connected with a four inch capped tee to the tight line.
- 9.9.5 The seepage pit shall be filled with rock one (1) inch to two and one-half (2 ½) inches in diameter, to the top of the barrier trench. Materials shall be free of dust, sand, clay and fine material.
- 9.9.6 Existing and new systems shall not have less than forty (40) feet of leach line between the septic tank and the seepage pit.
- 9.9.7 Two seepage pits are permitted at the terminal end of a leach line. Additional seepage pits may be permitted in hardpan/clay soils, or as determined by the Director of Environmental Health, with a minimum of 20% of the dispersal field in leach line being maintained.
- 9.9.8 Seepage pit equivalents:

Seepage Pit Diameter	Equivalent Linear Leach Line
36" diameter pit =	49' leach line
42" diameter pit =	57' leach line
48" diameter pit =	66' leach line
60" diameter pit =	84' leach line

- 9.9.9 The seepage pits shall be located at the end of the leach line.
- 9.9.10 Seepage pits shall be located no closer than ten (10) feet, edge to edge.
- 9.9.11 Pits are prohibited in areas of normal high ground water and perched water table. The water table will be determined at the time when the water is closest to the surface.
- 9.9.12 Pits are to be drilled no deeper than twenty-five (25) feet and no closer than ten (10) feet above the highest known water table depth. When the depth of the water table is questionable, a test hole to thirty five (35) feet depth may be required if pits are to be installed. If water is encountered, the pit shall be backfilled with ten (10) feet of native soil above the water table.

9.10. Mounded Systems

- 9.10.1 A mound system is a soil absorption system that is elevated above the natural soil surface. The purpose of the design is to overcome site restrictions that prohibit the use of conventional soil absorption systems. Such restrictions are slowly permeable soils, slowly permeable soils with high water tables, and permeable soils with high water table.
- 9.10.2 The mound system consists of a suitable fill material, an absorption area, a distribution network, a cap or cover and topsoil. The effluent is pumped or siphoned or gravity fed into the absorption area through a distribution network located in the upper part of the coarse aggregate. It passes through the aggregate and infiltrates the fill material. Treatment of the wastewater occurs as it passes through the fill material and the unsaturated zone of the natural soil. The cap, usually a finer textured material than the fill, provides frost protection and retains moisture for a good vegetative cover. The topsoil provides a growth medium for the vegetation.
- 9.10.3 Design of a mound system is to conform to the EPA *Design Manual-Onsite Wastewater Treatment and Disposal Systems*, October 1980 except for the following exceptions:
- a) Minimum size of the absorption area within the mound system:
 - 1 bedroom – 2000 sq ft bed area
 - 2 bedroom – 3000 sq ft bed area
 - 3 bedroom – 4000 sq ft bed area
 - Add 1000 sq. ft bed area for each bedroom above 3
 - b) All individual homes will be required to install a minimum of a 1900 gallon tanks with 800 gallon lift station, (dosing chamber), if system is under pressure from a pump. System shall have a back flow device installed between raised bed and lift station where applicable; thus to prevent back flow when system is nearing total saturation. Lift station must have an automatic alarm installed to warn homeowner of lift pump failure. All wiring connections will be made outside of lift station in a water- proof type electrical junction box. All wiring will be done under applicable permits from County or State agencies.
 - c) The perimeter of the absorption bed may require a 2" width redwood board retaining wall the height of the bed to maintain soil stability.
- 9.10.4. Variation in design and sizing of a mound system must be done by a Qualified Professional and approved by the Director of Environmental Health.

9.11. Sumps

- 9.11.1 Sumps are two (2) to four (4) foot wide trenches installed at depths greater than three and one-half feet to twenty-five (25) feet and are only installed at the terminal end of a leach line.

9.11.2 The length of sumps can be variable but the dispersal field must be a minimum of 20% in leach line.

9.11.3 Sumps are to be dug no deeper than twenty-five (25) feet in total depth.

9.11.4 Sumps greater than eight (8) feet in depth shall be no closer than ten (10) feet above the seasonal high water table.

9.11.5 Sumps shall be installed into permeable soil strata.

9.11.6 Existing and new systems shall not have less than forty (40) feet of leach line between the septic tank and the sump.

10. HOLDING TANK SYSTEMS

- 10.1 Holding tanks designed to collect and store domestic wastewater with no effluent discharge may be approved for existing developments on parcels which can no longer support an OWTS disposal field that meets the requirements of these standards, is no longer protective of ground and/or surface waters, or is a nuisance. Holding tanks may also be approved for short-term temporary use on a parcel where a sewer system and associated funding has been approved by the agency or governing board.
- 10.2 Holding tanks shall meet the setback requirements in Section 1.
- 10.3 Holding tanks shall be constructed of approved sound, durable materials not subject to excessive corrosion or decay, and shall be watertight. Each such tank shall be structurally designed to withstand all anticipated earth or other loads and shall be installed level and on a solid bed.
- 10.4 The liquid holding design capacity shall be a minimum of seven (7) days of peak wastewater flow generation with a one-hundred (100) percent reserve capacity. The tank shall have minimum capacity of 1,000 gallons.
- 10.5 The system shall be operated and maintained to prevent sewage overflow from the system at all times. Both Audible and visual alarms are required.
 - 10.5.1 The alarms must be set to signal at the “time-to-pump” and “exceeding reserve storage volume” levels.
 - 10.5.2 The audible and visual alarms must be located in an area that can be readily seen and heard, with battery power where electrical power is not available.
- 10.6 The holding tank shall be water tight and there shall be no discharge from the tank. Any discharge to ground surface or to ground or surface waters is a violation.
- 10.7 The holding tank shall be placed in an area with easy access for pumping.
- 10.8 A Holding Tank Design, Operation and Maintenance Plan shall be submitted to the Director of Environmental Health for approval prior to beginning construction. The plan shall include the following:
 - 10.8.1 A complete scaled plot plan of the parcel showing wells, structures, sanitary sewer lines, water lines, and total proposed land use.
 - 10.8.2 Holding tank specifications including total capacity and construction, including venting provisions.
 - 10.8.3 Total peak flow calculations from all plumbing facilities for the number of days between expected pumping events.

- 10.8.4 Total design capacity of the holding tank to include the volume required for the number of days expected between pumping events plus the required reserve capacity.
- 10.8.5 The pumping frequency required to maintain the system at a level below the alarm set points.
- 10.8.6 Piping construction and configuration.
- 10.8.7 Methods of securing tanks and access points.
- 10.8.8 Design of a “wash down” area around the pumping access ports and service access. A back-flow prevention device must be installed on the water supply in the “wash down” area.
- 10.9 Before a permit is issued for the installation of a holding tank system, the owner of the system must submit a copy of the service contract with a licensed sewage pumping firm.
- 10.10 Operational records must be maintained by the owner and provided to the Environmental Health Department upon request.
- 10.11 Marinas, floating homes, or other on-water facilities with approved plumbing systems may utilize low capacity lift stations designed to move sewage waste from the on-water facilities to the land side OWTS. Water tightness dye testing shall be required on an annual basis or more frequently as determined by the Environmental Health Department. An annual operating permit shall be required for all on-water facilities.
- 10.12 Vaulted Privies
 - 10.12.1 A vaulted privy is a temporary means of disposal. For other than temporary use, it will be permitted only in those areas where a subsurface disposal system is not practicable.
 - 10.12.2 Location shall be such that it cannot discharge, flow, seep or drain into any groundwater or surface water. The vaulted privy shall meet the setback requirements in Section 1.
 - 10.12.3 The pit shall be constructed of concrete and be watertight and not less than three (3) feet long and thirty (30) inches wide and shall be at least five (5) feet deep. For each additional seat, the length shall be increased by two (2) feet.
 - 10.12.4 The building shall be of tight construction to exclude insects and rodents. The riser shall be of matched tongue and groove lumber or concrete and

molded seats shall be provided with tight covers. The door shall be self-closing. The base shall be banked with earth and the vent pipe shall extend from the vault to one (1) foot above the roof. The top shall be screened with sixteen (16) mesh screen.

10.12.5 An OWTS Installation Permit is required prior to construction.

10.13 Chemical Toilets

10.13.1 Chemical toilet facilities shall provide sufficient space for comfortable use. A minimum area of eight (8) square feet, with a minimum width of two and one half (2½) feet, shall be provided for each toilet seat. A minimum area of ten (10) square feet, with a minimum of two and one half (2½) square feet shall be required when a urinal is included. Sufficient additional space shall be included if hand-washing facilities are within the facility.

10.13.2 Toilets shall be designed, constructed and maintained so as to prevent the access of flies to the excreta.

10.13.3 The inside surface of all toilets shall be of durable, non-absorbent material, smooth, easily cleanable and finished in a light color.

10.13.4 The toilets shall be ventilated and provided with self-closing doors, Lockable from the inside.

10.13.5 The tanks for chemical toilets shall be constructed of durable, easily cleanable material. Tank size shall be sufficient to contain the initial chemical charge and provide capacity for at least one day's use for forty persons. Size and construction shall be such as to prevent splashing on the occupant, field or road while being transported. A minimum tank capacity of forty gallons shall be installed in the toilet.

10.13.6 Chemicals capable of controlling odors and liquefying solids shall be used in chemical toilets.

10.13.7 Disposal of contents of chemical toilets shall be into a water pollution control plant that is approved to accept the waste. A copy of a permit to dispose of waste at water pollution control plant must be on file in the Environmental Health Department prior to the rental of any toilets in San Joaquin County.

10.13.8 Toilets shall be maintained in a clean and sanitary manner, free of odor and stains.

10.13.9 Each chemical toilet must be identified with the name of the company and a number. The lettering shall be at least three (3) inches in height.

10.13.10 Toilets must be stored at a site approved by the Environmental Health Department.

10.14 Septage Cleaning, Pumping and Hauling

10.14.1 Holding Tanks, Vaulted Privies, and Chemical toilets shall only be cleaned and pumped, and the waste disposed of, by a business registered pursuant to Section 117420 of the California Health and Safety Code.

10.14.2 Septage cleaning, pumping and hauling business must make an application for registration to the Environmental Health Department. Registration shall be issued only after a satisfactory examination by the Environmental Health Department covering the equipment to be used, the applicant's knowledge of sanitary principles and of the laws and ordinances affecting human health or nuisances, and the reliability of the applicant in observing sanitary laws, ordinances and directions, and in selecting laborers and employees who may clean out septic tanks, chemical toilets, cesspools and sewage seepage pits without endangering human health or comfort; and only after examination of the place or places and manner of disposal of the cleanings proposed by the applicant.

10.14.3 A septage pumping business shall be operated from a permanently established location which shall be maintained in a clean, sanitary manner and shall not create health hazards or nuisance conditions.

10.14.4 The name and address of the registrant shall be legibly affixed, in a conspicuous place, on both sides and rear of the vehicle in letters at least three (3) inches in height. The registration number shall be similarly affixed in figures at least six (6) inches in height.

10.14.5 On both sides of the sewage tank of every registered vehicle, the calibrated fluid capacity of the tank in gallons shall be transcribed in a conspicuous place and in legible letters and numbers at least three (3) inches in height.

10.14.6 Each registrant shall file a monthly report with the Environmental Health Department showing the name and address of the owner or tenant of all premises where a sewage disposal system has been cleaned by the registrant during the month, and, in addition thereto, the date, the total number of gallons pumped and the exact location of the disposal site of such cleanings in each case. Pumping reports shall be due no later than the fifteenth (15) of the month following the month the work was done.

10.14.7 Prior to disposing of any cleanings, every registrant shall submit to the Environmental Health Department a written statement where cleanings will be disposed of supported by the appropriate documentation. Septage shall only be disposed of at an appropriately permitted facility.

10.14.8 Equipment shall be easily cleanable with no pockets where accumulations can gather. Equipment shall be maintained in a clean and sanitary manner and shall comply with the following standards:

- a) Tanks used for hauling sewage shall be of metal constructed, welded, riveted, or both, shall be watertight and fitted with watertight covers or manholes. All valves on tanks shall close tightly without difficulty. Outlets shall be at the bottom rear of tank; no side delivery outlets shall be permitted.
- b) Pumps shall be of such construction and in such condition that there is no leakage, spillage or splashing.
- c) Each vehicle shall be equipped with necessary hoses, both for pumping and cleaning of equipment. The pumping hose shall be fitted with a watertight connection to the pumping unit. The cleaning hose shall be fitted with a watertight connection to the pumping unit. The cleaning hose shall be long enough to adequately clean up spillage; the operator shall not use the customer's hose for this purpose. All pumping hoses shall be cleaned out into the sewage unit being cleaned.
- d) All racks attached to the truck for carrying equipment shall be made of metal.

11. VARIANCES AND SPECIAL PERMITS

- 11.1 The property owner of an OWTS that cannot meet a provision of the minimum requirements of these standards may apply for a variance of that provision. The Director of the Environmental Health Department may authorize a variance that is in substantial conformance, to the greatest extent practicable, with these standards. A Special Permit shall be issued for those OWTS granted a variance from these standards.
- 11.2 A soil suitability/ nitrate loading study may be required for parcels where an OWTS cannot meet a provision of these standards.
- 11.3 Additional monitoring and sampling of the OWTS may be required for OWTS which have been installed under a Special Permit.
- 11.4 Monitoring and sampling of the onsite domestic water well may be required for OWTS which have been installed under a variance.
- 11.5 An evaluation of the OWTS by a Qualified Professional shall be required for any commercial system that cannot meet the minimum leach line and dispersal field requirements as described in Section 9 or the setback requirements in as described in Section 1.

12. CORRECTIVE ACTIONS

12.1 Any residence or place of business or other building or place where persons reside, congregate, or are employed shall be provided with a means for sewage and wastewater collection, treatment, and disposal which complies with the requirements of these standards, Chapter 9-1110 of the Development Title, the San Joaquin County Local Agency Management Program, and State policies and laws.

12.2 Owners of OWTS must comply with the provisions of these standards, the San Joaquin County Local Agency Management Program, and the conditions listed below in order to be covered by the State Water Board Conditional Waiver of Waste Discharge Requirements.

12.2.1 The OWTS shall function as designed with no surfacing effluent.

12.2.2 The OWTS shall not utilize a dispersal system that is in soil saturated with groundwater.

12.2.3 The OWTS shall not be operated while inundated by a storm or flood event.

12.2.4 The OWTS shall not cause or contribute to a condition of nuisance or pollution.

12.2.5 The OWTS shall comply with all applicable local agency codes, ordinances and requirements.

12.2.6 The OWTS shall comply with and meet any applicable Total Maximum Daily Load implementation requirements, special provisions for impaired water bodies, or supplemental treatment requirements.

12.3 Corrective actions for an OWTS include:

12.3.1 Any OWTS that has pooling effluent, discharges wastewater to the surface or has wastewater backed up into plumbing fixtures because its dispersal system is no longer adequately percolating the wastewater is deemed to be failing and shall be pumped by a registered pumper as needed to prevent further surfacing of wastewater. The OWTS shall be repaired to return to proper functioning.

12.3.2 Any OWTS that has a failure of one of its components, such as a septic tank or holding tank allowing either wastewater to exfiltrate or groundwater to infiltrate, or a distribution box or broken piping connection, shall be repaired to return to proper functioning.

12.3.3 Any OWTS that has affected, or will affect, groundwater or surface water to a degree that makes it unfit for drinking or other uses, or is causing a human

health or other public nuisance condition shall be modified or upgraded so as to abate its impact.

- 12.4 Property owners shall comply with any corrective action notices issued for violations of these standards within the time schedule indicated on the notice.
- 12.5 Violations shall constitute a public nuisance and are subject to enforcement action by the Environmental Health Department under the provisions of Title 8, Division 5 of the San Joaquin County Ordinance Code.
- 12.6 Failure to comply with the conditions in Sections 12.2 or 12.4 or failure to take appropriate corrective actions within the time schedule indicated on the corrective action notice constitutes a failure to meet the conditions of the Conditional Waiver of Waste Discharge Requirements for OWTS and is subject to further enforcement action by the Regional Water Quality Control Board.