



County of Riverside Department of Environmental Health  
Environmental Protection and Oversight Division  
Land Use and Water Resources Program

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# LOCAL AGENCY MANAGEMENT PROGRAM for ONSITE WASTEWATER TREATMENT SYSTEMS

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## PURPOSE

This Local Agency Management Program (LAMP) was prepared to be in compliance with the State Water Resources Control Board's Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy). This LAMP allows for the continued use of OWTS within the jurisdiction of Riverside County while protecting water quality and public health. Information provided in this LAMP will help protect groundwater sources and surface water bodies from contamination by providing standards for the proper design, placement, installation, maintenance, and assessment of OWTS. The LAMP is also supported by Riverside County Ordinance 650 for the regulation of sewage.

## DEFINITIONS

“303 (d) list” means the same as "Impaired water bodies."

“Alternative treatment system” or “ATS” shall mean any OWTS that does not meet the criteria of a conventional OWTS but is allowed under conditions specified by the Department.

“ANSI” means the American National Standards Institute (ANSI), a private, non-profit organization that administers and coordinates the U.S. voluntary standards and conformity assessment system.

“Approval” shall mean the written approval by the Director or his designated representative of a plan to install, construct, reconstruct, convert, or alter any OWTS which discharges or disposes of sewage, sewage effluent, or non-hazardous waste.

“At-grade system” means an OWTS dispersal system with a discharge point located at the preconstruction grade (ground surface elevation). The discharge from an at-grade system is always subsurface.

“Average annual rainfall” means the average of the annual amount of precipitation for a location over a year as measured by the nearest National Weather Service station for the preceding three decades. For example, the data set used to make a determination in 2012 would be the data from 1981 to 2010.

“Basin plan” means the same as “water quality control plan” as defined in Division 7 (commencing with Section 13000) of the Water Code. Basin Plans are adopted by each Regional Water Board, approved by the State Water Board and the Office of Administrative Law, and identify surface water and groundwater bodies within each Region’s boundaries and establish, for each, its respective beneficial uses and water quality objectives. Copies are available from the Regional Water Boards, electronically at each Regional Water Board’s website, or at the State Water Board’s Plans and Policies web page ([http://www.waterboards.ca.gov/plans\\_policies/](http://www.waterboards.ca.gov/plans_policies/)).

“Bedrock” means the rock, usually solid, that underlies soil or other unconsolidated, surficial material.

“CEDEN” means California Environmental Data Exchange Network and information about it is available at the State Water Boards website or <http://www.ceden.org/index.shtml>.

“Cesspool” means an excavation in the ground receiving domestic wastewater, designed to retain the organic matter and solids, while allowing the liquids to seep into the soil. Cesspools differ from seepage pits because cesspool systems do not have septic tanks and are not authorized under this LAMP.

“Clay” means a soil particle; the term also refers to a type of soil texture. As a soil particle, clay consists of individual rock or mineral particles in soils having diameters <0.002 mm. As a soil texture, clay is the soil material that is comprised of 40 percent or more clay particles, not more than 45 percent sand and not more than 40 percent silt particles using the USDA soil classification system.

“Cobbles” means rock fragments 76 mm or larger using the USDA soil classification systems.

“Contractor State License Board” means a certificate, permit, registration, or any other authorization issued by the Contractor State License Board, Department of Consumers Affairs.

“Construction permit” shall mean a permit issued by the Department authorizing the permittee to install, construct, reconstruct, convert, or alter any OWTS per Riverside County Ordinance 650.

“Conventional OWTS” shall mean an OWTS consisting of a septic tank and a Department approved subsurface gravity dispersal system.

“Critical area” shall mean those areas determined by the Department to be difficult for installation of an OWTS due to, but not limited to one or more of the following: lot size, static or intermittent high groundwater, slope, poor soil conditions or impaired water basins.

“Deep boring” means an exploratory boring or excavation performed to provide additional information including soil type, moisture, depth to the water table, perched or otherwise, rock or impermeable strata.

“Department” shall mean the Riverside County Department of Environmental Health.

“Director” shall mean the Director of the Department of Environmental Health or his or her designated representative.

“Dispersal system” means a leach field, seepage pit, pressurized drip field, or other type of system for final wastewater treatment and subsurface discharge.

“Domestic wastewater” means wastewater with a measured strength less than high-strength wastewater and is the type of wastewater normally discharged from, or similar to, that discharged from plumbing fixtures, appliances and other household devices including, but not limited to toilets, bathtubs, showers, laundry facilities, dishwashing facilities, and garbage disposals. Domestic wastewater may include wastewater from commercial buildings such as office buildings, retail stores, some restaurants, or from industrial facilities where the domestic wastewater is segregated from the industrial wastewater. Domestic wastewater may include incidental RV holding tank dumping, but does not include wastewater consisting of a significant portion of RV holding tank wastewater such as at RV dump stations. Domestic wastewater does not include industrial wastewater.

“Domestic well” means a groundwater well that provides water for human consumption and is not regulated by the State Water Board, Division of Drinking Water.

“Dump station” means a facility intended to receive the discharge of wastewater from a holding tank installed on a recreational vehicle. A dump station does not include a full hook-up sewer connection, similar to those used at a recreational vehicle park. Dump stations are subject to additional permitting requirements as determined by the Department.

“Earthen material” means a substance composed of the earth’s crust (i.e. soil and rock).

“EDF” or “Electronic deliverable format” means the data standard adopted by the State Water Board for submittal of groundwater quality monitoring data to the State Water Board’s internet-accessible database system Geotracker (<http://geotracker.waterboards.ca.gov/>).

“Effluent” means sewage, water, or other liquid, partially or completely treated or in its natural state, flowing out of a septic tank, aerobic treatment unit, dispersal system, or other OWTS component.

“Escherichia coli” or “E. coli” means a group of bacteria predominantly inhabiting the intestines of humans or other warm-blooded animals, but also occasionally found elsewhere. It can be used as an indicator of human fecal contamination.

“Expansion area” shall mean the amount of dedicated space equal in size to an existing or proposed OWTS that is capable of supporting an OWTS and will replace at least 100% of the primary OWTS when necessary.

“Exploratory Trench/Boring” shall mean an excavation or hole drilled in the area of the proposed OWTS for the purposes of providing additional information including: type of soil, soil moisture, depth of the water table, perched or otherwise, rock or impermeable soil.

“Failure” shall mean a condition of an OWTS that threatens public health or water quality by creating a potential for direct or indirect contact between sewage and the public. Examples of failure include:

- Sewage leaking to ground surface or groundwater;
- Sewage backing up into a structure caused by slow OWTS soil absorption of septic tank effluent;
- Inadequately treated sewage causing pollution of groundwater or surface water;
- Noncompliance with standards stipulated in the permit issued for the OWTS based upon the protection of human health, water quality and the environment.

“Flowing water body” means a body of running water flowing over the earth in a natural water course, where the movement of the water is readily discernible or if water is not present it is apparent from review of the geology that when present it does flow, such as in an ephemeral drainage, creek, stream, or river.

“Graywater” is untreated household wastewater that has not come into contact with toilet waste. Graywater includes used water from bathtubs, showers, and bathroom wash basins, and water from clothes washers and laundry tubs. It shall not include wastewater from kitchen sinks or dishwashers.

“Groundwater” means water below the land surface that is at or above atmospheric pressure.

“High-strength wastewater” means wastewater having a 30-day average concentration of biochemical oxygen demand (BOD) greater than 300 milligrams-per-liter (mg/L) or of total suspended solids (TSS) greater than 330 mg/L or a fats, oil, and grease (FOG) concentration greater than 100 mg/L prior to the septic tank or other OWTS treatment component.

“Holding tank” shall mean a sewage facility, of a temporary nature, that has no means of discharge and requires the services of a registered liquid waste hauler for pumping and offsite disposal to an approved wastewater treatment facility.

“IAPMO” means the International Association of Plumbing and Mechanical Officials.

“Impaired water bodies” means those surface water bodies or segments thereof that are identified on a list approved first by the State Water Board and then approved by US EPA pursuant to Section 303(d) of the federal Clean Water Act.

“Impermeable strata” shall be defined as any soil strata, fractured rock or bedrock, weathered or non-weathered, that has a percolation rate in excess of 120 minutes per inch.

“Industrial wastewater” means wastewater discharges from industrial and commercial sources that may contain pollutants at levels that could affect the quality of receiving waters.

“Local agency” means Riverside County Department of Environmental Health.

“Major repair” shall mean OWTS improvements or corrective work where such improvements involve the replacement, enlargement, or modification of a septic tank, treatment unit, or dispersal system (excluding non-perforated distribution pipes), regardless of whether or not a failure condition exists. Such repairs shall require a construction permit from the Department.

“Mottling” (mottles, mottled) shall mean and refer to secondary soil colors not associated with compositional properties. Redoximorphic mottles are a type of mottle associated with wetness. It results from oxidizing or reducing minerals due to soil moisture changes from saturated to unsaturated over time. Mottling is characterized by spots or blotches of different colors or shades of color interspersed within the dominant color as described by the USDA soil classification system. This soil condition can be indicative of historic seasonal high groundwater level, but the lack of this condition may not demonstrate the absence of groundwater. Lithochromatic mottles are a type of mottling associated with variations of color due to weathering of parent materials

such as mineral rock. Additional testing may be required to determine if the material is.

“NSF” means NSF International (a.k.a. National Sanitation Foundation), a not for profit, non-governmental organization that develops health and safety standards and performs product certification.

“Oil/grease interceptor” means a passive interceptor that has a rate of flow exceeding 50 gallons-per-minute and that is located outside a building. Oil/grease interceptors are used for separating and collecting oil and grease from wastewater.

“Onsite wastewater treatment system” or “OWTS” shall mean any individual onsite wastewater treatment, pretreatment and dispersal system including, but not limited to, a conventional OWTS or ATS having a subsurface discharge.

“Operating permit” shall mean an annual permit issued by the Department authorizing the permittee to operate an OWTS.

“OWTS certification” is an expression of professional opinion that the OWTS, or its components, meet industry standards that are the subject of the certification but do not constitute a warranty or guarantee, either expressed or implied. OWTS certifications shall be performed by a QSP using forms provided by the Department.

“Percolation test” or “Perc test” means a method of testing water absorption of the soil to establish the dispersal system design.

“Permit” shall mean either a construction permit or operating permit as defined within this section.

“Person” shall mean any individual, firm, association, organization, partnership, business trust, corporation, company, State agency or department, or unit of local government.

“Pollutant” means any substance that alters water quality of the waters of the State to a degree that it may potentially affect the beneficial uses of water, as listed in a Basin Plan.

“Professional of record” or “PR” means an individual certified by the State of California as a Professional Engineer (PE), Professional Geologist (PG) or Registered Environmental Health Specialist (REHS) who has accepted responsibility for the design of the OWTS including any required grading. The Professional of Record will have affixed his/her signature and stamp to the system plans and plan proposal.

“Project scope” means all approved or entitled buildings and uses, at a site.

“Public water system” is a water system regulated by the State Water Board, Division of Drinking Water, or a Local Primacy Agency pursuant to Chapter 12, Part 4, California Safe Drinking Water



Act, Section 116275 (h) of the California Health and Safety Code.

“Public water well” is a ground water well serving a public water system. A spring which is not subject to the California Surface Water Treatment Rule (SWTR), CCR, Title 22, sections 64650 through 64666 is a public well.

“Qualified service provider” (QSP) is a State Licensed Contractor with knowledge and competency in OWTS design, construction, operation, maintenance and monitoring through experience and/or education and is registered with this Department

“Regional Water Board” is any of the Regional Water Quality Control Boards designated by Water Code Section 13200. Depending on the site-specific location of the OWTS Regional Water Board reference in this document may refer to the Colorado River Basin Water Board, the Santa Ana Water Board, or the San Diego Water Board. Any reference to an action of the Regional Water Board in this Policy also refers to an action of its Executive Officer, including the conducting of public hearings, pursuant to any general or specific delegation under Water Code Section 13223.

“Sand” means a soil particle; this term also refers to a type of soil texture. As a soil particle, sand consists of individual rock or mineral particles in soils having diameters ranging from 0.05 to 2.0 millimeters. As a soil texture, sand is soil that is comprised of 85 percent or more sand particles, with the percentage of silt plus 1.5 times the percentage of clay particles comprising less than 15 percent.

“Sewage” or “Sewage Effluent” shall mean waste as defined in Section 5410(a), California Health and Safety Code. “Waste” includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature.

“Silt” means a soil particle; this term also refers to a type of soil texture. As a soil particle, silt consists of individual rock or mineral particles in soils having diameters ranging from between 0.002 and 0.05 mm. As a soil texture, silt is soil that is comprised as approximately 80 percent or more silt particles and not more than 12 percent clay particles using the USDA soil classification system.

“Single-family dwelling unit” means a structure that is usually occupied by just one household or family and for the purposes of this Policy is expected to generate an average of 250 gallons per day of wastewater. Single-family dwelling units include but are not limited to primary dwellings, accessory dwelling units (ADU), junior ADU’s, secondary dwelling units, guest houses, casitas, mother in-law unit, granny flats or carriage house.

“Site” means the location of the OWTS and a reserve dispersal area capable of disposing 100 percent of the design flow from all sources the OWTS is intended to serve.

“Site evaluation” means an assessment of the characteristics of the site sufficient to determine

its suitability for an OWTS to meet the requirements of this Policy.

“Soil” is the naturally occurring body of porous mineral and organic materials on the land surface and is composed of unconsolidated materials above bedrock. Soil is composed of sand-sized, silt-sized, and clay-sized particles mixed with varying amounts of larger fragments and organic material. The various combinations of particles differentiate specific soil textures identified in the USDA Soil Classification Chart. Soil shall contain earthen material having more than 50% of its volume composed of particles smaller than 0.08 inches (2mm) in size.

“Soil texture” means the soil class that describes the relative amount of sand, clay, silt and combinations thereof as defined by the classes of the soil textural triangle developed by the USDA (referenced above).

“State Water Board” is the State Water Resources Control Board, headquarters at 1001 ‘I’ St, Sacramento, CA.

“Telemetric” means the ability to automatically measure and transmit OWTS data by wire, radio, or other means.

“TMDL” is the acronym for "total maximum daily load." Section 303(d)(1) of the Clean Water Act requires each State to establish a TMDL for each impaired water body to address the pollutant(s) causing the impairment. In California, TMDLs are usually adopted as Basin Plan amendments and contain implementation plans detailing how water quality standards will be attained.

“Total coliform” means a group of bacteria consisting of several *genera* belonging to the family *Enterobacteriaceae*, which includes *Escherichia coli* bacteria.

“Uniform Plumbing Code” (UPC) shall refer to the current edition of the International Association of Plumbing and Mechanical Officials (IAPMO) Uniform Plumbing Code.

“Waste discharge requirement” (WDR) means an operation and discharge permit issued for the discharge of waste pursuant to Section 13260 of the California Water Code.

“Weathered bedrock” is rock that has been exposed to the atmosphere at or near the earth’s surface and changed in color, texture, composition, firmness, and/or form as a result of the exposure with little or no transport of loosened or altered material. For purposes of this LAMP, weathered bedrock is not soil.

## CHAPTER 1 – ONSITE WASTEWATER TREATMENT SYSTEM REPORTS

An OWTS Report is required for all proposed land divisions, single lot developments, and commercial projects **where sanitary sewer is not available**. The OWTS Reports will only be accepted by the Department if they are prepared by certain professionals. The Professional of Record (PR) that prepares the report must be registered with the Department and possess at least one of the following current and valid California registrations:

- Professional Engineer (PE)
- Professional Geologist (PG)
- Registered Environmental Health Specialist (REHS)

Projects that fall outside the jurisdiction of the Department include:

1. Projected flow of the project exceeds 10,000 gallons per day.
2. Proposed flow to OWTS that has high strength wastewater (Biochemical Oxygen Demand greater than 900 mg/L).
3. Proposed flows that include industrial wastewater or other type of flows that are subject to oversight by the Regional Water Board, EPA or other applicable agency.

OWTS that are not under the jurisdiction of the Department will be subject to review and clearance by Regional Water Board or another applicable agency.

The Report shall include, but not be limited to the following:

1. Location of the land, legal description, and the Riverside County Assessor's Parcel Number (APN).
2. Client's name, address, and phone number.
3. Type of proposed development and number of lots.
4. Type of OWTS – conventional or ATS
5. Detailed description of the property including the following items:
  - a. Describe the corner stake locations in relation to other natural or manmade landmarks on the property.
  - b. The PR shall be able to accurately locate the property to be tested and the corner stakes shall be in place as noted above before any work is performed on site. A durable sign, with the owner's or engineer's name along with the legal description of the property must be placed in a conspicuous spot visible from the street or street easement.
  - c. A general description of surface features which may interfere with the placement or operation of the OWTS.
6. Contour Map

Tentative Subdivision and Parcel Maps shall have maximum contour intervals as follows:

<u>Slope</u>	<u>Interval</u>
0-9%	5 foot maximum
10% or greater	10 foot maximum

Note: Copies of United States Geological Survey Maps are not acceptable for this purpose.

7. Site Plan - Each site plan shall be drawn to scale and shall include the following features:
  - a. The layout of the proposed system including the 100% expansion area.
  - b. Clearly marked property lines and north arrow.
  - c. All intermittent or perennial, natural or artificial bodies of water or watercourses.
  - d. All large trees and significant vegetation.
  - e. All existing and proposed structures, drive paths and parking areas.
  - f. All existing and proposed wells on or within 200 feet of the map or site boundaries.
  - g. Proposed or existing domestic water service lines or water mains.
  - h. All rock outcroppings.
  - i. Indicate where all tests and borings were performed and the identifying markings on the corresponding field laths.
  - j. All tests and borings must be accurately dimensioned to the property lines.
  - k. All known recorded easements on or within 20 feet of map or site boundaries (open space, utilities, etc.) or any other environmental constraints.
  - l. Any other feature that may impact the design or operation of an OWTS.

8. Grading Plan

If grading plans are required, the plans must be designed by a Registered California Civil Engineer and meet the requirements of the Riverside County Department of Building and Safety.

If grading is contemplated, the PR noted above shall assume theoretical cuts and fills and perform the tests and borings at the necessary depths. If the final grading exceeds the testing PR's estimate by more than plus or minus 2 feet, an additional test may be required.

The grading plans shall include any proposed cuts and/or fills in the area of the proposed OWTS, the location of the keyway, and indicate the proposed locations of both the primary and expansion area for the OWTS.

9. Project Scope

Information about the type of development that is being proposed for the Department to be able to evaluate the suitability of the OWTS. Most projects will fall into the following categories:

- a. Residential – projects that will be used for dwelling units
  - i. Land Divisions – land that will be subdivided for the purposes of constructing dwelling units
  - ii. Single Lot Development – previously vacant land proposing the

- construction of a dwelling unit
- iii. Additional dwelling units
- b. Commercial – projects that will be used for occupancies other than dwelling units shall be initially referred to the corresponding Regional Board to determine if an OWTS is environmentally protective.

**NOTE:** Submittals that represent only a portion of a total project must still provide a full project scope for consideration.

#### 10. Perc Test

A soils percolation test must be conducted in accordance with procedures outlined in Chapter 2 and contain data as required by Appendix II through V, as applicable to a specific project.

#### 11. Minimum Lot Size and Density Requirements

Based on project scope, the following must be applied:

- a. Land Divisions - The Department has minimum lot size requirements for lots proposed to be created and developed based on the use of an OWTS. The minimum lot size for any subdivision of property made pursuant to the Subdivision Map Act proposing to use OWTS shall not be less than 0.5 acre (gross), or less than 2.5 acres (gross) if also proposing individual domestic wells. In proposed subdivisions where high ground water, steep slopes, or poor soil conditions exist, or where there are significant impacts to ground water quality, any or all of the following may be required: an increase in lot size, supplemental treatment, or other mitigating measures as determined by the Department. Where zoning regulations require greater lot sizes, those regulations shall take precedent. Proposed subdivisions with more than 40 lots where the lot sizes are less than 2.5 acres (gross) per lot shall provide for the extension or development of full public sewerage services to be permitted by the Regional Water Board.
- b. Commercial Projects – OWTS proposed for commercial projects must have projected waste flows under 10,000 gallons per day. Calculation of waste flows must be included in the OWTS report.
- c. Single Lot Developments - Lots created prior to the implementation of this LAMP or previously adopted versions as per the requirements of the OWTS policy, are not subject to the aforementioned minimum lot size requirements, however they are subject to the design requirements of this LAMP.
- d. Additional single-family dwelling unit (including ADUs, JADUs, etc.) on the same parcel that does not comply with a minimum density requirement of 0.5 acre (gross) per dwelling unit will be required to utilize an ATS. See Chapter 6 for additional details.

#### 12. The following declarations shall be incorporated into the conclusion section of the OWTS report:

- a. “Based on the data presented in this report and using the recommendations set

forth, it is the judgment of this professional that there is sufficient area on each lot to support a primary and expansion OWTS that will meet the current standards of the Department of Environmental Health and the OWTS Policy.”

- b. “The designed system shall be located in natural undisturbed soil at the depth of the tests performed.”
- c. “The natural occurring body of minerals and organic matter at the proposed wastewater disposal area contains earthen materials having more than 50% of its volume composed of particles smaller than 0.08 inches (2 mm) in size.”
- d. “Based on the data presented in this report and the testing information accumulated, it is the judgment of this professional that the groundwater table will not encroach within the current allowable limits set forth in the LAMP for Riverside County.”

**Note:** When no groundwater is detected in the 15-foot boring, or 10 feet below the bottom of the proposed dispersal system, whichever is greater, this statement can be made with a reasonable amount of certainty. However, when groundwater is present in the borehole it then becomes necessary to demonstrate with additional facts and findings, why this water level won't fluctuate to the point of encroachment. Failure to explore the possibility that detected groundwater could interfere with the OWTS or violate the Regional Water Board's Basin Plan would not be in keeping with good engineering practices.

**Disclaimer:**

County approval of a tract or parcel map, even after a preliminary review by the Department, is no guarantee that an OWTS permit can be issued for an individual lot. Suitability for OWTS use on a lot can only be determined by a full OWTS Report investigation of that lot.

## CHAPTER 2 – PERCOLATION TESTING AND EXPLORATORY BORING PROCEDURES

Percolation testing and exploratory boring investigation shall be conducted only by individuals trained and educated to perform, understand and evaluate the field conditions and tests as they relate to OWTS. This would include a registered PR with experience in OWTS design. Unlicensed persons may perform percolation testing only if working under the PR's direct supervision.

The Department will only approve the percolation test (perc test) method and exploratory boring procedures described in this Chapter. All data encompassing the entire soil percolation test, exploratory boring, and calculations (e.g., soil rate, gravel correction, etc.) or other applicable documents shall be included in the OWTS report. Refer to Appendices for data sheet examples.

Prior to soil percolation testing (including pre-soak) and/or exploratory boring investigation, the PR shall give notification of the date, time, and place of the activity to the Department at least two business days in advance so that Department staff can observe the testing. The date and time that the test is to be conducted shall be subject to the availability of Department staff. The Department will issue a confirmation number to the PR which will serve as proof of this notification. This confirmation number must be incorporated into the OWTS Report on the cover sheet published by the PR. If the Department is not present at the prescribed time that the test is to be conducted, the PR may only proceed with the consent of the Department.

When the soils percolation test has been completed, the following shall remain at the test site until Department staff has completed its review of the project:

- Stake and flagging.
- Testing excavations and soil spoils.
- Groundwater detection boring

### **SOIL CLASSIFICATION**

All test holes and borings shall have soil types described according to the American Society for Testing and Materials (ASTM) Soil Classification System (Unified) or USDA Natural Resource Conservation Service Soil Classification System. The color of the soil types shall be described in accordance with the Munsell Color Notation system. All borings are to be reported, including those which encountered groundwater or refusal.

### **AREAS WITH KNOWN RATES**

In some areas of the desert regions of eastern Riverside County, certain lots are known to the Department to have soil with rates faster than 10 minutes per inch and groundwater not

encroaching within 40 feet of any proposed dispersal area bottom. At the discretion of this Department, an OWTS Report may not be required for these lots.

### **NUMBER OF TEST HOLES**

Based on project scope, the following is the schedule of the required number of tests:

- **Land Divisions** - A minimum of one passing perc test and one boring shall be performed on each lot within the proposed land division.

**Note:** All proposed land divisions must also submit all applicable reports and written statements as required in Riverside County Ordinance 460.

- **All Other Projects** - Leach fields require a minimum of four passing perc tests and one deep boring. Seepage pits require a minimum of two passing perc tests and one deep boring.

### **PERC TEST PROCEDURE FOR LEACH LINES & LEACH BEDS**

#### **Test Holes**

Test holes shall be representative of the dispersal area for all proposed OWTS demonstrating site conditions throughout the entire sewage disposal system with equal consideration of primary and 100% expansion area. Test holes shall be located in native, undisturbed soils. Additional test holes may be necessary on a site-specific basis at the discretion of this Department.

The test holes for all proposed OWTS shall be identified with a stake and flagging with the following information:

- Date of Test
- PR's name
- A test hole number or letter
- Depth of the test hole and boring
- Assessor's Parcel Number or Lot Number

The opening of the test hole shall be between 8 and 12 inches in diameter or between 7 and 11 inches on side if square. The bottom of the test holes shall correspond to the depth of the proposed dispersal system.

For critical areas, at least two additional test holes shall extend 8 feet deeper than the depth of the proposed dispersal system. These test holes shall not be square.

When determining the testing depth, the PR shall consider the following conditions:

- Shallow consolidated rock, impermeable soil layers, or critical areas.
- Setback to daylight points.



- Slopes.
- Fill material found above natural soils.
- Other factors as determined by sound geotechnical engineering practices or by this Department.

The bottom of the test hole shall be covered with 2 inches of gravel. The sides of the hole shall remain undisturbed (not smeared) after drilling or excavating, and any cobbles encountered left in place. If gravel packing and/or an insert is used to shore up or stabilize the test hole, the PR shall account for the gravel volume and/or insert volume and make any necessary adjustments to calculations in the OWTS Report.

### **Presoaking**

To presoak the test hole, invert a full 5-gallon bottle of clear water supported over the hole so that the water flows into the hole holds constant at least 8 inches above the gravel at the bottom of the hole. If all 5 gallons of water passes through the test hole during presoaking, the test hole does not need to be refilled until commencing the test. Testing shall commence after 15 hours has elapsed since initiating the pre-soak but not to extend beyond 30 hours.

For critical areas, the two additional test holes shall be presoaked to a depth of 8 feet above the bottom of the test hole. The amount of water needed for presoaking will be dependent on the volume of the test hole. Smaller diameter test holes (e.g., 8 inches) will require less water for presoaking than larger diameter holes (e.g., 12 inches). If all water used for presoaking passes through the test hole, it is not necessary to refill the hole during the presoaking period until commencing the test. Testing shall commence after 24 hours has elapsed since initiating the pre-soak but not to extend beyond 48 hours. All water utilized for presoaking shall be counted towards the total volume of water (minimum 75 gallons) required to pass through the test hole to complete the test.

### **Testing**

- Standard Testing

This test involves a minimum of six readings over the course of 6 hours with a precision of at least 0.25 inches. The intervals between readings shall not be less than 30 minutes. The field results must show all data reported in minutes per inch (mpi).

1. After presoaking, adjust depth of water to 6 inches above bottom of test hole.
2. Take note of the initial water level.
3. Obtain a minimum of six measurements per hole with a precision of at least 0.25 inches.
4. At the start of each interval, refill the hole back to the initial water level.
5. The drop that occurs during the final reading shall be used to calculate the percolation rate.

- Sandy Soils Testing

This test involves eight readings over the course of at least 110 minutes with a precision of at least 0.25 inches. In order to use this test, the PR must determine the presence of sandy soils at the testing depths from the soil boring log. In addition, two (2) consecutive readings must show that six (6) inches of water seeps away in less than 25 minutes. Field results must show all data reported in minutes per inch (mpi).

1. After presoaking, adjust depth of water to 6 inches in the hole.
2. Take note of the initial water level.
3. Take the first reading at twenty-five (25) minutes after start.
4. Refill the hole back to the level of the initial water mark.
5. Take the second reading twenty-five (25) minutes later.
  - a. Two (2) consecutive readings must show that six (6) inches of water seeps away in less than 25 minutes to continue with this testing method. Otherwise, the PR shall complete the test using the non-sandy soils method.
6. The test shall be run for an additional hour with measurements taken every ten minutes.
  - a. Before starting each ten (10) minute read, the hole shall be refilled back to the initial water level.
7. The drop that occurs during the final ten (10) minutes shall be used to calculate the soils percolation rate.

- Critical Area Testing

This test shall be required if a proposed conventional OWTS has been determined by this Department to be in a critical area. It involves a minimum of 12 readings over the course of at least 6 hours with a precision of at least 0.25 inches. The test must run at least 6 hours and accept at least 75 gallons of water. The intervals of each reading shall be 30 minutes. A minimum of two passing test results shall be required. ATSS proposed in critical areas do not need to complete this test. All field data must be reported in minutes per inch (mpi).

1. After pre-soaking, fill to 8 feet above the bottom of the test hole and measure the drop in water level after 30 minutes.
2. Refill the column of water to 8 feet above the bottom of the test hole and measure the drop again after 30 minutes.
3. Repeat #2 until the test hole has accepted at least 75 gallons of water. If the test hole is unable to accept this required volume of water, a conventional OWTS shall not be allowed.
4. If a drop of  $\frac{1}{4}$  of an inch or less is measured at any 30-minute interval during the test, the lot shall be considered to have impermeable strata. Therefore, a conventional OWTS shall not be allowed.

## **Exploratory Boring Evaluation**

This procedure is used in addition to the soil percolation test. An exploratory boring is a hole drilled in the area of the proposed OWTS. It will be used to provide additional information about the type of soil, soil moisture, depth of the water table, perched or otherwise, and presence of rock or impermeable soil. The minimum depth of the exploratory boring is 15 feet below ground surface or stated refusal and at least 10 feet below bottom of proposed trench/bed. The PR must address all refusals encountered.

The PR shall examine each soil layer of the excavation or boring and provide a detailed description both in narrative and log form in accordance with the Soil Classification section of the LAMP. The PR shall include photos of the soils encountered during drilling of the exploratory boring in the OWTS report. The PR shall also make a determination whether groundwater, bedrock, or impermeable soils (percolation rate of greater than 120 minutes per inch) was encountered and whether they encroach within the allowable limits.

Upon completion of work, the excavation or boring can be backfilled with a 4-inch perforated PVC pipe left in place for Department staff to evaluate. The pipe must extend from the bottom of the excavation to at least six (6) inches above ground surface and be unobstructed. If caving is encountered, the PVC pipe shall be reinstalled. A silt sock can be installed around the PVC pipe to prevent soil intrusion. The pipe should be secured to prevent damage or vandalism. If water is found, refer to Chapter 3 for additional requirements.

## **PERC TEST PROCEDURE FOR SEEPAGE PITS**

### **Test Holes**

The deep bore shall not be utilized as a test hole. Test holes shall be representative of the dispersal area for all proposed OWTS demonstrating site conditions throughout the entire sewage disposal system with equal consideration of primary and 100% expansion area. Test holes shall be located in native, undisturbed soils. Additional test holes may be necessary on a site-specific basis at the discretion of this Department.

The test holes for all proposed OWTS shall be identified with stake and flagging with the following information:

- Date of Test
- PR's name
- A test hole number or letter
- Depth of the test hole and boring
- Assessor's Parcel Number or Lot Number

The opening of the test hole shall be between 6 and 8 inches in diameter only. The bottom of the test holes shall correspond to the depth of the proposed dispersal system. No pits shall be allowed shallower than 10 feet below inlet or deeper than 40 feet below ground surface.

No new conventional OWTS proposing seepage pits shall be allowed in critical areas. At the discretion of this Department, proposed new seepage pits may be allowed in critical areas if proposing acceptable mitigation measures including but not limited to an ATS. Standard test method shall be used for the proposal of seepage pits with ATS.

When determining the testing depth, the PR shall consider the following conditions:

- Shallow consolidated rock, impermeable soil layers, or critical areas.
- Setback to daylight points
- Slopes
- Fill material found above natural soils
- Other factors as determined by sound geotechnical engineering practices or by this Department.

The bottom of the test hole shall be covered with 2 inches of gravel. The sides of the hole shall remain undisturbed (not smeared) after drilling or excavating, and any cobbles encountered left in place. If gravel packing and/or an insert is used to shore up or stabilize the test hole, the PR shall account for the gravel volume and/or insert volume and make any necessary adjustments to calculations in the OWTS Report. If sidewalls are not stable or sloughing results in changing depth, the test hole may be abandoned or retested after means are taken to shore up the sides.

### **Presoaking**

To presoak the test hole, fill with enough clear water to fill the test hole from the bottom up to the level of the proposed inlet depth. If all the water used for presoaking passes through the test hole, the test hole does not need to be refilled until commencing the test. Testing shall commence a minimum 24 hours after initiating the pre-soak, not to exceed 48 hours after initiating the pre-soak.

### **Percolation Test**

- Standard Testing

This test involves twelve (12) readings over the course of at least 6 hours with a precision of at least 0.25 inches. The intervals between readings shall be 30 minutes. The field results must show all data reported in minutes per inch (mpi).

1. Adjust depth of water to the level of the proposed inlet depth (initial water level) and measure the drop in water level after 30 minutes.
2. Refill the column of water back to the initial water level and measure the drop again after 30 minutes.
3. Repeat #2 until a total of twelve (12) readings has been accomplished.

4. The drop that occurs during the final reading shall be used to calculate the percolation rate.

- Sandy Soils Testing

This test involves eight readings over the course of 110 minutes with a precision of at least 0.25 inches. In order to use this test, the PR must determine the presence of sandy soils at the testing depths from the soil boring log. In addition, two (2) consecutive readings must show that half the wetted depth of water seeps away in less than 25 minutes. Field results must show all data reported in minutes per inch (mpi).

1. Fill the hole with clear water from the bottom of the test hole to the depth of the assumed inlet of the proposed seepage pit. This will be the initial water mark.
2. Take the first reading twenty-five (25) minutes after start.
3. Refill the hole back to the initial water mark.
4. Take the second reading twenty-five (25) minutes later.
5. If two consecutive readings show water seeping away faster than half the wetted depth in 25 minutes or less, the test shall be run for an additional hour with six (6) readings taken at 10-minute intervals.
6. Before starting each 10-minute read, the hole shall be refilled back to the initial water mark.
7. The drop that occurs during the final ten (10) minutes shall be used to calculate the soils percolation rate.

### **Exploratory Boring Evaluation**

This procedure is used in addition to the soil percolation test. An exploratory boring is a hole drilled in the area of the proposed OWTS. It will be used to provide additional information about the type of soil, soil moisture, depth of the water table (perched or otherwise), rock or impermeable soil. The depth of the boring shall extend 10 feet below the bottom of the proposed seepage pit unless the boring hits refusal. The PR must address all refusals encountered.

The PR shall examine each soil layer of the excavation or boring and provide a detailed description both in narrative and log form in accordance with the Soil Classification section of the LAMP. The PR shall include photos of the soils encountered during drilling of the exploratory boring in the OWTS report. The PR shall also make a determination whether groundwater, bedrock, or impermeable soils were encountered and whether they encroach within the allowable limits.

Upon completion of work, the excavation or boring can be backfilled with a 4-inch perforated PVC pipe left in place for Department staff to evaluate. The pipe must extend from the bottom of the excavation to at least six (6) inches above ground surface and be unobstructed. If caving

is encountered, the PVC pipe shall be reinstalled. A silt sock can be installed around the PVC pipe to prevent soil intrusion. The pipe should be secured to prevent damage or vandalism. If water is found, refer to Chapter 3 for additional requirements.

## CHAPTER 3 – SPECIAL TESTING FOR HIGH GROUNDWATER OR PERCHED WATER AREAS

The presence of high groundwater can negatively impact the operation of an OWTS. The elevated groundwater can cause the system to fail and significantly degrade the surrounding groundwater quality that others utilize as a source of drinking water. In order to determine if groundwater has impacted the site, special testing may be required at the Department's discretion when:

- Groundwater is encountered on the property within 12 feet of ground surface and less than 80 percent of the annual seasonal rainfall has occurred, or
- Property is in an area of known or suspected high groundwater based off of historic data or other documentation of the subject property or lots within surrounding area.
- Property is located adjacent to or contains drainage courses, streams, bodies of standing water, and areas of shallow bedrock that allow rapid fluctuating perched water due to water entrapments and poor permeability.

The special testing will be used to confirm if groundwater has indeed impacted the site and could preclude the use of a conventional OWTS.

### **SPECIAL TESTING PROCEDURES**

An excavation is to be dug with a backhoe or bucket rig capable of allowing access for visual inspection by the PR for visual signs of mottling exhibiting redoximorphic features associated with wetness and other geological signs to determine historic high ground water levels. If lithochromatic mottling (e.g. mottling associated with variation of color due to weatherization of parent material) was observed and found at a shallow depth, the Department may require this material to be tested to ensure that it is not impermeable strata.

The PR shall give the Department notice of when the excavation will be open for observation. The presence of mottled soil is marked with spots, blotches or contrasting color which is usually caused by saturation for some period during a normal year, unless it has been artificially drained. (If the site has been artificially drained, contact this Department for further evaluation.) Refer to the end of this chapter for a description of the cause of soil mottling development.

Mottling can be described in terms of abundance, size and contrast which are delineated below:

#### Abundance:

- Few – Occupy less than 2% of the exposed surface.
- Common – Occupy from 2 – 20% of the exposed surface.
- Many – Occupy more than 20% of the exposed surface.

Size:

- Fine – Less than 1/5 inch in diameter along the greatest dimension.
- Medium – From 1/5 to 3/5 inch diameter along the greatest dimension.
- Coarse – Greater than 3/5 inch diameter along the greatest dimension.

Contrast:

- Faint – Evident but recognizable only with close examination.
- Distinct – Not striking but readily seen.
- Prominent – Obvious and one of the outstanding features of the horizon.

If soil mottling is found, a conventional OWTS typically cannot be used at this site. Contact your PR to determine the best course of action.

### **MOTTLED SOIL DEVELOPMENT**

With ambient temperatures above 40°F, two basic types of bacteria are the agents which decompose or oxidize organic matter in the soil. Aerobic bacteria are the primary agents as long as there is some oxygen present in the soil. As infiltrating water and/or a rise in groundwater fills the void spaces (soil pores) saturating the soil, oxygen is excluded and anaerobic bacteria become the primary decomposers. According to the USDA National Resources Conservation Service, these aerobic bacteria utilize the following elements as electron acceptors in the absence of oxygen in the following order:

1. Nitrogen (including nitrates, nitrites, and ammonia)
2. Manganese
3. Iron

When anaerobic bacteria utilize nitrogen or nitrogen-based compounds such as nitrates, nitrites and ammonia, the oxidation-reduction reaction (redox) does not typically result in mottling unless fully depleted in which case other elements are utilized which causes the mottling. Caution must be exercised when evaluating the presence of mottled soils in agricultural areas where nitrogen-based fertilizers have been used. Special testing procedures listed in Chapter 4 may not be appropriate.

In the presence of soil manganese and iron compounds, anaerobic bacteria undergo respiration that cause manganese and iron ions to be liberated from the oxide and hydroxide compounds and begin to flow through the soil. Since this action drains iron ions, a color reduction occurs in the soil tending it to turn them gray or white. When these ions again encounter oxygen entering the soil pores, they immediately recombine with air to form yellow-, orange- and rust-colored concentrations. Manganese ions are re-oxidized and form black concentrations.



## CHAPTER 4 – PROFESSIONAL OF RECORD AND QUALIFIED SERVICE PROVIDER REGISTRATION, REVOCATION, AND DUE PROCESS

### **PROFESSIONAL OF RECORD (PR)**

A PR is an individual that has been trained and educated to perform soil percolation testing and evaluate field conditions as they relate to OWTS design and performance. OWTS designs and percolation reports shall not be accepted by this Department unless prepared by a registered PR, as defined in this chapter. Percolation testing shall not be conducted unless authorized by this Department. The PR's registration must be current at the time of submission of any documents and at the time of percolation testing. A firm may be registered with our Department as a PR, but the individual holding the professional license shall affix their signature and stamp to the plot plan and report.

### **QUALIFIED SERVICE PROVIDER (QSP)**

A QSP is an individual who is trained to locate, evaluate, certify, and service an OWTS. OWTS certifications and ATS service agreements shall not be accepted by this Department unless performed by a registered QSP, as defined in this LAMP. The QSPs registration must be current at the time of submission of the certification. A firm may be registered with our Department as a QSP, but the individual holding the professional license shall affix their signature to the plot plan and certification.

Any QSP that provides a service agreement for an ATS must be able to demonstrate to the Department that they possess the knowledge required to maintain that model of ATS. Unless otherwise required by the Department, this is fulfilled by obtaining training from the manufacturer of the ATS.

### **REGISTRATION**

Any individual or firm as described above desiring registration shall provide the following:

1. Submit a completed Application.
2. Provide copy of driver's license.
3. Provide proof of valid State of California issued license or registration.
  - a. A PR must be a Professional Engineer, Professional Geologist, or Registered Environmental Health Specialist.
  - b. A QSP must possess a license as a C-42, C-36, or Class A General Contractor, or Professional Engineer, Professional Geologist, or Registered Environmental Health Specialist.
4. Pay registration fee.

Registration is non-refundable, not transferable, and shall expire on December 31st of each year. Registration must be renewed by payment of renewal fee and submission of a new application. Any change or lapse in registration shall require the completion of a new registration application.

#### **DEPARTMENT OVERSIGHT AND ENFORCEMENT**

The Department will conduct random audits of services performed by a PR or QSP. At the discretion of the Department, additional verification may be required including, but not limited to, additional soil testing, excavations, and/or inspections of OWTS.

Individuals or firms may be subject to additional requirements, enforcement action including citation, and/or revocation of their registration for a period of time as determined by the Department Director or their designee for any of the following:

1. Failure to maintain registration in good standing, as required in Riverside County Ordinance 650.
2. Failure to conduct business in a manner consistent with the ethics of the profession or the Department.
3. Violation of any provision of this LAMP.

## CHAPTER 5 – DESIGN REQUIREMENTS FOR CONVENTIONAL ONSITE WASTEWATER TREATMENT SYSTEMS

No person shall erect, construct, rebuild, convert, or alter any plumbing system designed for the discharge or disposal of sewage or sewage effluent that utilizes an OWTS unless written approval for such purpose is obtained from the Department.

For the purposes of this document an OWTS consists of an approved method of pretreatment (septic tank) and a subsurface dispersal system. Floor plans, plumbing layouts, site plans, grading plans and other documentation may also be required to be submitted to evaluate a proper OWTS design.

The following sections in this Chapter shall provide guidelines for the design of a conventional OWTS in addition to applicable sections of UPC and other applicable documents.

### **BASIC REQUIREMENTS OF OWTS DESIGN**

- There shall be a minimum of 5 feet of undisturbed soil between groundwater and the bottom of trenches for leach lines or leach beds.
- There shall be a minimum of 10 feet of undisturbed soil shall be between groundwater and the bottom of a seepage pit.
- There shall be a minimum of 8 feet of soil between the bottom of the dispersal system and impermeable strata.
- Percolation rates cannot be slower than 60 minutes per inch for leach lines or 1.1 gallons per square foot of sidewall per day for seepage pits.
- Percolation rates that are faster than 5 minutes per inch for leach lines or 10 gallons per sq. foot per day for seepage pits must comply that soil below dispersal system must contain at least 10% fines smaller than 0.08 millimeters (fit through a #200 sieve). A minimum of a 40 foot separation between the bottom of the OWTS and the high groundwater table must be maintained if the fines percentage requirement is not met. This assumes that at some depth above high groundwater there exists 5 feet (for leach lines) or 10 feet (for seepage pits) of soil that has enough fines (#200 sieve) to meet the above requirement.
- Where soils consist of greater than 10% rock fragments (cobbles, stones and gravel), the dispersal system area shall be increased in proportion to the percent of rock fragments to compensate for the lost treatment volume.
- All OWTS shall be designed so that additional dispersal areas equivalent to at least 100% of the required primary dispersal system is designed and shown on the plot plan. This is called the expansion area.
- Dispersal systems, except for seepage pits, shall not exceed a maximum depth of 10 feet as measured from the ground surface to the bottom of the trench.
- Seepage pits shall not exceed a maximum depth of 40 feet.

- Leach lines/beds cannot be installed under drive paths and parking areas.
- No part of the OWTS shall be located within the boundaries of a recorded easement.
- Cesspools are not an approved method of sewage disposal.
- OWTS that utilize any form of effluent disposal that discharges on or above the ground surface such as sprinklers, exposed drip lines, free-surface wetlands, or a pond are not allowed.
- OWTS installation on greater than 30 percent slope will not be allowed without a slope stability report approved by a Professional Engineer or Professional Geologist.
- Decreased leaching area for IAPMO certified chamber or bundle dispersal systems shall not be approved using a multiplier less than 0.80.
- Bundle dispersal systems are not allowed to use sidewall calculations.
- Each single-family dwelling unit must be connected to an appropriately sized OWTS, as determined by the Department.

## **OWTS COMPONENTS**

### **Grease Interceptor**

If the proposed flow includes liquid waste that contains fats, oils and/or grease that could affect the performance of an OWTS, a grease interceptor for such waste shall be installed and sized according to the current edition of the UPC and may be subject to Regional Water Board clearance.

### **Pump Chamber**

Use and sizing of a pump chamber will be reviewed on a case-by-case basis by the Department after the applicant has demonstrated that gravity flow is not achievable with site conditions.

### **Velocity Reducers**

OWTS designed in areas with excessive slope may require a velocity reducer as determined by the Department.

### **Septic Tank**

Septic tanks shall be designed to produce a clarified effluent consistent with accepted standards and shall provide adequate space for sludge and scum accumulation. Calculations used for the determination of septic tank size must be included in the OWTS report. Septic tank design shall meet the following criteria:

1. Septic tanks shall be in conformance with the current edition of the UPC and IAPMO certified.
2. The tank shall be equipped with at least two risers: one at the solids side and the other on the effluent side. For septic tanks which are 2,000 gallons or larger, the solids side

shall be equipped with at least two risers. All risers shall extend to within 4 inches of final grade with access openings of at least 20 inches in diameter, watertight and secured to prevent unauthorized access.

3. Tanks shall also be equipped with effluent filters to prevent solids more than three-sixteenths (3/16) of an inch in diameter from passing to the dispersal system. Septic tanks that use National Sanitation Foundation (NSF)/American National Standards Institute (ANSI) Standard 46 certified septic tank filter at the final point of effluent discharge from the OWTS and prior to the dispersal system shall be deemed to meet this requirement.
  4. The liquid capacity of the septic tank shall conform to applicable UPC Tables and the following:
    - a. For dwelling occupancies, sizing will be determined per Table H201.1(1).
    - b. For dwellings with greater than 33 fixture units, use fixture unit count for sizing per Table H201.1(1) and Table 702.1. Also, see section on *Additional Guidelines for Determining Number of Bedrooms* in this chapter.
    - c. For other building occupancies, by using the estimated waste/sewage design flow rate or the number of plumbing fixture units, whichever is greater per Table H201.1(4) and/or Table 702.1. See section on *Waste/Sewage Flow Rates* in this chapter.
    - d. Proposals that fall outside of the above categories will be reviewed on a case-by-case basis by the Department.
  5. Septic tanks, lids and risers installed under drive paths shall be constructed of traffic-rated materials.
- Additional Guidelines for Determining the Number of Bedrooms
    1. Once the living room, dining room, family room, kitchen, bathrooms, and utility rooms have been established, all other rooms shall be considered as potential sleeping rooms. Dens, libraries, studies, weight rooms, sewing rooms, workshops, etc., shall be determined as bedrooms.
    2. All other habitable rooms totaling at least seventy (70) square feet in size are to be considered bedrooms suitable for sleeping purposes, regardless of whether or not they contain closets or have access to a bathroom.
    3. Rooms that open to a living room, dining room, family room, kitchen, or entry way, and have a single, un-obstructive opening (no doors) with a minimum 50% opening of the total wall space (minimum 6' wide) with archways or other acceptable means shall not be considered as bedrooms.
    4. Rooms that can only be accessed through another bedroom are to be considered part of that bedroom, such as master suite and not an additional bedroom.
    5. In the case of an ambiguous situation, where it is not clear as to whether a room is a bedroom, the plans may be reviewed on a case-by-case basis by the Department.
    6. Any cases, which will require the relocation or modification of doorways, are to be reviewed and approved by Building and Safety to address any structural considerations such as load bearing walls. This is to be done prior to approval or sign-

off by the Department.

- Waste/Sewage Flow Rates

Septic tank size using the estimated waste/sewage flow rates should be calculated as follows:

1. Waste/sewage flow up to 1,500 gallons/day (5,677.5 L/day), Septic tank size = Waste/sewage flow x 1.5
2. Waste/sewage flows over 1,500 gallons/day (5,677.5 L/day), Septic tank size = Waste flow x 0.75 + 1,125

- Maximum Septic Tank Size

The required leaching area for either a seepage pit or leach line/bed system shall be based on the calculated septic tank capacity. For every 100 gallons of septic tank capacity required, there is an equivalent bottom surface area or sidewall area required based on the soil rate. The maximum septic tank size and its absorption system are limited by the following table:

Table 5.1  
Maximum Septic Tank Size

Leach Lines: Sq. Ft./ 100 gallons	Seepage Pits: Q=Gallons/Square Foot/Day	Maximum Septic Tank Size Allowable (Gallons)
25	4	7500
40	3.2	5000
90	2.5	3500
120	1.11	3000

### **Dispersal System Design**

Using the rates obtained through the soils percolation test, a properly sized dispersal system must be designed. The system must be designed using the most conservative rate or otherwise demonstrated by the soils percolation test and correspond to the size of the septic tank designed for the system.

The Department allows the following types of dispersal systems:

- Leach lines/trenches
- Leach beds
- Seepage pits

Leach lines/trenches or leach beds can utilize either rock and pipe or IAPMO certified chambers or polystyrene bundles in approved configurations.

- Distribution Boxes

Where two or more leach lines, seepage pits, or other OWTS design component that needs to incorporate uniform distribution of flow, a distribution box that is sufficient in size shall be installed. Distribution boxes shall be designed to ensure equal flow and installed on a level, stable surface.

- Primary and Expansion Area

In addition to providing a design for a primary dispersal system, all OWTS proposals must also show 100% expansion area for the OWTS. For projects with existing OWTS on property, design must also show that all primary and expansion areas can be provided for all OWTS. Any parcels once certified with an expansion area smaller than the current standards must meet current design standard requirements.

- Leach Line/Trench Design

- Each dispersal system shall have a minimum of at least 1 leach line.
- The maximum length of each line is 100 ft.
- The width of trenches must be 36 inches.
- A minimum of 12 inches of earth to be provided over leach line piping. At least 18 inches is preferred.
- At least 2 inches of filter material to be provided over drain lines.
- Leach lines must be level, with the end of line capped. The level of lines cannot exceed 3 inches per 100 ft.
- No system shall have a total trench bottom area less than 150 sq. ft.
- Depth of trenches must correspond with depths tested during perc testing.
- Leach lines/trench must be designed to be equidistant in length and provide equal volume distribution. Any variation will be subject to additional review and/or testing by the Department.
- If the design exceeds 500 lineal feet, then dosing tanks will be required. See UPC Appendix H 601.8 for additional details.

- Sizing/Area of Leach Lines

Sizing of area required for leach lines will be determined by the rate obtained during soils perc testing conducted in accordance with Chapter 2 and correspond to the size of the septic tank. The most conservative rate observed will be used for OWTS design. Soil percolation rate in minutes/inch (mpi) must be converted to square feet/100 gallons of septic tank capacity. Use the following table for the conversion:

Table 5.2  
Conversion of minutes/inch (mpi) to Design Rate

Minutes/Inch (mpi)	Minimum Sq. Ft. per 100 Gallons	Minutes / Inch (mpi)	Minimum Sq. Ft. per 100 Gallons
0-9	20	26-27	60
10-11	25	28-30	65
12-13	30	31-32	70
14-16	35	33-37	80
17-18	40	38-43	90
19-20	45	44-48	100
21-23	50	50-54	110
24-25	55	55-60	120

After conversion to the design rate, use the following equation to calculate required square footage of leach lines:

$$(\text{Tank Size}) \times (\text{Design Rate}) / 100 = \text{Required square feet area of leach lines}$$

Note: Maximum rate allowed is 60 minutes per inch. If soil perc testing identifies rates slower than 60mpi, additional testing and/or an ATS will be required.

- Sidewall Calculations for Leach Line Design

This Department will allow the use of side wall calculations for leach line design with the following stipulations:

1. The effective application area shall increase by 2 square feet of bottom area for each additional foot of rock more than the required 1 foot of rock below the bottom of the drain line. Total depth of rock shall not exceed 3 feet. See Table 5.3.

Table 5.3  
Sidewall Calculation Allowances

Depth of Rock Below Leach Line	Square Foot of Bottom Area per Linear Foot of 3-Foot-Wide Trench
1 ft of rock	3 Square ft (standard)
2 ft of rock	5 Square ft
3 ft of rock	7 Square ft

2. When chamber or polystyrene aggregate bundle type units are proposed, the Department will allow no more than a 20% reduction when calculating the required leach bed bottom area.
  - a. Reduction with chambers or polystyrene aggregate bundles cannot be



combined with other types of reduction in design.

3. For calculation of leach line lengths use the following equation:

$$\frac{\text{Required square ft. leach line area}}{\text{Square ft. of bottom area of trench}} = \text{Leach line length required (in linear ft.)}$$

- Horizontal Separation

Minimum horizontal separation distance between two adjacent leach lines is 7 ft, on center. The horizontal separation distance between any two adjacent leach lines must be increased by 1 ft. for each additional foot of rock greater than the minimum 1 ft. A minimum of 4 ft of native, undisturbed soil must be provided between trenches. This separation also applies to the design of proposed reserve systems.

Table 5.4  
Horizontal Separation of Lines

Depth of Rock Below Leach Line	Distance Between Lines, on center
1 ft of rock	7 ft
2 ft of rock	9 ft
3 ft of rock	11 ft

- Leach Bed Design

1. The area of the bed shall be at least 50% greater than the requirements for leach lines/trenches.
2. The effective application area shall increase using sidewall calculations by the perimeter for each additional foot of rock provided in addition to the required 1 foot of rock below the bottom of the drain line. Total depth of rock shall not exceed 3 feet.
3. Distribution drain lines in leaching beds shall not be more than 6 feet apart on centers, and no part of the perimeter of the leaching bed shall be more than 3 feet from a distribution drain line.
4. When chamber or polystyrene aggregate bundle type units are proposed, the Department will allow no more than a 20% reduction when calculating the required leach bed bottom area.
  - a. Reduction with chambers or polystyrene aggregate bundles cannot be combined with other types of reduction in design.

**ADDITIONAL DESIGN CONSIDERATION FOR LEACH LINES/BEDS**

**Installation on or Near Slopes**

Any portion of the leach line/bed system shall maintain a 15-foot horizontal distance from daylight (or side of slope). Table 5.4 gives the minimum cover allowed and depth of testing versus the percent of slope in the area of the dispersal system to meet the 15-foot requirement. This table also gives a factor by which to increase the square footage of bottom area due to the loss in transpiration caused by the added cover (overburden).

Table 5.4  
Leach Line/bed Overburden Factor<sup>1,2,3</sup>

Slope of natural ground in area of disposal system (%)	Minimum cover over lines / bed (ft.)	Minimum depth of test required (ft.)	Overburden Factor
5%	1	3	1.0
10%	1.5	3	1.0
15%	2.25	4	1.0
20%	3	4	1.0
25%	3.75	5	1.1
30%	4.5	6	1.2
35%	5.25	7	1.3
40%	6	8	1.4
45%	7.0	9	1.5

<sup>1</sup>The minimum depth of test required due to percent (%) slope of natural ground does not consider leach line designs utilizing 2 feet or 3 feet of rock underneath leach line pipe. The PR must increase the required test depth to accommodate for the use of 2 feet or 3 feet of rock.

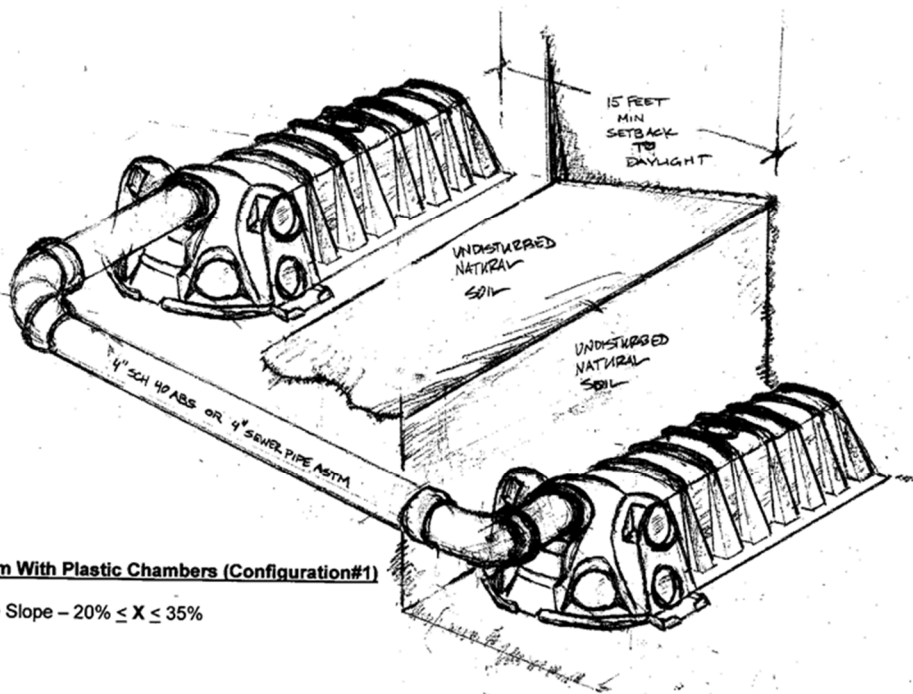
<sup>2</sup>OWTS installed on slopes greater than 30% will require a slope stability report approved by a registered professional.

<sup>3</sup>Cover that exceeds 3 ft must apply overburden factor even if slope is not a consideration.

### **Serial Distribution (Step Dam System)**

When installing on slopes, leach lines or leach beds may be stepped to prevent excessive line slope. Step dam systems are generally used on slopes greater than 20%. The lines between each horizontal section shall be made with watertight joints and shall be designed so each horizontal leaching trench or bed shall be utilized to the maximum capacity before the effluent passes to the next lower leach line or bed. The lines between each horizontal leaching section may be installed on natural or unfilled ground. See Figures 5.1 - 5.3.

Figure 5.1



**Step Dam With Plastic Chambers (Configuration#1)**

Minimum Slope –  $20\% \leq X \leq 35\%$

Figure 5.2

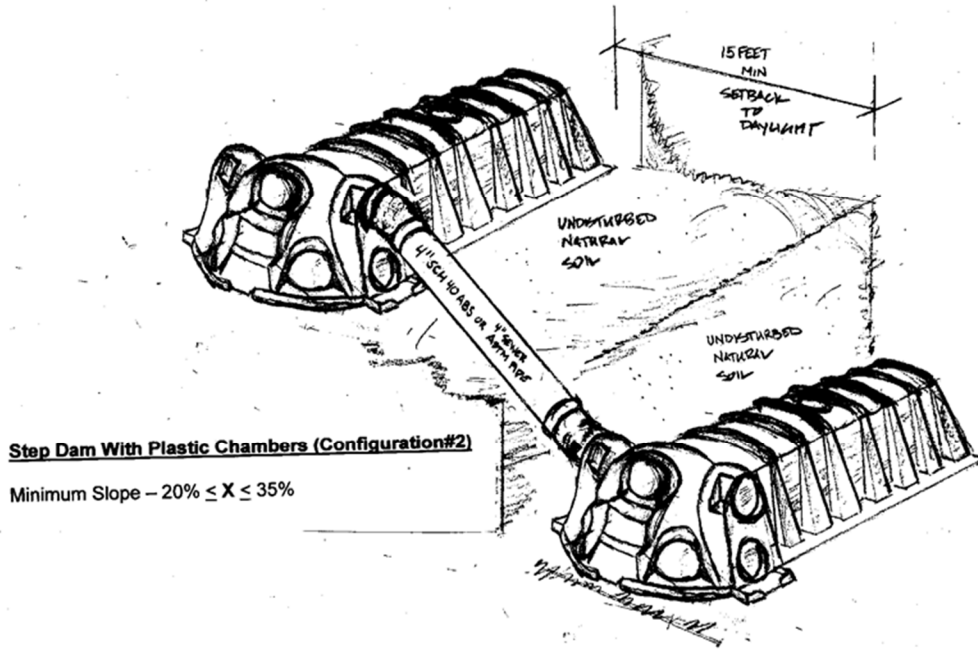
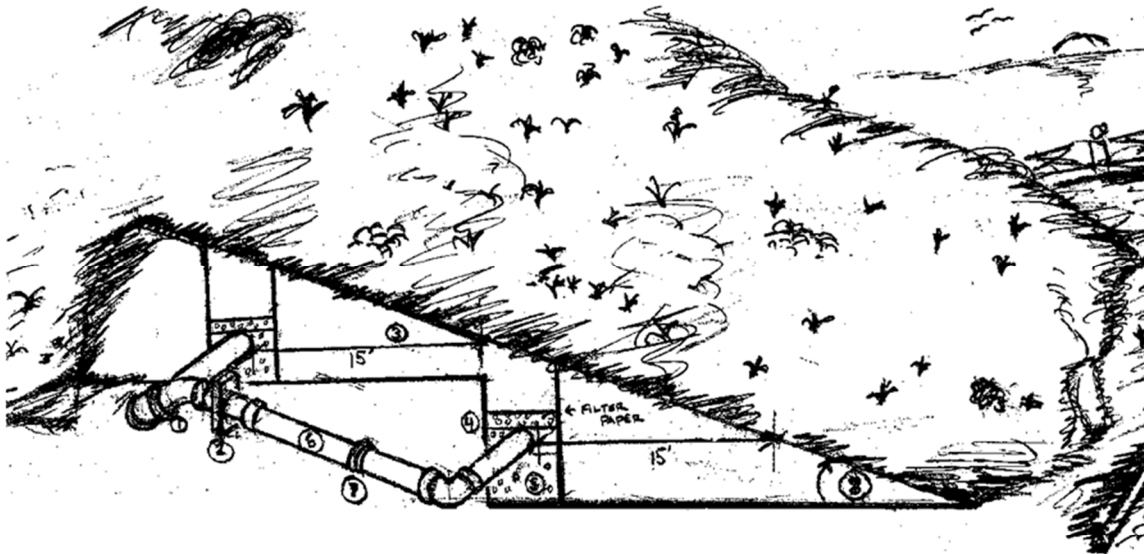


Figure 5.3



**Conventional Step Dam Configuration**

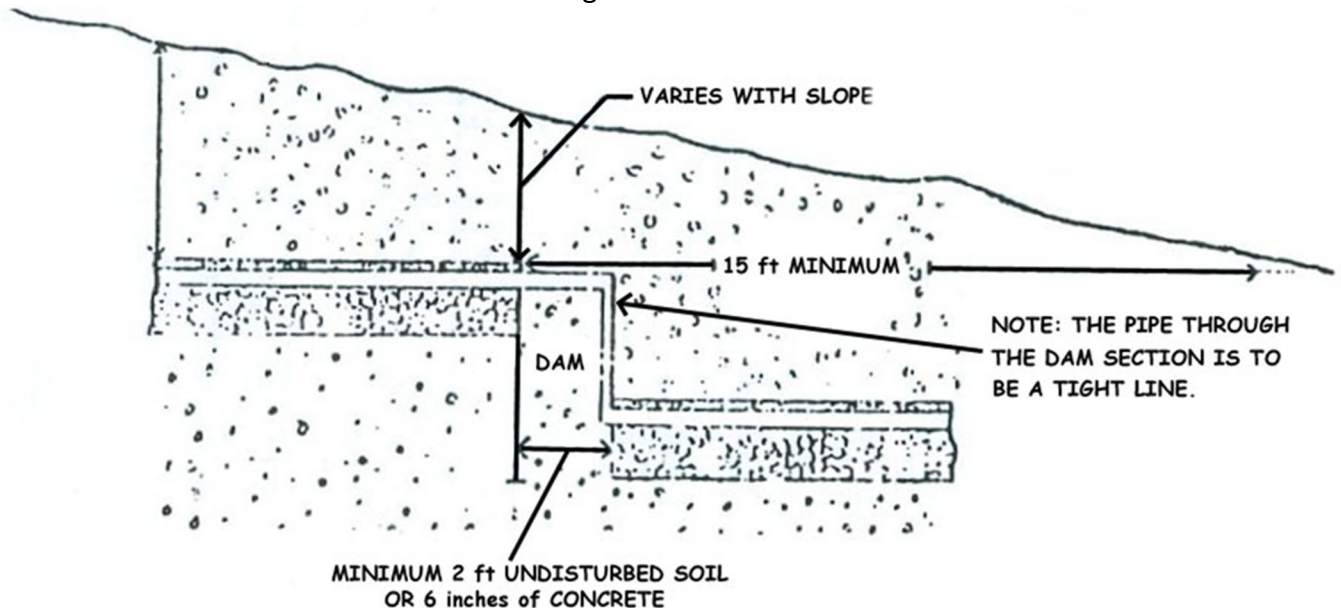
- 1) Elbow
- 2) Concrete Dam
- 3) 15 feet minimum horizontal setback to daylight
- 4) 4" minimum rock in-between leach line pipe and filter paper
- 5) 12" minimum rock underneath leach line pipe
- 6) 4" diameter solid pipe (schedule 40 abs or 4" astrm standard sewer pipe)
- 7) Tight Joint
- 8) Minimum Slope –  $20\% \leq X \leq 35\%$

## Dams for Slope Installation

On moderate slopes where the system is installed with the slope, dams (natural or man-made) must be provided at each step down as shown in Figure 5.4.

Lengths of lines cannot exceed 100 lineal feet.

Figure 5.4



## Seepage Pit Design

Seepage pits shall be constructed as follows:

1. Each seepage pit shall be circular in shape and shall have an excavated diameter of not less than five feet.
2. Each pit shall be lined with precast concrete circular sections.
3. Each seepage pit shall have a minimum sidewall of 10 feet below the inlet with a maximum total depth of 40 feet below ground surface, unless approved by the Department.
4. The lid of the seepage pit must be at least 18 inches but no more than 4 feet below the surface of the ground.
5. Seepage pits must be equipped with risers. Risers shall extend to within 4 inches of final grade.
6. The horizontal distance from a seepage pit to the top of a cut bank shall be equal to 5 times the vertical height of the bank or 25 feet, whichever is less.
7. A minimum 6-inch annulus filled with clean  $\frac{3}{4}$  inch gravel shall be provided between the pit structure and the excavation wall. Slag is acceptable if it is clean and uniformly sized at  $\frac{3}{4}$  inch.

8. Seepage pits installed in drive paths must be constructed of traffic rated materials, including the lids.

### **Sizing for seepage pits**

Sizing will be determined by the rate obtained during soils perc testing conducted in accordance with Chapter 2.

To calculate the rate (Q), use the following formula:

$$Q = \frac{(F/T) \times D \times 9}{L_{avg}}$$

- Q = rate in gallon/square ft.  
F = drop during time interval in feet  
D = boring diameter in feet  
T = time interval in hour  
L = average wetted depth in feet

Rate (Q) must then be converted to below inlet depth (BI).

The seepage pit depths (below the inlet) for 5 ft. and 6 ft. diameter pits are derived from the rate (Q) in the following manner:

1. For 5 ft. diameter pit:  
Total depth below inlet =  $\frac{\text{Septic tank capacity (in gallons)}}{Q \times 15.7}$
2. For 6 ft. diameter pit:  
Total depth below inlet =  $\frac{\text{Septic tank capacity (in gallons)}}{Q \times 18.8}$
3. The recommended effective sidewall of the seepage pit must correspond to the testing depths.
4. Rate allowed is  $1.1 < Q < 4.0$ .

Refer to the Appendices for example field test forms for seepage pits.

### **Setbacks**

The OWTS must be setback from certain structures and features to help ensure public safety and proper functioning of the system. Table 5.5 delineates setbacks from septic tanks and dispersal systems. Public Water System Surface Water Intake Point and watercourses require additional consideration.

Table 5.5

Minimum Horizontal Separations for Subsurface Sewage Disposal

Minimum Horizontal Distance From:	Septic Tank	Leach Lines/Bed	Seepage Pit
Building or Structure <sup>1</sup>	5 feet	8 feet	8 feet
Property Line Adjoining Private Property	5 feet	5 feet	8 feet
Water Wells/Other Types of Wells <sup>2,5</sup>	100 feet	100 feet	150 feet
Public Water Wells <sup>4,5</sup>	150 feet	150 feet	200 feet
Trees (trunk greater than 10 inches in diameter)	10 feet	10 feet	10 feet
Seepage Pits	5 feet	5 feet	12 feet
Leach Lines/Bed	5 feet	4 feet	5 feet
On Site Domestic Water Service Line <sup>3</sup>	5 feet	5 feet	5 feet
Distribution Box	---	5 feet	5 feet
Pressure Public Water Main Line	25 feet	25 feet	25 feet
Flood Plain / 100 Year Flood Zone	Refer to Current UPC	Refer to Current UPC	Refer to Current UPC

<sup>1</sup>Building or structure includes porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, covered walks, covered driveways, footings and similar structures or appurtenances.

<sup>2</sup>All drainage piping shall clear domestic water supply wells by at least 50 feet. This distance may be reduced to not less than 25 feet when the drainage piping is constructed of acrylonitrile butadiene styrene (ABS).

<sup>3</sup>Water pipes crossing sewer piping shall be laid a minimum of 12 inches above that sewer pipe.

<sup>4</sup> Any dispersal system within 600 feet of a public water well and exceeds 20 feet in depth is required to achieve a two-year travel time for microbiological contaminants. A qualified professional shall conduct this evaluation.

<sup>5</sup> For new OWTS, installed on parcels of record existing before May 13, 2013 which is the effective date of the State’s OWTS Policy, that cannot meet the horizontal separation requirements, the OWTS shall meet the horizontal separation to the greatest extent practicable and shall utilize supplemental treatment for pathogens as specified in Section 10 of the State’s OWTS Policy and any other mitigation measures prescribed by the Department.

**Public Water System Surface Water Intake Point**

Where the effluent dispersal system is within 1,200 feet from a public water systems’ surface

water intake point, within the catchment of the drainage, or located in such a way that it may impact water quality at the intake point, such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 400 feet from the high-water mark of the reservoir, lake, or flowing water body.

Where the effluent dispersal system is located more than 1,200 feet but less than 2,500 feet from a public water systems' surface water intake point, within the catchment area of the drainage, or located such a way that it may impact water quality at the intake point such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 200 feet from the high-water mark of the reservoir, lake, or flowing water body.

**Watercourses**

Watercourses, for purposes of determining setbacks from OWTS, have been separated into the following categories which are defined as follows:

1. OWTS Policy Tier 3. This category includes properties within 600 feet of a Clean Water Act Section 303(d) impaired water body for nitrogen or pathogens. New or replacement OWTS for these properties must meet Tier 3 requirements in Appendix VIII of the LAMP and Chapter 10 of the OWTS policy.
2. Colorado River. This category includes the main stem Colorado River and all adjacent watercourses, oxbows, marshes, etc. See Table 5.6.

Table 5.6  
Setbacks from Colorado River

Septic tank	100 feet
Leach line	150 feet
Leach bed	150 feet
Seepage pit	600 feet

3. Major Streams and Springs. This category includes watercourses such as the Santa Ana River, Strawberry Creek, San Jacinto River, Murrieta Creek, etc. Major streams have surface flows year-round during most years. See Table 5.7.

Table 5.7  
Setbacks from Major Streams and Springs

Septic tank	100 feet
Leach line	100 feet
Leach bed	100 feet
Seepage pit	150 feet

4. Ephemeral Streams. These watercourses lose their surface flows at times during most



years but may still have significant underflows. Significant underflow is usually evidenced by lush vegetative growth at the streambed during the drier months of the year. See Table 5.8.

Table 5.8  
Setbacks from Ephemeral Streams

Septic tank	25 feet
Leach line	50 feet
Leach bed	50 feet
Seepage pit	100 feet

5. Drainage Courses. These watercourses include ephemeral streams with little or no underflow during dry periods, eroded channels, unlined drainage channels, swales, gullies, ravines, dry creek beds, etc. See Table 5.9.

Table 5.9  
Setbacks from Drainage Courses

Septic tank	15 feet
Leach line	15 feet
Leach bed	15 feet
Seepage pit	15 feet

6. Vernal Pools, Wetlands, Lakes, and Ponds. OWTS components and dispersal systems shall be setback at least 200 feet from these water bodies unless ATS or other mitigation measures are utilized.
7. For new OWTS, installed on parcels of record existing before May 13, 2013 which is the effective date of the State’s OWTS Policy, that cannot meet the horizontal separation requirements, the OWTS shall meet the horizontal separation to the greatest extent practicable and shall utilize supplemental treatment for pathogens as specified in Section 10 of the State’s OWTS Policy and any other mitigation measures prescribed by the Department.

All setback measurements for watercourses are to be taken from outer edge of the “high-water mark” of the watercourse.

Not every watercourse will fit neatly into one of these categories. When there is some doubt as to how to properly categorize a watercourse, the setback requirement should be determined based on a joint field investigation by the Department and the PR.

## CHAPTER 6 – ALTERNATIVE TREATMENT SYSTEMS, GRAYWATER, AND HOLDING TANKS

### **Alternative Treatment Systems**

Many lots that are desirable for development are unsuited for conventional OWTS as defined in Riverside County Ordinance 650 as critical areas. ATSs can be used to overcome site-specific constraints generally having to do with high ground water, impermeable soils, or other restricting conditions.

ATSs can also be utilized for the purpose of proposing additional dwelling units on smaller lots that increase density to more than a single dwelling unit per 0.5 acre, but no more than a single dwelling unit per 0.25 acre. All structures on the property must connect to an ATS for sewage disposal. ATSs proposed for these types of developments must meet NSF/ANSI 245 requirements and cannot use seepage pits as the dispersal system.

### **ATS Design Criteria**

1. All ATS shall be designed by PR. All components shall be certified by the PR that the installation was completed per the approved design.
2. All supplemental treatment components of an ATS must meet applicable ANSI standards as tested by an ANSI accredited testing agency.
3. ATS shall be installed by a QSP.
4. ATSs utilizing nitrogen reduction components shall achieve a minimum 50 percent nitrogen reduction, when comparing the 30-day average influent concentration to the 30-day average effluent concentration. Documentation of the proper certifications must be provided at time of submittal.
5. Percolation testing, soil depth evaluations, and groundwater elevation determinations shall be performed by a PR. Percolation testing will be performed at the proposed installation depth of the dispersal system and shall follow the procedures stated in Chapter 2 of this LAMP.
6. Loading rates used to determine the size of the pressurized drip dispersal system must be from Table 3 in the State OWTS policy
7. Where supplemental treatment occurs in the tank, effluent shall be discharged to an approved subsurface dispersal system which for an ATS includes pressurized drip dispersal.
8. Design for dispersal systems that can utilize leach lines/trenches or seepage pits shall be sized in the same manner used for conventional OWTS. (See Chapter 5 for additional details).
9. A minimum 2 feet of soil must separate the bottom of the ATS dispersal system from impermeable strata or the highest anticipated level of groundwater.
10. The ATS shall be installed per manufacturers recommendations. Designs which allow for a visual and audible alarm must include these features in the design and

construction of the ATS.

11. Site plans must include detailed specifications of the components of the proposed ATS.

Pressurized drip dispersal systems requirements:

1. Must only be used in conjunction with an ATS.
2. Designed and installed per manufacturer's guidelines and the PR's specifications. All components shall be certified by the PR that the installation was completed per the approved design.
3. Are to be installed by a QSP.
4. The setbacks required between drip dispersal systems and other components of the OWTS as well as structures, property lines, easements, watercourses, wells, or grading shall be the same as required for leach lines.
5. Maximum line and emitter spacing shall be 2 feet.
6. Scheduled dosing must allow for proper treatment to meet wastewater quality standards.

### **Operation and Maintenance**

Residential projects shall comply with items 1 and 2. Commercial projects will comply with all items

1. Maintain a service agreement with a QSP trained by the manufacturer. Agreement must be provided prior to final sign-off on the ATS.
2. At a minimum, ATS shall be inspected by QSP annually to ensure proper operation and maintenance of the system. The QSP shall provide copies of the inspection results to this Department within 45 days of the date of inspection.
3. A renewable operating permit issued by this Department as required by Ordinance 650.
4. A right of entry agreement for inspections and the requirement for maintaining an ROP shall be recorded on the property deed.

Failure to comply with these requirements will result in a referral to the applicable Regional Water Board for further enforcement action.

### **Graywater Systems**

This section only applies to graywater system designed for single family residential projects. All other projects will be referred to the appropriate Regional Water Board.

Graywater is defined in the California Plumbing Code as untreated water that has not been contaminated with any toilet discharge. Graywater includes wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include

wastewater from kitchen sinks or dishwashers. No plumbing connection deemed by the Department of having the potential of carrying toilet waste will be allowed to connect to a graywater system.

Graywater systems (Clothes Washer System, Simple System, Complex System) shall be designed pursuant to the most current edition of the California Plumbing Code and shall be designed for underground effluent dispersal only. No surface discharge of graywater is permitted. The capacity of an OWTS shall not be reduced or otherwise affected by the existence or proposed installation of a graywater system servicing the premises.

### **Holding Tanks**

A holding tank is defined as a sewage facility, of a temporary nature, that has no means of discharge and requires the services of a registered liquid waste hauler for pumping and offsite disposal to an approved wastewater treatment facility.

A holding tank may be approved for a structure, if the following conditions are met:

1. A holding tank may be approved for a period not to exceed two years. Documentation from the sewerage agency for the area shall be submitted which indicates the site will be provided sewer service within the two-year period. An extension of the two-year connection requirement may be granted for cause. The final approval of the extension rests solely on the Department.
2. No holding tank facility shall be placed in any portion of a public right-of-way without written approval from the responsible public agency
3. No wholesale or retail food facilities shall use a holding tank.
4. When a sewer line becomes available, destruction or removal of the holding tank in the manner approved by the Department is required. Destruction or removal of the holding tank and connection to the sanitary sewer shall occur within sixty (60) calendar days of sewer availability.

A person proposing to use a Holding Tank shall submit a Land Use application with applicable fee and the following:

1. A site plan indicating the proposed location of the holding tank and structure(s), floor plan and plumbing layout.
2. A pumping contract with a liquid waste hauler who is registered the Department and a pumping schedule with a minimum frequency of once per week.
3. Details of a high-level alarm to notify the owner that the sewage that the tank has reached capacity.

**Note:** A holding tank may be approved as a **replacement** system for an existing single-family dwelling when sewer, a conventional OWTS or ATS is not feasible if approved in writing by the Department.

## CHAPTER 7 – ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) CERTIFICATION

### **OWTS Certification**

Individuals receiving PR/QSP registration from the County of Riverside shall have the authority to conduct OWTS certifications. This certification may be used to determine if any proposed action/project will encroach or affect the functionality of an existing OWTS, or to identify a failing or substandard OWTS. OWTS certifications shall include the following:

1. Identify all OWTS components, locations, and specifications.
2. Determine the current condition and functionality of the existing OWTS.
3. Make repair recommendations for the existing OWTS.

The PR/QSP shall document their findings of an OWTS certification using Department form entitled “Certification of Existing Subsurface Disposal System”. The certification shall also include a scaled plot plan signed by the individual possessing the license. The plot plan shall include the following: design and location of the OWTS and its 100 percent expansion area in relation to its attached dwelling or structure; other detached structures and second units; water meters, wells, rocks, watercourses, dry wells, property corners, driveways, drainage courses, and any other features on that parcel or nearby parcels that may affect performance of the OWTS or that may be affected by the OWTS. This certification must include a determination of the proximity of sewer. Based on project scope, connection to sewer may be required.

An OWTS Certification shall be required for the following:

1. For any repair and/or modifications performed to an existing OWTS.
2. For any new construction/modification on a property that utilizes an OWTS.
3. For any project proposing to utilize an existing OWTS.
4. As required by the Department.

## CHAPTER 8 – OWTS REQUIRING CORRECTIVE ACTION UNDER TIER 4

Operation of an OWTS that result or will likely result in surfacing effluent, wastewater being discharged to the ground surface, wastewater backing up into plumbing fixtures, or inadequate treatment of wastewater before dispersal moves the OWTS into a Tier 4 status. Tier 4 requires corrective action to mitigate any risk to public health or contamination of the environment.

### **Corrective Action Requirements**

1. The Department will investigate allegations of an OWTS failure to determine the validity of the complaint.
2. Any OWTS that is found to be failing shall have a notice of violation issued to the property owner and/or tenant requiring action to eliminate the immediate health hazard in an approved manner. The notice of violation may also require a repair to be completed to the OWTS as needed within a reasonable time frame.
3. The proposed repair shall be evaluated by the Department to ensure it meets the minimum design requirements of this LAMP or is in substantial conformance to the greatest extent practicable.
4. The repair shall be completed under permit and inspection by the Department.
5. Failure to complete the required corrective action within the time frames given may result in additional enforcement action.

### **Substandard/Failing Systems**

All OWTS within Riverside County that do not meet minimum design requirements of this LAMP shall be deemed substandard. Sites with substandard OWTS shall be prohibited from having future additions or modifications to the property that would potentially increase wastewater flow to the OWTS. Systems that are failing or determined to be undersized must be repaired/modified before the Department will allow improvements that decrease the amount of usable area available for the OWTS. Cesspools of any kind or size are prohibited.

### **OWTS Destruction**

An OWTS that is deemed substandard must be destroyed to prevent continued use and to eliminate any risk to public health and the environment. These methods of destruction apply to OWTS that are intended to be abandoned for reasons other than failure.

1. Prior to destruction of the OWTS, a permit from this Department is required. Fees must be paid at time of application and the destruction application shall include a plot plan showing the layout of the existing OWTS to be destroyed.
2. Prior to destruction, all wastewater in the tank, in accessible parts of the seepage pits, or on the surface of the ground shall be removed by a liquid waste hauler

approved by this Department. Documentation from the liquid waste hauler shall be provided to the Department upon request.

3. Tanks and seepage pits shall be removed or filled with earth, sand, gravel, or concrete. Tanks to be filled must have the top removed prior to filling unless concrete slurry is piped into the tank. Filled tanks must be inspected prior to being buried.

## CHAPTER 9 – DATA COLLECTION AND REPORTING

### Data Collection/Reporting/Notifications

As a condition of oversight of OWTS within Riverside County, the Department has certain responsibilities related to data collection and reporting to the Colorado River Basin, Santa Ana, and San Diego Regional Water Quality Control Boards (Regional Water Boards) as well as in some instances to the owners of water systems and the State Water Board's Division of Drinking Water (DDW). This Chapter will detail the data that must be collected and the procedure for reporting to Regional Water Boards and notifications to owners of water systems and the State Water Board DDW.

### Reporting to Regional Water Boards

On an annual basis, the Department will collect data and report in tabular spreadsheet format the following information. A copy of the report will be provided to the Colorado River Basin, Santa Ana and San Diego Regional Water Boards no later than February 1<sup>st</sup> of each year and will include the preceding reporting period of January 1<sup>st</sup> to December 31<sup>st</sup>. At minimum, the annual report will include data for nitrates and pathogens from the following:

1. Random well samples from domestic wells (if reported).
2. Routine real estate transfer samples (if reported).
3. Water quality data reported to the LPA for public water systems with less than 200 service connections.
4. Water quality data from initial domestic well sampling.
5. The number, location, and description of permits issued for new and replacement OWTS.
6. Additional water quality data from sampling performed as part of an NPDES permit or as part of a Waste Discharge Requirement, as reported to us by the responsible agency.
7. The volume, location of disposal, and hauler for all liquid waste disposal of septage.
8. The quantity and location of complaints pertaining to OWTS specifying which complaints were investigated and how the complaints were resolved.

**Note:** The Department will direct all public water systems, with less than 200 service connections, to submit all required groundwater sample results through electronic data transfer (EDT) to the DDW.

Every fifth year, the Department will submit an assessment report to the applicable regional water boards. At a minimum, this assessment report will include monitoring data for nitrates and pathogens. Report may also include data for other constituents which are needed to adequately characterize the impacts of OWTS on water quality. If water quality is found to be impacted by OWTS, as determined by the Regional Water Board and the Department, changes in the LAMP will be implemented to address these impacts.



## CHAPTER 10 – IMPAIRED WATER BODIES AND AREAS OF SPECIAL CONCERN

Existing, new and replacement OWTS that are near impaired water bodies may be addressed by a TMDL and its implementation program, or special provisions contained in a LAMP. If there is no TMDL or special provisions, new or replacement OWTS within 600 feet of impaired water bodies listed in Attachment 2 of the State’s OWTS Policy must meet the applicable specific requirements found in Tier 3 of the State’s OWTS Policy (See Appendix VIII).

Currently, there are six (6) impaired water bodies in Riverside County listed in Attachment 2 of the State’s OWTS Policy: Canyon Lake; Fulmor Lake; Golden Star Creek; Santa Ana River, Reach 2; Temescal Creek, Reach 6 (Elsinore Groundwater sub basin boundary to Lake Elsinore Outlet); and Palo Verde Outfall Drain and Lagoon. The Department will follow the applicable specific requirements found in Tier 3 of the State’s OWTS Policy or develop and obtain approval from the Regional Water Board of its own Advanced Protection Management Program.

The following areas of special concern either prohibit waste discharge or have additional discharge requirements:

1. Mission Springs or Desert Hot Springs Aquifer
  - a. The discharge of waste from new or existing OWTS on parcels of less than one-half acre that overlie the Mission Creek Aquifer or the Desert Hot Springs Aquifer in Riverside County is prohibited, if a sewer system is available.
  - b. For parcels of one-half acre or greater that overlie the Mission Creek Aquifer or the Desert Hot Springs Aquifer in Riverside County, the maximum number of equivalent dwelling units with OWTS shall be two per acre., The discharge of waste from additional new or existing OWTS is prohibited, if a sewer system is available.
2. Cathedral City Cove Prohibition Area - the discharge of wastewater into the ground through the use of OWTS in the Cove area of Cathedral City in Riverside County is prohibited.
3. Cherry Valley Community of Interest (CVCOI) – Rising nitrate levels have been observed in the CVCOI. In accordance with Riverside County Ordinance 871, the following prohibitions are in place in the CVCOI:
  - a. No application for a new OWTS shall be accepted for any lot within the CVCOI unless that system is designed to remove no less than fifty percent (50%) of the nitrogen released in the effluent.
  - b. No existing system in the area shall be expanded or otherwise modified to accommodate new construction and/or additional wastewater generating fixtures or appliances unless OWTS is replaced or retrofitted with a design that is sized appropriately to handle the additional wastewater flows and can remove no less than fifty percent (50%) of the nitrogen released in the effluent.
4. I-10 Corridor at North Indian Canyon Drive and Interstate 10 – New developers must submit a Report of Waste Discharge (ROWD) and application for Waste Discharge Requirements (WDRs) to the Colorado River Basin Water Board for permitting. The

area overlies a high-quality groundwater aquifer with a drinking water beneficial use. Due to increasing business development in the area, the Colorado River Basin Water Board requires the use of ATs for nitrogen removal for new installations. The ATs must have the capability of removing no less than fifty percent (50%) of the nitrogen released in the effluent. The boundaries of the I-10 Corridor shall be defined as one and one-half miles east and west of the Interstate 10 and Indian Canyon Drive interchange and one and one half miles north and south of the Interstate 10 and Indian Canyon Drive interchange.

5. Quail Valley – Because of small lot sizes, high population density, historical failure rates, poor soil conditions, and variable groundwater levels, the following prohibitions are in place on any new OWTS in accordance with Riverside County Ordinance 856:
  - a. No new OWTS shall be approved for any lot or parcel within the prohibited area.
  - b. No existing OWTS in the prohibited area shall be expanded or otherwise modified to accommodate new construction and/or additional wastewater generating fixtures or appliances.

Note: Special testing requirements shall apply for conventional OWTS proposed in non-prohibition areas of Quail Valley.

6. Temecula Valley Wine Country – Potential siting and operational requirements for protection of water quality could include establishing increased setbacks from capture zones for existing public supply wells, requiring use of ATs and flow limits/restrictions for new or replacement OWTS located within close proximity to capture zones of public supply wells, additional monitoring requirements, etc. Commercial projects with a maximum effluent flowrate greater than 1200 gallons per day must connect to sewer when sewer is within 200 feet of the property line. If a sewer connection is unavailable, the commercial project will be referred to the San Diego Water Board for temporary permitting until sewer is available. See Appendix IX for a map of area designated as Temecula Valley Wine Country.
7. Homeland/Romoland Prohibition – The prohibition of new OWTS in this area has been in place since 1982. New OWTS are prohibited unless exemption criteria are met.
8. Other areas which may be identified as a special concern by the Regional Water Board at a later date.

## CHAPTER 11 – PUBLIC EDUCATION AND OUTREACH

An OWTS is a significant investment for the property owner especially with the increased costs of newer systems or those that depend on supplemental treatment. Yet, there is a lot of myth and misinformation about how to operate and maintain an OWTS. Education and outreach is critical to supporting an informed homeowner who is better able to assure proper use and operation of an OWTS. Accurate information and education help reduce the chance of failure from an improperly designed or poorly maintained system and protects public health and the environment.

### **Direct Staff Contact**

Education and outreach is achieved primarily by direct interaction between the Department's staff and the public. Specialists receive and respond to phone calls and office visits by property owners, consultants and contractors and answer questions regarding the regulations and/or the permit process. As part of the Department's role in the planning process, we regularly answer questions and provide input to consultants, other departments, agencies, members of the Planning Commission, and the Board of Supervisors.

### **Department Website**

The Department website ([www.rivcoeh.org](http://www.rivcoeh.org)) provides links to the LAMP, applicable county ordinances, various informational bulletins, brochures on proper OWTS maintenance, permit application forms, and office locations with contact information. Our website is updated on a regular basis to provide current information relating to OWTS and land use issues.

### **Community Outreach**

The Department educates the public and stays current with community concerns. Staff routinely attend and participate in local town hall meetings, community councils, advisory committees, land development meetings, planning commission proceedings, and various health and safety fairs.

### **Voluntary Well Monitoring Program**

At this time Riverside County does not have a voluntary well monitoring program. As part of its annual report, the County will explore the implementation of such a program.

APPENDIX I – PERC DATA SHEET FOR SEEPAGE PITS – FIELD COPY

Perc Data Sheet – Field Copy (Seepage Pits)

Project:		Job No.	
Test Hole No.	Tested by:		Date:
Depth of Hole as Drilled:	Before Test:	After Test:	
Pre-soak Date:	Start Time:		Stop Time:
Perc Test Date:	Start Time:		Stop Time:

Reading No.	Time	Time Interval (Min)	Total Depth of Hole (Ft)	Initial Water Level (Ft)	Final Water Level (Ft)	▲ In Water Level (Ft)	Comments
	_____						
	_____						
	_____						
	_____						
	_____						
	_____						
	_____						
	_____						
	_____						
	_____						
	_____						
	_____						
	_____						
	_____						

## APPENDIX II – FINAL TEST DATA SHEET FOR SEEPAGE PITS

### Final Test Data Sheet – Seepage Pits

$$Q = \frac{(F/T) \times (D \times 9)}{L \text{ (Avg.)}} \quad \text{or} \quad Q = \frac{R \times D \times 9}{L}$$

Where R = F/T in ft./hr.

Q = Rate in gallons/sq. ft. of sidewall per day of septic tank effluent

F = Drop during time interval in feet

T = Time interval in hours

D = Diameter of hole in feet

L (Avg.) = Average wetted depth during time interval in feet; Minimum depth is 10 feet.

Project:		Date:	
By:		Remarks:	
Boring No.	Dia.	Depth Before:	Depth After:
Pre-soak Date:		Start Time:	Stop Time:
Perc Test Date:		Start Time:	Stop Time:

Time Read (Min)	Time Interval (Min)	Fall (Ft)	Time Int. (Hr.)	Rate (Ft/Hr.)	Wall Length <sup>1</sup> / Wall Length <sup>2</sup>	Avg. Wall Length (Ft.)	Q (gal / s.f./day)
_____					_____		
_____					_____		
_____					_____		
_____					_____		
_____					_____		
_____					_____		
_____					_____		
_____					_____		
_____					_____		
_____					_____		
_____					_____		
_____					_____		

<sup>1</sup>Initial Water Column Height

<sup>2</sup>Final Water Column Height

APPENDIX III – EXAMPLE OF SEEPAGE PIT DATA ENTRY

Typical Example of Seepage Pit Data Entry

Falling Head Perc Data Sheet – Field Copy

Reading No.	Time	Time Interval (Min)	Total Depth of Hole (Ft)	Initial Water Level (Ft)	Final Water Level (Ft)	▲ In Water Level (Ft)	Comments
1	<u>10:25</u>		35	3.0			
2	<u>10:55</u>	30	34		8.0	5.0	
3	<u>11:00</u>		34	3.0			
4	<u>11:30</u>	30	33		7.4	4.4	

Final Test Data – Seepage Pits

Time Read (Min)	Time Interval (Min)	Fall (Ft)	Time Int. (Hr.)	Rate (Ft/Hr.)	Wall Length <sup>1</sup> / Wall Length <sup>2</sup>	Avg. Wall Length (Ft.)	Q (gal / s.f./day)
<u>10:25</u>	30	5.0	0.5	10	<u>35-2=32</u>	29	1.55
10:55					34-8=26		
<u>11:00</u>	30	4.4	0.5	8.8	<u>34-3=31</u>	28.3	1.40
11:30					33-7.4=25.6		

## APPENDIX IV – LEACH FIELD PERCOLATION DATA SHEET

### Leach Line Percolation Data Sheet

Project		Job No.	
Test Hole No.		Date Excavated:	
Depth of Test Hole:		Soil Classification:	
Check for Sandy Soil Criteria Tested by:			
Actual Percolation Tested by:			
Pre-soak Date:		Start Time:	Stop Time:
Perc Test Date:		Start Time:	Stop Time:

### Sandy Soil Criteria Test

Trial No.	Time	Time Interval (Min)	Initial Water Level (Inches)	Final Water Level (Inches)	▲ in Water Level (Inches)
1	_____				
2	_____				

Use: Normal Sandy (Circle One) Soil Criteria

Time	Time Interval (Min)	Total Elapsed Time (Min)	Initial Water Level (Inches)	Final Water Level (Inches)	▲ in Water Level (Inches)	Percolation Rate (Min/Inch)
_____						
_____						
_____						
_____						
_____						
_____						
_____						
_____						
_____						

APPENDIX V – DEEP BORING SOIL PROFILE DATA SHEET

Deep Boring Soil Profile

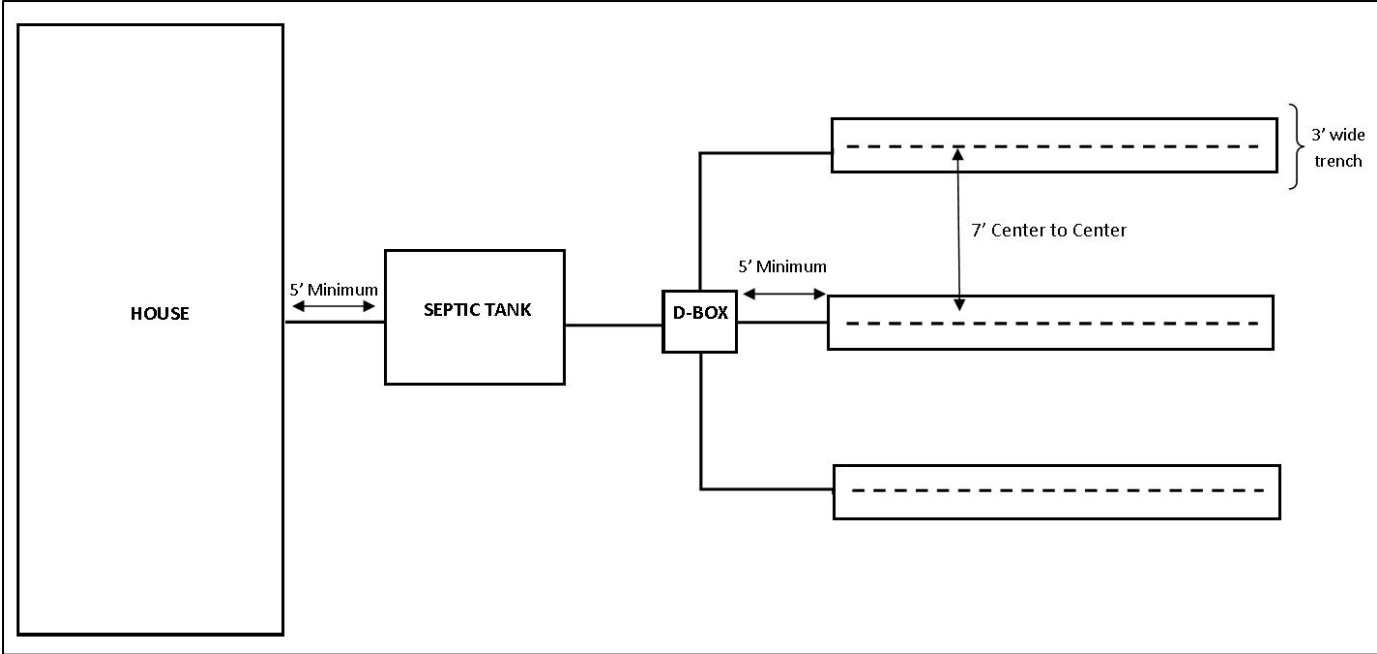
Field Log No.			
Job No.		Date:	Elevation:
Project Name:		Reference	
Logged by:		Location:	
Assistant:		Water Level:	
Drilling Company:		Time:	
		Setup:	Start:     Stop:
Drilling Method:		Driving Weight:	Drop Height:

Depth (Feet)	Samples	Blow Count	USCS Symbol	Material Description (consistency, moisture, color)	Remarks

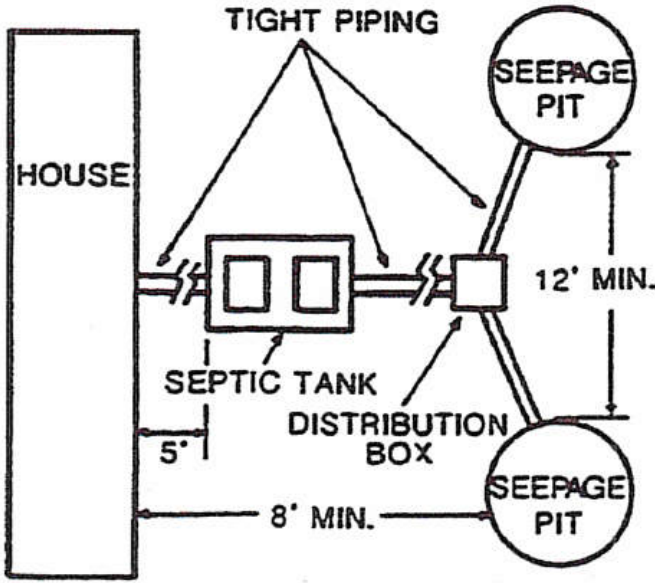
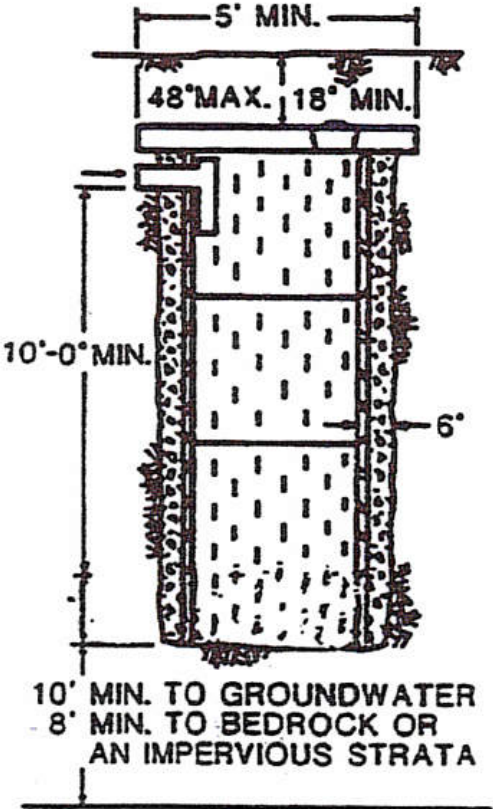


APPENDIX VI – TYPICAL LEACH LINE AND SEEPAGE PIT

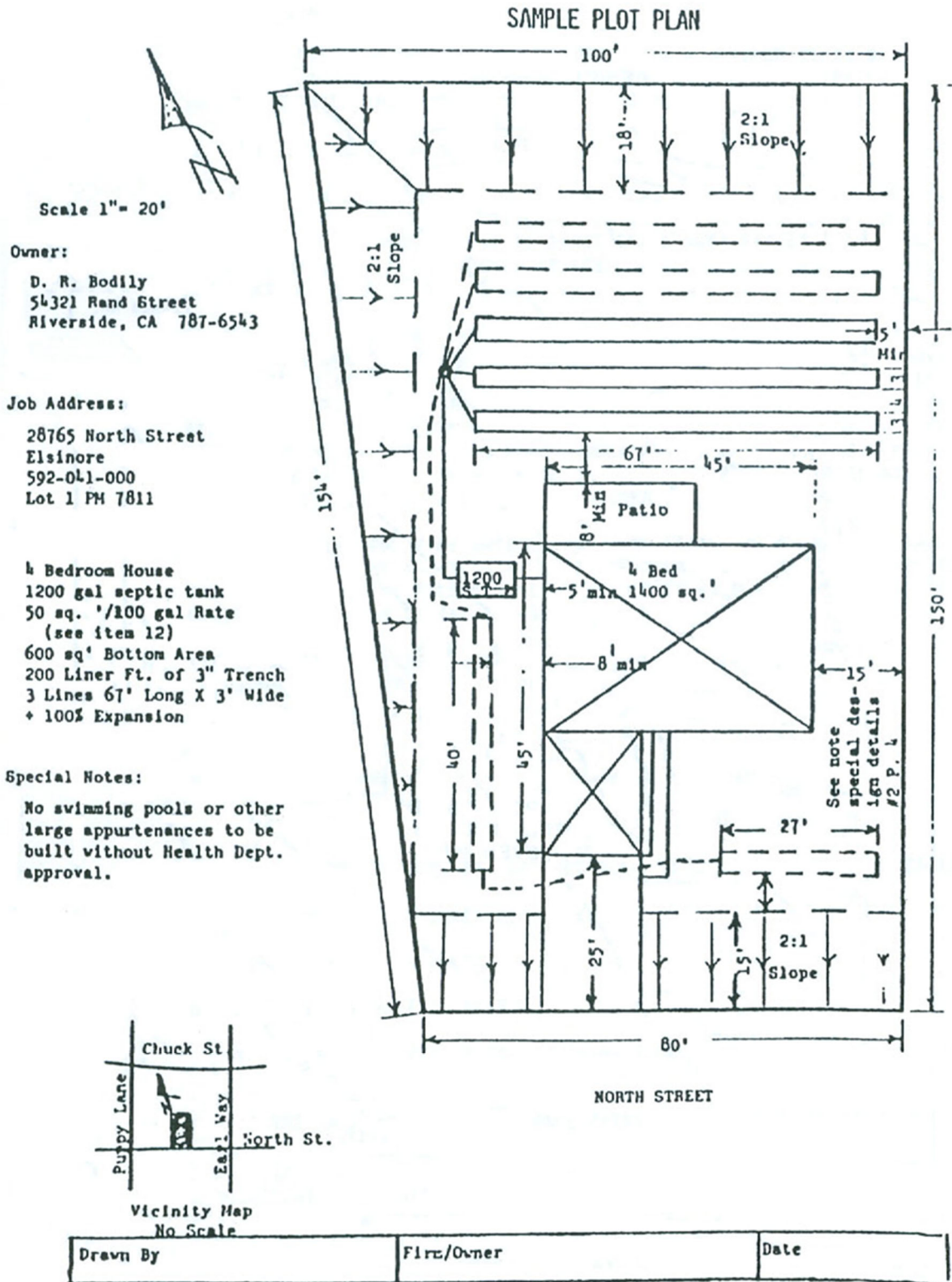
LEACH LINE DESIGN



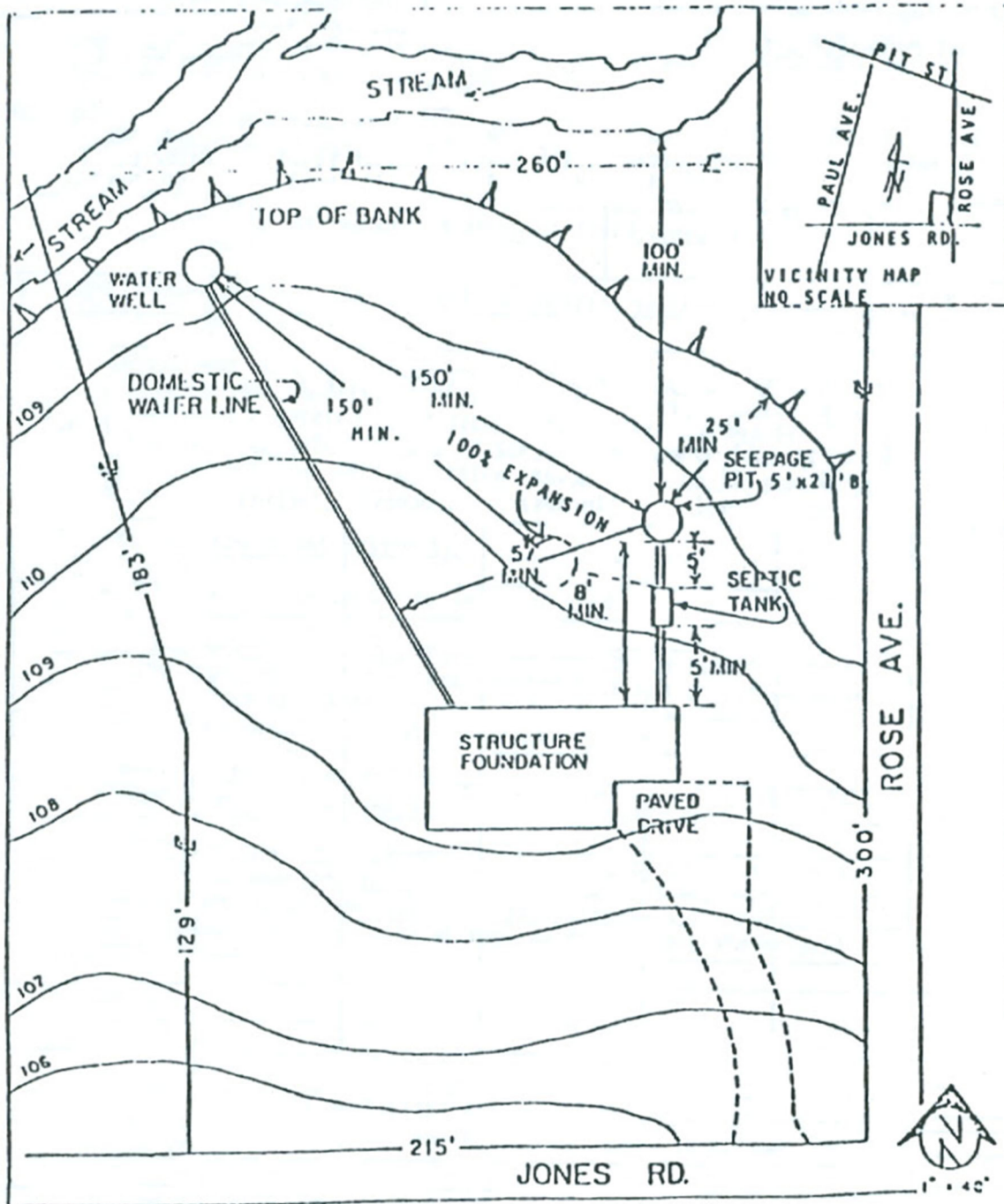
SEEPAGE PIT DESIGN



APPENDIX VII - SAMPLE PLOT PLANS



**SAMPLE PLOT PLAN  
SHOWING SEEPAGE PIT AND PROPER SETBACKS**



**OWNER**  
J. SMITH  
420 4TH ST.  
RIVERSIDE, CA  
PH. 787-2852

**JOB ADDRESS**  
24315 JONES RD.  
ELSINORE, CA  
592-041-000  
LOT 10 PH 2478

**SYSTEM DESIGN**  
3 BEDROOM HOUSE  
1000 GAL SEPTIC TANK  
3 GAL/SQ. /DAY  
1-5' x 21' BELOW INLET  
SEEPAGE PIT

**DRAWN BY**  
C E ENGINEERING  
BOB SMITH  
8-12-80

## APPENDIX VIII – TIER 3 IMPAIRED AREAS (FROM STATE OWTS POLICY)

### **Tier 3 – Advanced Protection Management Programs for Impaired Areas**

Existing, new, and replacement OWTS that are near impaired water bodies may be addressed by a TMDL and its implementation program, or special provisions contained in a Local Agency Management Program. If there is no TMDL or special provisions, new or replacement OWTS within 600 feet of impaired water bodies listed in Attachment 2 must meet the applicable specific requirements of Tier 3.

#### **10.0 Advanced Protection Management Program**

An Advanced Protection Management Program is the minimum required management program for all OWTS located near a water body that has been listed as impaired due to nitrogen or pathogen indicators pursuant to Section 303(d) of the Clean Water Act. Local agencies are authorized to implement Advanced Protection Management Programs in conjunction with an approved Local Agency Management Program or, if there is no approved Local Agency Management Program, Tier 1. Local agencies are encouraged to collaborate with the Regional Water Boards by sharing any information pertaining to the impairment, provide advice on potential remedies, and regulate OWTS to the extent that their authority allows for the improvement of the impairment.

10.1 The geographic area for each water body's Advanced Protection Management Program is defined by the applicable TMDL, if one has been approved. If there is not an approved TMDL, it is defined by an approved Local Agency Management Program, if it contains special provisions for that water body. If it is not defined in an approved TMDL or Local Agency Management Program, it shall be 600 linear feet [in the horizontal (map) direction] of a water body listed in Attachment 2 where the edge of that water body is the natural or levied bank for creeks and rivers, the high water mark for lakes and reservoirs, and the mean high tide line for tidally influenced water bodies, as appropriate. OWTS near impaired water bodies that are not listed on Attachment 2, and do not have a TMDL and are not covered by a Local Agency Management Program with special provisions, are not addressed by Tier 3.

10.2 The requirements of an Advanced Protection Management Program will be in accordance with a TMDL implementation plan, if one has been adopted to address the impairment. An adopted TMDL implementation plan supersedes all other requirements in Tier 3. All TMDL implementation plans adopted after the effective date of this Policy that contain load allocations for OWTS shall include a schedule that requires compliance with the load allocations as soon as practicable, given the watershed-specific circumstances. The schedule shall require that OWTS implementation actions for OWTS installed prior to the TMDL implementation plan's effective date shall commence within 3 years after the TMDL implementation plan's effective date, and that OWTS implementation actions for OWTS installed after the TMDL implementation plan's effective date shall commence immediately. The TMDL implementation plan may use some or all of the Tier 3 requirements and shall establish the applicable area of

implementation for OWTS requirements within the watershed. For those impaired water bodies that do have an adopted TMDL addressing the impairment, but the TMDL does not assign a load allocation to OWTS, no further action is required unless the TMDL is modified at some point in the future to include actions for OWTS. Existing, new, and replacement OWTS that are near impaired water bodies and are covered by a Basin Plan prohibition must also comply with the terms of the prohibition, as provided in Section 2.1.

10.3 In the absence of an adopted TMDL implementation plan, the requirements of an Advanced Protection Management Program will consist of any special provisions for the water body if any such provisions have been approved as part of a Local Agency Management Program.

10.4 The Regional Water Boards shall adopt TMDLs for impaired water bodies identified in Attachment 2, in accordance with the specified dates.

10.4.1 If a Regional Water Board does not complete a TMDL within two years of the time period specified in Attachment 2, coverage under this Policy's waiver of waste discharge requirements shall expire for any OWTS that has any part of its dispersal system discharging within the geographic area of an Advanced Protection Management Program. The Regional Water Board shall issue waste discharge requirements, general waste discharge requirements, waivers of waste discharge requirements, or require corrective action for such OWTS. The Regional Water Board will consider the following when establishing the waste discharge requirements, general waste discharge requirements, waivers of waste discharge requirements, or requirement for corrective action:

10.4.1.1 Whether supplemental treatment should be required.

10.4.1.2 Whether routine inspection of the OWTS should be required.

10.4.1.3 Whether monitoring of surface and groundwater should be performed.

10.4.1.4 The collection of a fee for those OWTS covered by the order.

10.4.1.5 Whether owners of previously-constructed OWTS should file a report by a qualified professional in accordance with section 10.5.

10.4.1.6 Whether owners of new or replacement OWTS should file a report of waste discharge with additional supporting technical information as required by the Regional Water Board.

10.5 If the Regional Water Board requires owners of OWTS to submit a qualified professional's report pursuant to Section 10.4.1.5, the report shall include a determination of whether the OWTS is functioning properly and as designed or requires corrective actions per Tier 4, and regardless of its state of function, whether it is contributing to impairment of the water body.

10.5.1 The qualified professional's report may also include, but is not limited to:

10.5.1.1 A general description of system components, their physical layout, and horizontal setback distances from property lines, buildings, wells, and surface waters.

10.5.1.2 A description of the type of wastewater discharged to the OWTS such as domestic, commercial, or industrial and classification of it as domestic wastewater or high-strength waste.

10.5.1.3 A determination of the systems design flow and the volume of wastewater discharged daily derived from water use, either estimated or actual if metered.

10.5.1.4 A description of the septic tank, including age, size, material of construction, internal and external condition, water level, scum layer thickness, depth of solids, and the results of a one-hour hydrostatic test.

10.5.1.5 A description of the distribution box, dosing siphon, or distribution pump, and if flow is being equally distributed throughout the dispersal system, as well as any evidence of solids carryover, clear water infiltration, or evidence of system backup.

10.5.1.6 A description of the dispersal system including signs of hydraulic failure, condition of surface vegetation over the dispersal system, level of ponding above the infiltrative surface within the dispersal system, other possible sources of hydraulic loading to the dispersal area, and depth of the seasonally high groundwater level.

10.5.1.7 A determination of whether the OWTS is discharging to the ground's surface.

10.5.1.8 For a water body listed as an impaired water body for pathogens, a determination of the OWTS dispersal system's separation from its deepest most infiltrative surface to the highest seasonal groundwater level or fractured bedrock.

10.5.1.9 For a water body listed as an impaired water body for nitrogen, a determination of whether the groundwater under the dispersal field is reaching the water body, and a description of the method used to make the determination.

10.6 For new, replacement, and existing OWTS in an Advanced Protection Management Program, the following are not covered by this Policy's waiver but may be authorized by a separate Regional Water Board order:

10.6.1 Cesspools of any kind or size.

10.6.2 OWTS receiving a projected flow over 10,000 gallons per day.

10.6.3 OWTS that utilize any form of effluent disposal on or above the ground surface.

10.6.4 Slopes greater than 30 percent without a slope stability report approved by a registered professional.

10.6.5 Decreased leaching area for IAPMO certified dispersal systems using a multiplier less than 0.70.

10.6.6 OWTS utilizing supplemental treatment without requirements for periodic monitoring or inspections.

10.6.7 OWTS dedicated to receiving significant amounts of wastes dumped from RV holding tanks.

10.6.8 Separation of the bottom of dispersal system to groundwater less than two (2) feet, except for seepage pits, which shall not be less than 10 feet.

10.6.9 Minimum horizontal setbacks less than any of the following:

10.6.9.1 150 feet from a public water well where the depth of the effluent dispersal system does not exceed 10 feet in depth;

10.6.9.2 200 feet from a public water well where the depth of the effluent dispersal system exceeds 10 feet in depth:

10.6.9.3 Where the effluent dispersal system is within 600 feet of a public water well and exceeds 20 feet in depth the horizontal setback required to achieve a two-year travel time for microbiological contaminants shall be evaluated. A qualified professional shall conduct this evaluation. However in no case shall the setback be less than 200 feet.

10.6.9.4 Where the effluent dispersal system is within 1,200 feet from a public water systems' surface water intake point, within the catchment of the drainage, and located such that it may impact water quality at the intake point such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 400 feet from the high water mark of the reservoir, lake or flowing water body.

10.6.9.5 Where the effluent dispersal system is located more than 1,200 feet but less than 2,500 feet from a public water systems' surface water intake point, within the catchment of the drainage, and located such that it may impact water quality at the intake point such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 200 feet from the high water mark of the reservoir, lake or flowing water body.

10.6.9.6 For replacement OWTS that do not meet the above horizontal separation requirements, the replacement OWTS shall meet the horizontal separation to the greatest extent practicable. In such case, the replacement OWTS shall utilize supplemental treatment and other mitigation measures.

10.6.9.7 For new OWTS, installed on parcels of record existing at the time of the effective date of this Policy, that cannot meet the above horizontal separation requirements, the OWTS shall meet the horizontal separation to the greatest extent practicable and shall utilize supplemental treatment for pathogens as specified in section 10.10 and any other mitigation measures as prescribed by the permitting authority.

10.7 The requirements contained in Section 10 shall not apply to owners of OWTS that are constructed and operating, or permitted, on or prior to the date that the nearby water body is added to Attachment 2 who commit by way of a legally binding document to connect to a centralized wastewater collection and treatment system regulated through WDRs as specified within the following timeframes:

10.7.1 The owner must sign the document within forty-eight months of the date that the nearby water body is initially listed on Attachment 2.

10.7.2 The specified date for the connection to the centralized community wastewater collection and treatment system shall not extend beyond nine years following the date that the nearby water body is added to Attachment 2.

10.8 In the absence of an adopted TMDL implementation plan or Local Agency Management Program containing special provisions for the water body, all new or replacement OWTS permitted after the date that the water body is initially listed in Attachment 2 that have any discharge within the geographic area of an Advanced Protection Management Program shall meet the following requirements:

10.8.1 Utilize supplemental treatment and meet performance requirements in 10.9 if impaired for nitrogen and 10.10 if impaired for pathogens,

10.8.2 Comply with the setback requirements of Section 7.5.1 to 7.5.5, and

10.8.3 Comply with any applicable Local Agency Management Program requirements.

10.9 Supplemental treatment requirements for nitrogen

10.9.1 Effluent from the supplemental treatment components designed to reduce nitrogen shall be certified by NSF, or other approved third party tester, to meet a 50 percent reduction in total nitrogen when comparing the 30-day average influent to the 30-day average effluent.

10.9.2 Where a drip-line dispersal system is used to enhance vegetative nitrogen uptake, the dispersal system shall have at least six (6) inches of soil cover.

10.10 Supplemental treatment requirements for pathogens

10.10.1 Supplemental treatment components designed to perform disinfection shall provide sufficient pretreatment of the wastewater so that effluent from the supplemental treatment components does not exceed a 30-day average TSS of 30 mg/L and shall further achieve an



effluent fecal coliform bacteria concentration less than or equal to 200 Most Probable Number (MPN) per 100 milliliters.

10.10.2 The minimum soil depth and the minimum depth to the anticipated highest level of groundwater below the bottom of the dispersal system shall not be less than three (3) feet. All dispersal systems shall have at least twelve (12) inches of soil cover.

10.11 OWTS in an Advanced Protection Management Program with supplemental treatment shall be designed to meet the applicable performance requirements above and shall be stamped or approved by a Qualified Professional.

10.12 Prior to the installation of any proprietary treatment OWTS in an Advanced Protection Management Program, all such treatment components shall be tested by an independent third party testing laboratory.

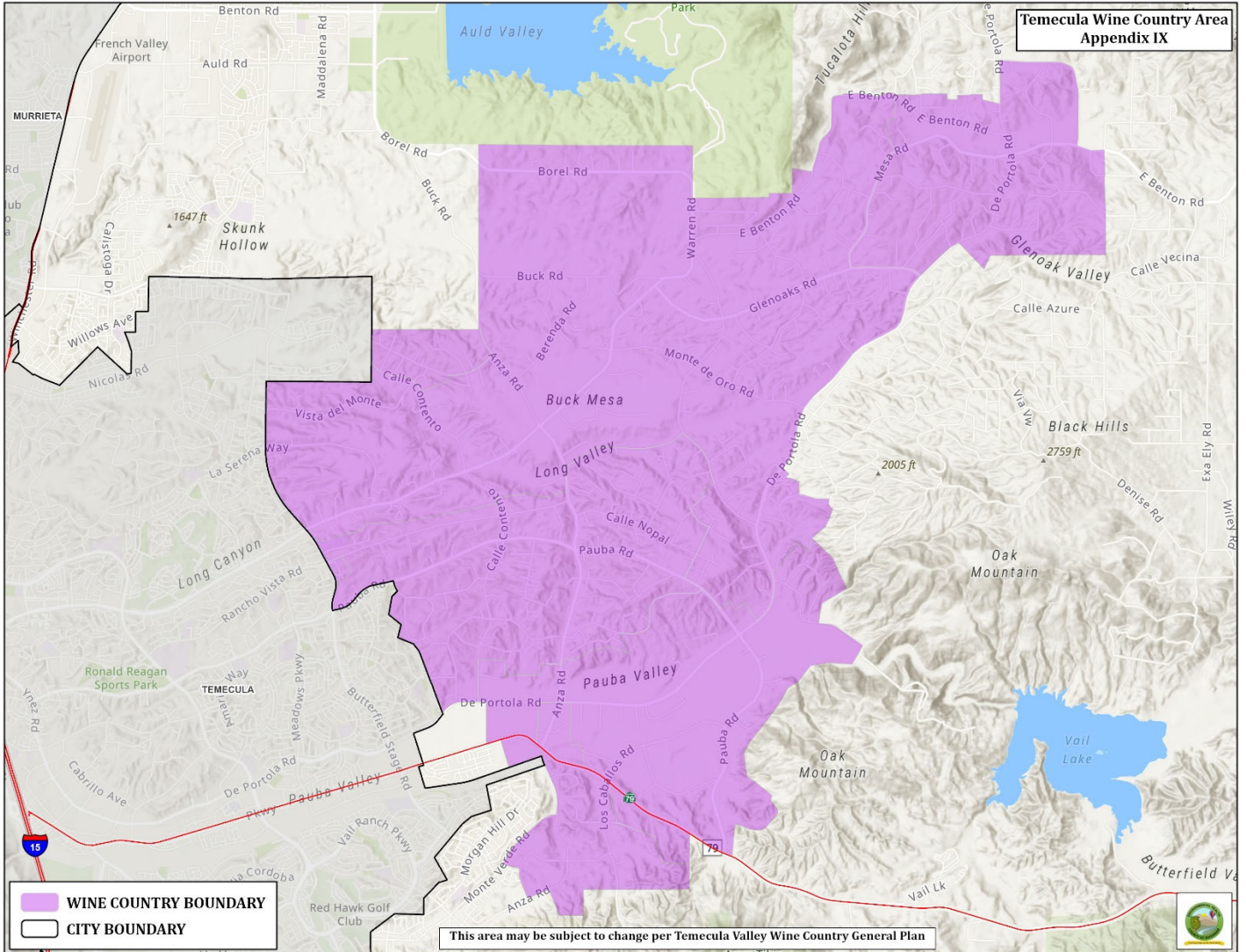
10.13 The ongoing monitoring of OWTS in an Advanced Protection Management Program with supplemental treatment components designed to meet the performance requirements in Sections 10.9 and 10.10 shall be monitored in accordance with the operation and maintenance manual for the OWTS or more frequently as required by the local agency or Regional Water Board.

10.14 OWTS in an Advanced Protection Management Program with supplemental treatment components shall be equipped with a visual or audible alarm as well as a telemetric alarm that alerts the owner and service provider in the event of system malfunction. Where telemetry is not possible, the owner or owner's agent shall inspect the system at least monthly while the system is in use as directed and instructed by a service provider and notify the service provider not less than quarterly of the observed operating parameters of the OWTS.

10.15 OWTS in an Advanced Protection Management Program designed to meet the disinfection requirements in Section 10.10 shall be inspected for proper operation quarterly while the system is in use by a service provider unless a telemetric monitoring system is capable of continuously assessing the operation of the disinfection system. Testing of the wastewater flowing from supplemental treatment components that perform disinfection shall be sampled at a point in the system after the treatment components and prior to the dispersal system and shall be conducted quarterly based on analysis of total coliform with a minimum detection limit of 2.2 MPN. All effluent samples must include the geographic coordinates of the sample's location. Effluent samples shall be taken by a service provider and analyzed by a California Department of Public Health certified laboratory.

10.16 The minimum responsibilities of a local agency administering an Advanced Protection Management Program include those prescribed for the Local Agency Management Programs in Section 9.3 of this policy, as well as monitoring owner compliance with Sections 10.13, 10.14, and 10.15.

# APPENDIX IX – TEMECULA VALLEY WINE COUNTRY MAP



## APPENDIX X – RIVERSIDE COUNTY INCORPORATED CITIES – OWTS REGULATIONS INFO

ANY SERVICES NOT IDENTIFIED IN THIS LAMP FOR THE INCORPORATED CONTRACTED CITIES REGARDING OVERSIGHT OF NEW AND EXISTING OWTS ARE NOT WITHIN THE SCOPE OF THE LAMP AND WILL BE THE CITIES' RESPONSIBILITIES.

### **As of the effective date of this LAMP, the following jurisdictions have a Memorandum of Understanding (MOU) with the Department of Environmental Health (DEH):**

- Blythe
  - County services provided: planning review and plan check.
- Coachella
  - County services provided: planning review, plan check and OWTS installation.
- Corona
  - County services provided: planning review, plan check and OWTS installation.
- Lake Elsinore
  - County services provided: planning review, plan check and OWTS installation.
- La Quinta
  - County services provided: planning review and plan check.
- Menifee
  - County services provided: planning review, plan check and OWTS installation.
- Moreno Valley
  - County services provided: planning review and plan check.
- Murrieta
  - County services provided: planning review, plan check and OWTS installation.
- Palm Desert
  - County services provided: planning review and plan check.
- Palm Springs
  - County services provided: planning review and plan check.
- Rancho Mirage
  - County services provided: planning review and plan check.
- Riverside
  - County services provided: planning review and plan check.
- Temecula
  - County services provided: planning review and plan check.
- Wildomar
  - County services provided: planning review, plan check and OWTS installation.

The following cities do not have a formal agreement for OWTS review with DEH:

- Banning
- Beaumont
- Calimesa
- Canyon Lake (all sewer)
- Cathedral City
- Desert Hot Springs

- Eastvale
- Hemet
- Indian Wells
- Indio
- Jurupa Valley
- Norco
- Perris
- San Jacinto