

2428 McGee Avenue
Berkeley, CA 94703
510 845-8625 Land Line
510 910 3420 Mobile
510 845-4606 FAX
Dickson.Bonneau@gmail.com

Bonneau Dickson, P.E.

Consulting Sanitary Engineer

QUALIFICATIONS AS AN EXPERT ON SEPTIC TANKS AND LEACH FIELDS

Mr. Dickson has over forty years-experience in all aspects of studying, designing and constructing water and wastewater facilities, both in the United States and abroad. He has designed approximately 100 septic tank/leach field systems. Over 25 years forensic engineering and expert witness experience on more than 40 cases involving septic systems.

Mariposa County, CA. Lead engineer on design of a \$5 million, EPA Clean Water Grant funded project for three small communities in Mariposa County, CA. Each house had an individual septic tank but disposal was in the community mound systems. At the time, it was the largest mound system ever designed for a site in California. The mound system is a modification of a standard leach field.

Richard Otis, the lead author of the EPA Design Manual for Onsite Wastewater Treatment and Disposal Systems, worked with Mr. Dickson as a subconsultant on this project.

Inadequate Leach Field Construction. Served as expert witness in a case involving the failure of a leach field of a septic tank system at a very large single family home shortly after the leach field was constructed. While channeling the overflowing sewage away from the residence, the home owner contracted Giardia Lamblia and was banned by health officials from working for six weeks at his normal job, which involved food preparation. Investigations revealed that the Contractor had not followed the requirements of the County Health Department and had constructed less leach line than was offered in his proposal.

Septic System Failure. Investigated why the toilet at a rural residence in Contra Costa County would not flush properly. The tenant had called the County Environmental Health Department and the landlord had responded with a retaliatory eviction. Found that the septic tank and leach field had been flooded for a protracted period during wet weather, due apparently to improper grading that the owner had done.

Water System and/or Leach Field Leakage. Prepared a report for an attorney representing an insurance company on a situation where a house owner in San Mateo County alleged that a high groundwater level and the presence of coliform organisms in the groundwater were caused by leaks in the water system and/or a failure of the septic tank/leach field system on the uphill residential lot.

Surfacing Septic Tank Effluent, Oakland, CA. Reviewed voluminous documents and summarized the technical facts for two attorneys for insurance companies, whose insureds were being sued by a downslope neighbor who claimed that their septic systems were discharging on to his property. Interviewed the defendants. Inspected the site. Prepared questions to be put to the plaintiff during depositions.

Stonehurst Subdivision, Contra Costa County. Prepared an evaluation of the sewerage system of an upscale subdivision containing 47 lots. Each house has a septic tank. The effluent from the septic tanks is treated in a recirculating gravel filter and then disposed of in a series of leach fields. The original developer went bankrupt and extensive problems were experienced with the system, primarily in the piping and pumping systems. The homeowners demanded a complete evaluation of the system prior to accepting it from the new developer of the subdivision.

Design of Replacement Septic Tank and Mound System, Marin County. Designed a system to replace a failed leach field. It is likely that the problem was a crushed pipe leading to the leach field rather than the leach field itself, but because the owners of the property had been red-tagged by the County for doing construction without a permit, the County insisted that a new system be installed. Effluent is pumped from the septic tank system to the mound system. Because the property is in the flood plain, the County requires that there be a mound system in order to raise the leach field above the maximum flood level.

Hepatitis Infection from Surfacing Septic Tank Effluent, Marin County. Provided expert technical advice on a suit where the children of a farm worker were alleged to have contracted hepatitis from exposure to surfacing septic tank effluent.

Death from Septic Tank Seepage Pit, Ventura County. Unbeknownst to the present homeowners, the septic tank system of their home was equipped with a seepage pit, rather than a conventional leach field. The seepage pit was about 3-feet in diameter and 25-feet deep. This type of disposal facility had been permitted until approximately 1970 by the local building officials. The top of the seepage pit was covered with a concrete cap, which apparently deteriorated over time. When the six year old child of a neighbor walked on the concrete cap, it collapsed. The child fell into the seepage pit and drowned.

North Bay Septic System. Provided technical review services in a lawsuit involving the construction of a septic tank/mound disposal system on a large private residence. The alleged problems included leaking sewer lines, use of the wrong piping materials, and the location of sewer lines near water lines. Issues included whether the design of the system was within the standard of care and whether the construction of the system was adequate.

Residential Leakage and Drainage Problems. Have investigated leakage and drainage problems in approximately 200 houses. About a dozen of these cases resulted in legal action, in which I was used as an expert.

Failure to Disclose, Leach Field Failure, San Diego, CA. Provided technical advice to an attorney representing sellers of a home who were sued for failing to disclose problems with the leach field. The Sellers had a problem with the leach field a year before selling the house and had had it repaired. The Buyers lived in the house for a year before there was another problem with the leach field. The problem occurred when the average monthly rainfall was double the normal amount. Issues included statistical probability of leach field problems in rainy years, the cost of repair and the Standard of Care.

Permit Application for Mobile Home Park, Placer County, CA. Provided technical advice and an engineers report for permitting the wastewater system in a mobile home park. Estimated the flow, evaluated the sewer system and pumping station, and analyzed the treatment performance of the wastewater lagoon. Provided a water balance for the disposal system. Evaluated the potential for contamination of the well by percolating treated effluent.

Handicapped Housing Development, Monterey County. Provided a conceptual design for an on-site wastewater collection, treatment and disposal system for a 129-unit garden apartment complex for handicapped persons. The design called for a septic tank for each cluster of apartments with a variable grade effluent sewer (VGES) system to convey the septic tank effluent to a package treatment plant. The treatment plant was designed to achieve a high degree of nitrogen removal since nitrate concentrations in the groundwater were an issue in this location. A grinder pump station with a small diameter force main was used. Disposal was designed to include sub-surface drip irrigation and a conventional leach field. The estimated total cost of the system was approximately \$750,000.

Septage Treatment Privatization Evaluation. Evaluated a preliminary proposal from a private party to handle septage for a large Central Valley city. The private company proposed to remove solids using a cloth filter and to use the solids in compost.

Contamination Of Groundwater By A Leachfield, Napa County, CA. Served as an

expert witness in a case where a homeowner found water seeping into an excavation on his property and alleged that it was coming from a neighbor's leachfield.

Evaluation Of A Leachfield For An Expanded Church, Palm Beach County, Florida. Evaluated a proposed leachfield expansion to serve a greatly expanded church. Determined that the leachfield required by County regulations could not be fit on the available site.

Evaluation Of An Onsite Wastewater Treatment And Disposal System For A Restaurant, Marin County, CA. Evaluated a failing onsite wastewater treatment and disposal system. Determined that the design capacity of the system was less than required for the existing flows from the restaurant.

Evaluation Of Groundwater Flow From An Uphill Property, Livermore Valley, CA. Made a preliminary review of a situation in which pipes from an uphill property were discharging into a drainage ditch on a lower property. Advised on possible sources of the water and further actions that might be taken to determine the source of the water.

Evaluation Of The Feasibility Of An Onsite Wastewater System In The Vicinity of Martinez, CA. Evaluated the feasibility of permitting an onsite wastewater system in the Route 4 corridor. Determined that the County had a prohibited zone in the area that would make such a system extremely difficult to permit.

Failing Leachfield, South Santa Clara Valley. Evaluated a failing leachfield at a house that was only five years old. The situation was complicated by multiple possible sources of water in the leachfield and the absence of observation wells. Evaluated remedial steps that had already been made and others that could be undertaken.

Inadequate Septic Tank Inspection, Los Angeles County, CA. As a requirement of the lender, the septic system serving a house for sale was inspected by a septic system service company. Two weeks after the new owner moved in, the system failed. A second septic system service company noted that the earlier inspection was deficient. Provided technical advice on the standard of care for inspection and servicing of septic systems.

Septic System Overflow, Mountain County, CA. Investigated a backup from a septic system into the bathtub of a residence. Determined that during wet weather, the leach field would flood from surface runoff and sewage would back up into the bathtub. This did little damage but a former owner of the house had taken the cap off of a cleanout on the drain piping under the house, which allowed the area beneath the house to be flooded with sewage. The buyers of the house sued the seller and the seller's realtor. Testified at trial.

Failed Institutional Septic Systems, State of Minnesota. Evaluated failing septic systems at two rehabilitation institution sites, where the seller of the businesses had failed to disclose to the purchasers that the systems were failing. Helped find the septic tanks at one of the sites, the locations of which had not been known to the maintenance staff. Learned in discussions with the maintenance staff that the failures of the septic systems had been discussed with the previous management for five to seven years and that the unknown septic tanks at one of the sites had not been pumped for at least 12 years. Determined that one septic tank and both leach fields needed to be replaced. The estimated cost of the repairs was \$400,000.

Flooding Of A House From A Septic System, Atlanta, GA. A plumbing contractor installed a new septic system for an expensive home. A few weeks later, the basement of the home was flooded. Possible sources of the water included: a leaking downstairs toilet; upstairs toilets; heavy rains; and a leak at the cornice of the building. Discovered that during the course of construction, the plumbing contractor had cut two irrigation lines in the vicinity of the leach field and that leakage from the irrigation lines had overwhelmed the septic system and allowed water to flow back into the house. Identified several plumbing code violations in the contractor's work.

Hydrogen Sulfide Poisoning From Improper Septic System Construction, Kentucky. A builder improvised a defective pipe connection on the sanitary drain line between a house and the septic tank. The defective connection allowed the sewage from the house to pool underground at the barn, where it produced high concentrations of hydrogen sulfide gas. The gas killed several animals and sickened children and other animals.

Mobile Home Park Septic Systems, Eastern Riverside County, CA. Evaluated the septic systems serving a mobile home park. The septic systems were found to be grossly inadequate. They were about 50 years old and had received little or no maintenance. Many of the mobile homes discharged their sewage into a ditch on adjoining property.

Shopping Center, Monterey County, CA. Represented an equipment vendor who supplied equipment for a commercial septic tank and soil disposal system. The owner of the property refused to pay for the equipment, claiming that it did not work. Evaluated the treatment capability of the equipment which had in fact been put into service. Found that the equipment did in fact perform as claimed.

Subdivision In Southern Sacramento County, CA. Represented two septic system installers who were being sued by the homeowners association of a large residential subdivision. Each lot in the subdivision had a septic tank and multiple seepage pits. The seepage pits were of an unusual design, which included several feet of wood chips at the bottom. The wood chips were intended to remove nitrogen from the wastewater. The wood chips rotted out and caused settlement of the seepage pits. Numerous other maintenance items were claimed to be construction defects.

Moss Landing Harbor District, CA. Provided technical advice on rehabilitating an unconventional pump station serving restaurants and other commercial buildings. Correctly diagnosed that the pump station was a septic tank that had been converted into a pump station when sewers became available in the area. Designed improvements to allow the pump station to continue in service although it was now in the parking lot of the commercial development.

Septic Tank Manufacturer Law Suit Against The State Of Louisiana. Provided technical advice to the State of Louisiana in a case in which a septic tank manufacturer claimed that changes in the state regulations had caused his stock of septic tanks to be unusable.

Death By Septicity From Gardening In A Leach Field, Southern California. Represented the defense of a septic system installer. A handicapped person who was unable to walk had gardened in the area above the leach field that defendant had constructed, had come down with septicity, and had died. It was alleged that the septicity was due to defective construction of the leach field. Demonstrated that the leach field was correctly constructed and that the wastewater in the leach field was far below the area in which the gardening was done.

Evaluation Of Proposed On-Site Septic System, San Joaquin County, CA. Evaluated a proposed on-site wastewater system on an institutional property. The density proposed for the site greatly exceeded the allowed density and the proposed subsurface wastewater disposal system greatly violated the County design standards. The project was opposed by the local real estate association, but was popular with some politicians.

Alleged Defective Construction Of An On-site Wastewater System, San Joaquin County, CA. Provided technical evaluation for a contractor who was being sued because the leach field system that he built for a commercial operation failed. Determined that the contractor had built the leach field in accordance to the plans and that the problem was that the design of the leach field greatly overestimated the percolation rate of the soil.

Alleged Contamination From Septic System On An Adjoining Property, Napa County, CA. Provided technical advice in defending a homeowner, whose neighbor alleged that seepage from the defendant's septic system was contaminating plaintiff's cellar. Observed tests pits that were dug shortly after heavy rain and documented that there was no lateral flow of water. Discovered that plaintiff had dug the cellar without permits and that the area was known to have high groundwater.

Contamination From A Septic System On An Adjoining Property, Redding, CA. Provided technical advice to a plaintiff who had been accused of contaminating the next door property, where a new house had been recently constructed. Determined that during construction, excavation had been done accidentally on plaintiff's property and had broken the pipe to the leach field.

Mobile Home Park, Southern California. Evaluated numerous defects in the wastewater system of a mobile home park.

Failing Septic System, Santa Clara County, CA. Evaluated an on-site waste water system of a large residence on a steep site.

Sewage Backup Into A Rented House, That Is Served By A Septic System. Shortly after a person rented a house on a lagoon on the Northern California coast, sewage backed up into bathtubs and toilets several times. The owner of the house alleged that the tenant had somehow improperly used the sewer system. My review of the available information revealed that there was a break in the sewer lateral between the house and the septic tank. The break in the lateral was such that some water could pass; backups occurred only when there was heavy water usage. In addition to repairing the lateral, an overflow valve was installed so that any future backups would be into the yard rather than into the bathtubs and toilet.

Prescriptive Easement For A Septic System On An Adjoining Property. The septic tank and leach field serving the caretaker's cottage on a large rural property had been located on an adjoining property for years. The owner of the large rural property sued the owner of the adjacent property for a prescriptive easement to keep the septic tank and leachfield on the adjoining property. My work included an explanation of the history of several repairs and replacements of the septic facilities. The dates when some of the facilities were installed were approximated by the dates of manufacture of some of the piping.

Septic Tank Drowning. Evaluated whether various parties had acted within the Standard of Care in a case where a seven year old boy fell into a septic tank in a mobile home park in Arizona and drowned.

Bootlegged Sewer Connection. A realty company purchased a large apartment complex in central California with the understanding that it was on a septic system. Some months after the purchase, a person from a septic system maintenance company approached the property manager and asked if they needed service on their sewer connection. The buyer informed the maintenance person that they were on a septic system, but the maintenance person showed the buyer that the seller had bootlegged an illegal connection to the City sewer system across the next door lot. My assignment was to make a preliminary design of the improvements that were needed to put the septic system back in operating condition and to estimate the cost of these improvements.

Overseas Experience

Spent approximately six years working in nine countries abroad, primarily on appropriate technology for sanitation and wastewater disposal systems, which includes septic tanks and leach fields. He was a lecturer at the Communicable Disease Control in Developing Countries seminar hosted by the medical school at the University of California at San Francisco on Water and Disease Sanitation, and at a US Agency for International Development Workshop on Excreta Disposal in Unsewered Areas in Washington, D.C.