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Bonneau Dickson, P.E.

Consulting Sanitary Engineer

Forensic & Expert Witness

Bonneau H. Dickson Jr., P.E.

Education: Georgia Institute of Technology
B.S. Civil Engineering -- 1960
M.S. Sanitary Engineering -- 1964

Harvard University
M.A. Sanitary Engineering -- 1965

Harvard Business School
Master of Business Administration -- 1975

Registration: Civil Engineer -- California # 19491

Professional Associations: Water Environment Federation (WEF)
California Water Environment Association (CWEA)
American Water Works Association (AWWA)
National Onsite Water Association (NOWA)
California Onsite Water Association (COWA)
Pipe Users Group Of Northern California (PUG)

Forty years' experience in all aspects of designing and constructing water and wastewater facilities, both in the United States and abroad. Twenty-five years' experience in forensic cases and as an expert witness.

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.

A California Sanitary District. Forensic engineer on the legal team in a case involving various failures in a newly constructed wastewater treatment system expansion. The work

has involved evaluation of: the performance of an innovative advanced wastewater treatment process; operability of the system; leaking and failing levees; and errors and omissions in the design. As leader of the forensic engineering team, I was responsible for identifying and recruiting experts in various fields and coordinating their technical work. A \$5 million claim was made.

A California Community Services District. Made an initial review of a case for a small district, which is being sued by two separate contractors who built a sewage collection system and a new wastewater treatment facility. The issues include design errors and omissions and claims for extensive delays caused by these errors and omissions and by failure to obtain permits and easements in a timely fashion. The total amount of the two claims exceeds \$1 million.

City of Vacaville. Provided technical and construction management advice to the City during negotiation of a \$268,000 claim on a trunk sewer construction project. The major portion of the claim was for excessive pumping costs due to an unforeseen site condition involving more groundwater than was indicated by the contract documents. During design, the City had been persuaded to use custom-made General Provisions rather than the CalTrans General Provisions. The additional protection afforded the owner by various clauses in these custom-made General Provisions greatly strengthened the City's position in rejecting the claim.

Rate Analysis. Provided technical assistance to legal counsel for a sewer district. Analyzed a large increase in rates for the use of joint facilities that was proposed by an outside agency. Provided technical input in the preparation of legal documents seeking injunctive relief.

Placer County, Sewer Maintenance District No. 1. Project manager on treatment plant expansion project. Was in charge of evaluating a problem of low strength concrete. During the pouring of a large chlorine contact basin, field testing of the concrete disclosed that one of the loads of concrete had significantly less strength than required by the specifications. Directed a program of further testing which included analyzing core samples from the defective batch after it had reached full strength. Investigation revealed that the wrong concrete mix had been used due to the use of the wrong computer card at the automated concrete batch plant. Luckily, the substandard concrete was used in an area where there was a deck across the top of the basin. The deck strengthened the structure in this area sufficiently that the lower strength concrete was acceptable.

City of Santee. Construction Manager, Mast Boulevard Extension Project. Construction Manager on this \$10 million road and bridge project, which was completed in September, 1992. The project included negotiation of numerous change orders during the course of the project and several claims at the end of the project.

City of San Leandro. Conducted an evaluation of the structural soundness of two concrete digesters which were almost 50 years old. The Owner feared that seepage of sludge from a horizontal crack around the digesters indicated that the digesters might collapse. The investigation revealed that the crack was at a point of inflection and that structural collapse was unlikely although it would be difficult or impossible to stop the leakage.

Failed Wastewater Treatment Plant. Technical advice on the merits of a law suit against a consulting engineer due to excessive costs and reduced capacity of the processes included in a plant expansion.

Coliform Contamination from a Sewer. Provided advice on the significance of coliform organisms found in soil above a sewer in a law suit involving three homeowners. The downstream homeowner attributed the coliforms to leakage of sewage from the upstream lots but sampling found that the coliform concentrations were lower in the soil near the sewer than on the surface of the plaintiff's lot. The most likely source of the coliforms at the surface was the plaintiff's dogs.

Sewer Backup into Private Residence, Coastal San Mateo County. Expert witness in case where a blockage in a sewer caused flooding of and extensive damage to an expensive residence in San Mateo County. Issues included the adequacy of the sewer maintenance program, sags in the existing sewer, the unusual volume of flow, and the requirement for a backflow preventer. Videos from inspections of the sewer were reviewed and the quantity of liquid which reached the house was estimated.

Sewer Backup into a Store, San Bernardino County. Technical expert in a case where a blockage of a City sewer caused sewage to flood a store in Southern California. The City maintained that the blockage could not have been in the City line since other connected properties did not flood and since the upstream manhole showed no signs of having been flooded. Investigations revealed that other nearby buildings were connected to a different sewer and/or were at a higher elevation than the flooded store. It was also discovered that the person reporting that the upstream manhole showed no signs of having flooded was unaware that a different City crew had rebuilt the manhole subsequent to the incident. When the incident was fully understood, the City paid the full amount of the claim.

Sewer Backup into an Athletic Club, San Mateo County. Expert witness in a case where the mechanical rooms of an athletic club in Northern California were flooded when a City sewage pump station failed. Issues involved whether the level of operation and maintenance of the pump station was within the Standard of Care, Uniform Plumbing Code requirements for the vent piping at the athletic club, and the adequacy of the drawings from which the mechanical rooms were built.

Sewer Backup Through a Backflow Prevention Valve, Southern California. Technical expert in a case where flow from a trunk sewer flooded and severely damaged a million-dollar home in Southern California. The flooding was caused not by a blockage of the trunk sewer, but by the inadequate hydraulic capacity of the sewer. The major issues in the case involved whether having inadequate hydraulic capacity was within the normal Standard of Care and the adequacy of maintenance of an existing backflow prevention valve, which had been installed years before when the house was built, but the existence of which was unknown both to the Sanitary District and to the homeowner.

Inadequate Leach Field Construction, Danville, CA. Served as expert witness in a case involving the failure of a leach field 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, San Mateo County. 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. Prepared questions to be put to the plaintiff during depositions. Testified in a mediation hearing.

Acid Burn of a Wastewater Treatment Plant Employee. Served as technical expert on a case involving a wastewater treatment plant employee who was splashed with acid and severely burned when the piping system on an acid tank suddenly parted. Evaluated field modifications that had been made to the original design of the piping.

Flooding of a Construction Site. Served as technical expert on a case in which a failed valve allowed a construction site to flood. A key question in the assignment dealt with whether the valve design incorporated the recommendations of the valve manufacturer.

Septic Tank Drowning. Technical expert on a case in which the concrete cap over a septic tank deteriorated, then collapsed when a child stepped on it. The child fell into the tank and drowned.

Contaminated Water Supply, Sonoma County. Provided technical expertise on a case in which a tenant in a mobile home on an agricultural property sued due to a contaminated water supply and an overflowing septic tank/leach field system. Determined that the property owner's house was being served with the same water supply that was claimed to be contaminated, that no health official had seen the septic tank overflow, and that the surface discharge was from a kitchen sink that the tenant had plumbed to flow onto a nearby field.

Contamination from a Leach Field. Served as technical expert in a case in which a property owner claimed that his pond was contaminated by the failure of a leach field on the next property uphill. Represented the installer of the leach field. Determined that the leach field piping had been broken by large trucks that had operated on top of it.

Leakage of Lining System at Water Treatment Plant Storage Basins. Expert witness on excessive leakage from lined storage ponds at a water treatment plant.

Injury of a Construction Employee at a Wastewater Treatment Plant. A construction employee was injured when a valve closed unexpectedly, causing an overflow of sewage at the structure where he was working. Investigated the reason for the pneumatically operated valve to close.

Exposure of Worker to Sewage. Technical expert on a case where a worker developed a medical condition, allegedly as the result of contacting sewage.

Flooding of a Home in the Pasadena Area with Sewage. Technical expert on a case where sewage flooded a private home. Reviewed the response of the City crew to the report of the spill and the City procedures for maintaining the sewer system. Discovered deficiencies in the City's record keeping and equipment. The case resulted in the largest judgment ever entered against a public agency in California for inverse condemnation.

Failure of Digester Piping. Expert witness in a case involving leakage from and failure of digester piping.

Mobile Home Park Contamination, North Bay. Technical expert on a case north of San Francisco Bay where the residents sued the owner alleging that the water supply was contaminated and that they had been exposed to sewage.

Sewer Design Standard of Care. Expert witness on a case involving delay claims caused by problems with the design of the sewer system for a large apartment complex. Prepared a certificate for use in filing suit against the design engineer.

Improper Septic Tank Construction, Oakland, CA. Technical expert to a homeowner who discovered after purchase that the septic tank for his residence was located in the garage and that the leach field was inadequate.

Leach Field Failure, San Mateo County, CA. Prepared a report for an attorney representing an insurance company on a situation where a house owner 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.

Septic Tank/Leach Field Failure, Contra Costa County, CA. Evaluated why a toilet served by a septic tank and leach field would not flush for several months during a period of heavy rain. The tenant finally called the health authorities. The owner responded with a retaliatory eviction. Found that the leach field and septic tank were flooded for an extended period, apparently due to grading done by the owner of the property.

Trip and Fall, San Francisco. Served as technical expert on a case in which a sidewalk had subsided, allegedly due to migration of soil through a sewer lateral.

Central Valley City, PCE Leakage from Sewer System. Served as a technical expert to a Central Valley City on a case involving the alleged leakage of perchloroethylene (PCE) discharged by dry cleaning establishments from the city sewer system. Issues addressed included: standard of care for maintenance of the sewer system; which part of the sewer system leaked; the City's procedures over time for permitting dry cleaners; and the reasonableness of the City's response when the PCE problem was discovered.

South Coast City, PCE and TCE Leakage from Sewer System. Declared as expert witness in a case involving groundwater contamination by perchloroethylene (PCE) and trichloroethylene (TCE). The sources of the contaminants were two dry cleaners and one vehicle maintenance facility. The issues addressed by my opinions included: leakage from sewer systems; City maintenance of the sewer system; standards for construction of sewers and laterals; and the interaction of the sewer and the trench system in which it is placed.

Southern California City. Provided expert witness services where a sewer was clogged by roots and backed up into a private residence. The contractor hired by the City to maintain the sewer lines was obligated to inspect every manhole but failed to inspect the manhole where the root blockage occurred because the cover of the manhole was buried at a shallow depth in a planter in the street. Expert testimony involved standards for use of sewer cleaning equipment.

Coastal California City. Expert witness on a case involving back up of sewage into a private home. Blockage of the sewer was caused by root intrusion into the sewer on property other than that which was flooded. Expertise involved standard of care for sewer maintenance.

Health Center vs. City. Provided technical advice on the cause of a backup of sewage into a health facility. The City alleged that the blockage was caused by grease from the facility and cited the facility for not having a grease interceptor as required by City regulations. The City believed the backup was due to grease because grease had been removed from two sewer segments downstream of the health facility. Investigation revealed that the two sewer segments that had had grease problems were laid with inadequate slopes and were designed by the City, but that the real cause of the blockage was an odor control elbow that the City had installed in a downstream manhole. The elbow had slipped loose and blocked the outlet pipe from the manhole.

High Pressure Reclaimed Water Line Failure. Provided expert advice in a case in which a gasket blew out in a 600 PSI reclaimed water line. Reviewed previous reports by the agency and by outside consultants. Issues in the case included the substitution of gaskets and possible stretching of stainless steel bolts in this extremely high pressure application.

Air Release Valve Failure. Expert analysis and advice. When a worker attempted to work on an air release valve, the valve blew loose from a high pressure reclaimed water line severely injuring the worker. Reviewed the reports from OSHA, the agency and other parties. Observed in photographs taken just before the accident occurred that the air release valve was leaning. Noted that the valve was located immediately adjacent to a road through the construction site and concluded that the valve had been struck by a vehicle.

Corrosion Failure of Concrete Trunk Sewers, Tucson, AZ. Provided expert advice in a case where sink holes developed suddenly at three locations along a large concrete trunk sewer. Rebutted a theory that the sinkholes were caused by a broken water main.

North Bay PCE Groundwater Contamination. Provided technical advice to attorneys representing persons who had lived near a dry cleaner and used shallow ground water. The groundwater was found to be contaminated with PCE. Issues involved whether the PCE leakage had come from the building lateral or the sanitary sewer.

Telecommunications Company v. Water District. Provided technical analysis and advice in a case where a telecommunications company bored into a water main while doing horizontal directional drilling. The high rate of flow from the punctured water line damaged the roadway. Issues in the case involved whether the water main had been correctly marked by the water district personnel, the length of time that passed before the water district personnel could shut off the flow of water due to inoperative or concealed valves, the standard of care for exercising valves in the water system, and the reasonableness of the repairs that were done to the roadway.

Claim Against Design Consultant For Failure Of A Wastewater Treatment Plant To Perform After An Improvement Project, Northern California. Served as an expert witness helping defend a design consultant who was being sued because a wastewater treatment plant failed to meet its discharge requirements after an improvement project was constructed. Determined that the facilities that were included in the improvement project had nothing to do with the plant failing to meet its discharge permit and that the plant probably had not been meeting its permit before the construction project. The arbitrators awarded the City not a single penny.