# LEGAL ASPECTS OF SANITARY ENGINEERING FACILITIES

by

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TABLE OF CONTENTS

TOPIC/CASE INDEX

# I. INTRODUCTION

## PURPOSE

Sanitary engineering involves the determination of the need for, planning, design, supervision and inspection of construction, and operation of water treatment and distribution facilities and wastewater collection and treatment facilities. Over the years, many legal problems have arisen which have involved these sanitary engineering functions. Sanitary engineers are primarily employed by consulting engineering firms, municipal and other governmental organizations with the responsibility for furnishing water and wastewater treatment, and governmental organizations whose responsibility it is to enforce standards applicable to water and wastewater treatment. These types of organizations have been involved in litigation related to the various functions of sanitary engineering. Sanitary engineers have been involved in such litigation as parties, i.e., as individuals or organizations; as agents for their clients; or as employees of the types of organizations mentioned.

The past litigation has involved a wide range of legal matters, including enforcement of statutory standards, as well as common law remedies such as nuisance, negligence, water rights, and contracts. Other legal topics, such as eminent domain, easements, and zoning, have been involved to a lesser extent. To date, publications on environmental law have been organized by these traditional legal topics and have been intended primarily for use by lawyers, not engineers. It

is believed that there is a great need for a publication, for use by the sanitary engineering profession, which identifies the engineering problems which have led to litigation and classifies them by engineering topics rather than legal topics. A primary objective of this thesis is to fill that need. Because of the great amount of material available, it has been necessary, as a practical matter, to limit the scope of this thesis to a representative sample of the material available. It is hoped that, in the future, the writer, or someone else who is similarly motivated, can expand the thesis material into a comprehensive, and authoritative, reference which would cover essentially all related reported cases.

## SCOPE

The primary components, or building blocks, of the thesis are the individual cases which have been analyzed and summarized by the writer. Since the source of research material consists of the individual cases themselves, the principal tool has been the West Digest System and the companion National Reporter System, the same principal research tool used by the legal profession. The West Digest system is a multi-volume publication, dating back into the 1800's, which classifies all reported cases into over four hundred legal topics, each of which is further subdivided into many subtopics. Under each topic or subtopic are the headnotes, i.e., short legal summaries of the cases relevant to that topic or subtopic. Each headnote includes the parties involved, the court and state, and reference to the particular National Reporter

System volume where the actual case can be found. Thus, all cases have been cited to the National Reporter System only. Additional legal references such as Corpus Juris Secundum (C.J.S.) and American Jurisprudence (Am. Jur.), authoritative legal enclyclopedias, have been used to furnish more information about certain legal topics. However, the approach used was for the writer to evaluate the actual cases rather than rely on summarized versions given in legal treatises and law journal articles. Therefore, the writer has read every case mentioned in this thesis in addition to others which were not selected for inclusion.

Each case identified as pertaining to sanitary engineering facilities has been summarized with emphasis on the engineering problem involved and classifed as to that problem. Each case summary includes the primary legal issues and the legal rules applied by the court. However, nc attempt has been made to give an exhaustive treatment of the legal rules involved, since that is the function of a legal treatise. After the great majority of the case summaries, the writer has added a commentary, or discussion, of the case. The commentary represents the writer's own evaluation and opinion of the case. Since lawyers, including judges, disagree on what law is applicable to a particular set of facts, it is logical to assume that another person reading the same case might have a different opinion.

Since many trial court decisions do not result in written opinions or, for other reasons, are not submitted for publication, most of the cases are decisions of appellate courts. In order to show the latest

trends and the effects of recently enacted legislation, the research was primarily limited to the last twenty years. Forty-one states are represented, with ten states having five or more cases. Of the 160 cases covered, 13 percent were dated prior to 1970; 49 percent were dated from 1970 to 1979; and 37 percent were dated from 1980 to 1982. The significance of these data will be treated further in the Discussion to the thesis.

It is essential to point out that these decisions have been written by lawyers for lawyers. Thus, engineering facts have been placed secondary to the legal topics. In order to classify cases by engineering topics, several problems are presented. Even though a particular case may involve one engineering issue, it often involves several legal issues. The legal issues have been discussed in the context of the engineering issue, but not in the depth of a legal treatise. The depth of the discussion of the engineering issue varies with the particular case, depending upon the depth reached by the briefs of the lawyers as presented by the court. Often, no matter how extensively the engineering facts have been presented, key facts have been omitted. This depth of discussion of engineering facts, or lack of it, has, of course, been reflected in each summary. Also, just as the majority of the cases have been cited under several legal topics, there are those cases which concern more than one engineering problem. In this instance, the case has been discussed under the predominant engineering issue, and, in specific cases, cited under the secondary engineering topic.

Another problem that the engineering type classification presents is that cases within a particular topic, besides representing different legal issues, represent legal issues of different degrees of significance and engineering facts of varying levels of complexity. However, it must be made very clear that each case originated because the parties involved thought the issues were important, the court thought the issues warranted a hearing, and, by the very nature of the legal system, any case might be cited as a precedent for future court decisions. Undoubtedly, the cases in this thesis involved millions of dollars in litigation costs.

This classification by sanitary engineering topics should enable an engineer reader to determine the problems which have resulted in litigation in the past twenty years, the location of the facilities involved, what the legal issues have been, what the results have been, and when those results were reported. To facilitate the use of this thesis as a research tool by engineers and lawyers, the Topic/Case Index lists all cases under the applicable engineering topics as shown on the Table of Contents along with the page number on which the case summary can be found. Also, the Legal Index lists all cases under the traditional legal topics which can be found in the West Digest System. The Legal Index should be of particular value to lawyers who wish to find additional cases involving a particular legal topic, whether or not it involves sanitary engineering facilities.

Intended for the use of sanitary engineers in the water and wastewater fields, this thesis does not deal with air pollution.

Although the broader aspects of solid waste management have been omitted, the problem of leachate flow from sanitary landfills has been included. Also, because of its immense scope, industrial waste, including toxic and hazardous wastes, has not been included in this thesis. That important subject is worthy of a separate publication which, of necessity, would have a broader scope than feasible in a thesis.

Needless to say, the writer has acquired a substantial amount of knowledge by writing this thesis which is not generally known by sanitary engineers. Because of the great importance of this area of knowledge to the sanitary engineering profession, it is hoped that this thesis will help create an interest on the part of sanitary engineers to learn more about the legal complexities which significantly affect their profession.

## LEGAL OVERVIEW

Not being a lawyer, the writer is not qualified to adequately discuss any or all of the legal principles involved in the cases in this thesis. Within the individual cases the various principles have been discussed to the extent to which they relate to a specific engineering situation. Full discussion of the more important legal topics presented in this thesis is represented in the thousands of pages of the books listed in the bibliography accompanying the Legal Index.

In light of the enormity of information available on these topics, it is logical to this writer to base this discussion on her knowledge

drawn in part from material presented in a text used in environmental law courses, Environmental Law for Engineers, Scientists, and Managers, by Joseph Bockrath. The author is a lawyer.

Common law, as practiced in the United States, is that body of law which originated in Anglo-Saxon England. Not static, it is a law of usage and custom which has been reinterpreted over the years by the courts in their decisions. Thus, it is case law. These common law principles have been modified in some states, enacted into statutory form, and codified. Nonetheless, common law exists as case law, in opposition to statutory law, which has resulted from legislative enactments. The comparison of cases brought to court under common law principles and statutory law is predominant in certain sections of this thesis, specifically effluent discharge cases and septic tank cases.

Of the principles of common law, nuisance and negligence are quite frequently involved in cases in this thesis. Both are tort actions, i.e., civil wrongs, as opposed to criminal wrongs.

A distinction is made between private and public nuisance. Private nuisance is a civil wrong against an individual; it interferes with his proper use of his property. He may bring legal action against the offender. A public nuisance, on the other hand, is an interference of the rights of the public. Thus, it may be a criminal offense, for which the remedy is usually the responsibility of the state. As specific as these differences are, the writer has observed that most of the cases which included nuisance did not specify which was concerned. The courts represented by these cases usually referred only to nuisance.

Law is replete with exceptions and apparent contradictions. Typical of a contradiction which seems illogical to the engineer's way of thinking is the following example: Nuisance is a tort. Bockrath defines a tort as a "private or civil wrong independent of contract." However, he states that private nuisance is a civil wrong and the public nuisance is a criminal offense. There appears to be a contradiction here. It is no wonder that thousands of pages have been written on nuisance. If a general rule is stated, there will follow an exception, which is often followed by another exception.

Concerning sanitary engineering facilities, the theory of nuisance most prevalent in these cases is that a facility is not a nuisance in and of itself, but it can become one by its location, as being in an area prone to flooding, or by the damages caused by effluent from that facility. The courts traditionally place the "burden on proof" on the plaintiff to prove to the court that a nuisance exists. In many cases the burden of proof consists of testimony relating what has been seen or smelled. In other cases, the testimony consists of definite scientific evidence.

Negligence, another common law doctrine, is defined by Bockrath as "the failure to act as a reasonably prudent person would in the same or similar circumstances." He notes that a nuisance can also result from an "omission which is negligent." Negligence was not a separate tort action until an increase of serious accidents during the industrial revolution precipitated its usage. To prove negligence there must be a (1) duty, (2) a nonconformity to a certain standard, (3) a causal

connection between conduct and the resulting injury, i.e., proximate cause, and (4) actual damage. Bockrath points out that negligence is a remedy in pollution cases. In the cases of this thesis it is an element of effluent cases, but more often it is an element of the cases involving construction of facilities. Concerning the liability of the engineer, it must be proven that the engineer, as defendent, had a duty, which was recognized by law, to the plaintiff. In the area of the liability of the engineer there have been dramatic developments in recent years, as discussed in many cases in the thesis.

Bockrath briefly discusses two other common law principles, trespass and strict liability. Trespass is distinguished from nuisance by being an actual invasion of the land. Frequently the predominant issue in air pollution cases, it is rare in cases involving water and wastewater, so will not be mentioned further.

Strict liability is "a theory of liability in which fault is not a factor." Negligence is not involved, according to Bockrath. Strict liability concerns an activity which by its hazardous nature can harm others. Strict liability is not treated to any great degree in these cases. An apparent contradiction to Bockrath's statement that negligence is not involved is found in Kaiya v. Department of Water Supply. Since this case concerns chlorine, it would appear from reading the case that strict liability would be the issue. However, the court based its decision on negligence rather than strict liability, although it stated that "chlorine is an inherently dangerous substance."

The cases involving construction are common law cases, but here the legal generality ends. Construction cases are found scattered under the topics of the West Digest System, and there are many legal issues involved. The cases are found under contracts, damages, fraud, a separate listing of contracts under municipal corporations, and negligence, to name only a few. The legal issues are much more varied than the engineering issues represented in these cases.

Sovereign immunity, which appears in several cases, is not defined by Bockrath, nor does it appear as a topic in the West Digest System or standard legal dictionaries. An old doctrine of common law, sovereign immunity says, in effect, a sovereign government cannot be sued without its permission.

Eminent domain, another tenet of common law, is defined by Bockrath as "the power under which private property is taken for public use without the owner's consent, but upon payment of just compensation." Frequently litigated, eminent domain is an inherent governmental right, but the court often must determine if the private property taken is for the use of the public at large.

An overview of legal principles may well be entitled one of common law principles. Those cases included in this thesis brought under statutory law are most frequently those brought to court questioning certain aspects of particular statutes recently invoked to alleviate water pollution. Other cases brought under statutory law are those classified under the topic of municipal corporations. Discussed fully in the duty and power section, these latter cases involve the authority,

some of which is based on statutes, of municipal corporations. In addition, some of these cases involve water pollution statutes.

Throughout the thesis there are many citations relating the general legal principles to the particular cases affected by them and the accompanying engineering situation.

## II. POWER AND DUTY TO PROVIDE TREATMENT

There has been extensive litigation over the years concerning the power and the duty of a municipal corporation to supply sanitary services. Classified under the general legal topic of Municipal Corporations, these cases, in general, are of less interest from an engineering viewpoint, since they, of all cases covered in this thesis, usually contain less engineering facts. However, they form a basis for all other litigation, since they resolve the basic question as to whether the facility can exist or not.

### POWER

In general, the power of a municipality has been addressed more by the Courts than the duty of that municipality.

> It has been variously held that the power of municipal corporations to install sewerage systems is universally recognized," and that that power "is an exercise of its police power,...

It may be conferred by constitution, statute, or charter, but statutes in such case must be "explicit and strictly construed." The power to construct sanitary facilities, however, does not give the right to create a nuisance. (63 C.J.S. Municipal Corporations, Sec. 1049)

It is to be noted that the legal topics as discussed by the cited legal authorities are within a subheading of sewers, drains, and watercourses; sewage disposal plants are treated as an extension or part of these systems by the legal profession.

Within Corporate Limits

General

Exemplary of the above discussion is the following case:

LARSEN V. VILLAGE OF LAVA HOT SPRINGS
Supreme Court of Idaho, 396 P.2d 471 (1964)

The plaintiff sought to enjoin the Village from constructing a lagoon across the river from his motel and trailer park. Originally the trial court granted injunction, but the State Supreme Court reversed this, stating that evidence failed to support the lagoon would be a nuisance. Supervised by a licensed engineer and approved by health officials, one lagoon was to be 300 feet from his trailer park and the larger lagoon 650 feet from his motel. Conflicting testimony to the contrary, state officials stated odor would not be a problem.

Germane to this topic was the Court's statement that the

> Village, a municipal corporation, possesses the legislatively delegated power to construct, operate and maintain sewage disposal facilities.... The courts will not interfere with the exercise of such powers by municipal corporations; the exercise thereof is not subject to judicial review, except in a clear case of abuse of power, i.e., where it appears that the municipality and its officials have manifestly acted arbitrarily, capriciously, or in an unreasonable manner so as to create a nuisance in fact. Ordinarily a court will not substitute its own judgment for that of the municipality in which such power is vested.

COMMENTARY

The interplay of two points of law, nuisance and the power of the municipality, proves most provocative. The Court found that the Village had the power to construct a lagoon where it wanted, and that the lagoon would not be a nuisance. It must be noted that at the time the Village

dumped raw sewage at an undisclosed point, into the river adjacent to plaintiff's land, so a lagoon could possibly have been no worse as far as nuisance was concerned. However, it is thought that both courts missed an important fact which the plaintiff had pointed out: the engineer who selected the site said it was the most practically and economically feasible, but he evidently ignored the fact that it was to be situated in an area prone to flooding.

Easement Disputes

In easement disputes the police powers of a municipality to protect the public welfare have been found by the courts to give it authority over private agents, when the police power has not been used incorrectly, and over public utilities, the rights of which are derived from permissive grant of a municipality.

HAMPTON ROADS SANITATION V. CITY OF CHESAPEAKE
Supreme Court of Virginia, 240 S.E.2d 819 (1978)

The City sought action against Hampton Roads Sanitation District Commission (HRSD) asking the Court to declare that HRSD was obligated to pay the relocation costs of a sewer line, costs which were necessitated by city improvements to the adjacent street.

A Chief Engineer who had worked some twenty years for HRSD testified that these costs were at times absorbed by HRSD, but that most often the city affected bore the costs. City officials, however, testified to the contrary.

Since the statute creating HRSD in 1938 was not exact in this regard, the Court stated that Virginia common-law required a public

utility to relocate at its own expense when that relocation facilitated street improvements. Since the utility acquired its rights only by permissive grant from a state or municipality, its use was subordinate to the general public's primary use. Also, part of the police power of a city was to require relocation at the expense of a political subdividion of the state, such as HRSD.

HRSD was ordered to pay the City $26,630.26, the cost of the relocation work. This was affirmed by the State Supreme Court.

COMMENTARY

Many cases were cited to support the common-law remedy. Nevertheless, it would seem that there was an inadequacy in the decision. Because the old statute did not foresee such extensive future road repair did not mean that in some time in the intervening forty years the statute could not have been amended to be more precise on this issue.

MICHIGAN BELL TELEPHONE CO V. CITY OF DETROIT
Court of Appeals of Michigan, 308 N.W. 2d 608 (1981)

To express this in much less legalistic style than the decision, the City had vacated certain streets for the construction of a sewage treatment plant. The telephone company, a public utility, filed a complaint to be compensated for its easements along these streets and for relocation expenses. The trial court awarded summary judgment to the public utility.

The appeals court reversed this decision, saying the dispute was a "simple one." The City contended that its police powers allowed it to require the utility company move its facilities from one street to

another to make way for a public improvement. On the other hand, the plaintiff contended that its vested easements meant that it could not be required to relocate without compensation.

The Court stated:

> Thus, even though a utility has a valid franchise from the local municipality, it may be subject to all regulation by that governmental unit which is reasonably necessary to protect public welfare.

COMMENTARY

At common law, and in most recent cases to consider this issue, the right of the public utility to use public streets is subject to the right of the local government to require the utility to relocate its lines and facilities at its own expense when made necessary by considerations of public health and welfare.

CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST CO. OF CHICAGO V. VILLAGE OF MUNDELEIN
Appellate Court of Illinois, 407 N.E.2d 1052 (1980)

In 1926, the Village obtained an easement, twenty feet wide, from the original property owners for sewers. That that part of the line was actually not in the easement was not known by either party until 1977; this possibly was surveying error. In that year, because of growth of the Village and deterioration of the pipes, the Village wanted to lay a more efficient wider line through a new easement. The plaintiffs (trustees of the original estate) refused, and further refused the Village's right to use the old easement by replacing the old 27-inch pipe with 48-inch pipe. The plaintiffs were said to demand "substantial concessions" and "a favorable price differential."

The trial court found judgment for the plaintiffs, but, upon appeal, this was reversed. The fact that the sewer line was, by error, not within the entire easement did not mean that the municipality had lost use of the original easement by abandonment, as the plaintiffs claimed. Further, expansion of the diameter of the sewer lines was within the purpose of the original easement.

COMMENTARY

The land in question was noted by the Court to be "unimproved farmland." The plaintiffs intended to improve the land and "and were apparently seeking to gain some advantage for this property when the sewer was replaced..."

In some sections, the sewer line was as much as 150 feet from the original easement line. If this were caused by a surveyor's mistake, as the Court thought, the results were the cause of considerable problems forty years later.

Authority to Require Hook-ups

City ordinances to alleviate water pollution, including those which have been enacted to facilitate the procurement of federal grant money, have expanded the applications of the police power of a municipality. Related to the basic power to provide sewerage systems is the power to impose mandatory hook-up requirements.

PEOPLES WATER SERVICE V. ADKINSON
District Court of Appeals of Florida, 184 So.2d 707 (1966)

A homeowner had constructed a house with a cesspool, which had been inspected and approved by the City. Within a year, the City constructed a sewer line adjacent to the homeowner's property. City ordinance required property owners to connect with the municipal system if available, but he claimed the cesspool was in good working order and the City's services and the bill ($2.45 a month) for such were not needed.

The defendant was ordered to connect to the city system within a "reasonable time," i.e., when the septic tank needed cleaning or repairing.

> It is well settled that the sanitary disposal of human waste is an essential function of a municipality. A city sewerage system cannot effectively function upon a "tic tac toe" system, that is connect one dwelling, skip a dwelling, and connect the next one. Where one septic tank might not be injurious to a neighbor, two septic tanks could well be injurious to the health of the community.

For this reason, the decision was affirmed as to the requirement to make the connection, but reversed as to the requirement to connect immediately.

COMMENTARY

The language of the decision alternately used the words "cesspool" and "septic tank," two different systems. If it were a cesspool, it is surprising that a city approved its use in the early to mid-1960's.

Of similar nature were two 1981 decisions. In AARON V. CONSERVATION COMMISSION, TOWN OF REDDING, Supereme Court of Connecticut, 441 A.2d 30, it was held that a permit for a septic tank could be denied by the town's conservation commission, even though the municipal

standards were more stringent than the state standards. In KONKEL V. TOWN OF RAYMOND, Court of Appeals of Wisconsin, 305 N.W.2d 190, the Court affirmed a town's ordinance that there be no holding tanks under similar circumstances.

RUPP V. GRANTSVILLE CITY
Supreme Court of Utah, 610 P.2d 338 (1980)

A number of city residents brought action declaring that city ordinance requiring mandatory hook-up to the municipal sewer system was unconstitutional. In 1969, the ordinance had been enacted

> to facilitate the procurement of certain federal funds, to defray cost of construction. In fact, mandatory hookup to the new system was a condition precedent to the receipt of the federal grants.

After the failure of the plaintiffs to pay the initial $300, their water services were discontinued. After payment of the fee, the water services were reinstated, and the plaintiffs brought suit.

In finding for the City, the lower court stated, and the State Supreme Court affirmed:

> In Utah, municipalities are granted broad powers for the protection of health and welfare of their residents. Among these powers is the statutory authority to establish and maintain public utilities for the benefit of those residents. ...The Grantsville ordinance in question is a valid exercise of the municipalities recognized police power and therefore is enforceable against the plaintiffs.
>
> Further: "The discontinuation of the plaintiffs' water service upon their failure to pay the authorized connection fee after notice and an opportunity to reinstate the service in question by a conditional tender of monies owed prior to a formal judicial proceeding was not arbitrary, capricious, or unjust.

## COMMENTARY

The courts took notice that mandatory hook-up was a requirement of receiving federal grants. Mentioned in this case, but not a consideration, was a statement which should have precipitated further investigation:

> During the construction, the city officials discovered the consulting engineers who designed the system had mistakenly excluded 18,000 linear feet of necessary sewer laterals. To alleviate the financial problems created by this mistake the city officals determined the original connection fee should be increased from $250 to $300.

### Outside Corporate Limits

In recent years, litigation has often addressed the ramifications of extending the power to supply sewerage facilities outside the corporate limits. There has been a discrepancy from state to state concerning the power of eminent domain outside corporate limits. However, there appears to be an agreement that the power of eminent domain, an attribute of sovereignity, is usually superior to the power to zone, which is derived from general police power, as implemented by statute.

According to Am. Jur. 2d, Municipal Corporations, Sections 568, 569, the legislature can confer the authority to extend the power of the municipality outside the corporate limits. In TOWN OF LOXLEY V. ROSINTON WATER, SEWER AND FIRE PROTECTION AUTHORITY, INC., Supreme Court of Alabama, 376 So.2d 705 (1979), and TUCKER V. CITY OF ROBERTSDALE, Supreme Court of Alabama, 406 So.2d 886 (1981), it was held that a

municipality had the power to supply sanitary services outside its corporate limits. Specifically, in the earlier decision:

> Under present Alabama statutes, municipalities are authorized to expand, without restriction, their water and sewer systems outside their city limits.

However, in CITY OF WEST LAKE HILLS V. WESTWOOD LEGAL DEFENSE FUND, Court of Civil Appeals of Texas, 598 S.W.2d 681 (1980), the Court found that a city could not enforce by criminal action its ordinance controlling the pollution caused by private sewage facilities outside its city limits; that power was more properly that of the state.

BRITT V. CITY OF COLUMBUS
Supreme Court of Ohio, 309 N.E.2d 412 (1974)

> The novel issue this appeal presents is whether a municipality is constitutionally empowered to appropriate property outside the municipality for the purpose of extending, outside the limits of the municipal corporation, its public utility facilities located within the municipality in order to sell excess...sewage services, solely to nonresidents.

The property owners involved sought action to enjoin construction. Judgement was originally in favor of the plaintiffs, then reversed by the Court of Appeals, and finally, four years after its initiation, reversed again by the State Supreme Court, which stated the City did not have the power to acquire land for such purpose.

Thus, even though, in general, the power of eminent domain did not extend beyond the geographical limits of a municipality, it did for establishing a public utility. This case, however, concerned surplus services, and for that the power of eminent domain did not exist, in spite of economic and possible political advantages.

COMMENTARY

The City had previously entered into a contract with the Village of Dublin for the sale of excess sewage services. The land owned by the plaintiffs was located between the City and the Village.

TOWN OF HALLIE V. CITY OF CHIPPEWA FALLS
Supreme Court of Wisconsin, 314 N.W.2d 321 (1982)

The Town is adjacent to the City, and in the same county. Having no sewage treatment or collection facilities of its own, the Town wanted to utilize the City's sewer system, which included a sewage treatment plant with more capacity than was needed. The Town proposed the construction of its own collection system, to be connected to the City system for treatment. Rejecting this, the City offered to treat the Town's sewage, if the Town allowed the City to supply the collection system, as well as other services, such as fire, police, and street services. The Town would not agree. At some unspecified time after this, the City annexed part of the Town.

The Town brought action against the City on two counts, one concerning the City's ordinance to annex, and the other stating the conditional provision of the waste treatment service, as mentioned above, violated the state antitrust laws because it was anti-competitive. The Town lost on the first count at the lower court and on appeal. As for the second count, the State Supreme Court said the case involved a conflict between state laws dealing with municipalities and antitrust. In solving this conflict, the Supreme Court found the City had not broken antitrust laws; in effect, the Town lost.

## COMMENTARY

This would seem to be a totally unfair decision. However, it is very possible that there were strong political overtones which influenced the decision. It was almost as if the City wanted to extend services to the Town to facilitate future annexation. As for the portion of the Town not annexed, nothing was written about sewerage facilities available to them.

## CITY OF SCOTTSDALE V. MUNICIPAL COURT OF CITY OF TEMPE
Supreme Court of Arizona, 368 p.2d 637 (1962).

Scottsdale had operated a sewage treatment plant for some time near the river bed. In 1958, it purchased twenty acres to extend the facility. In 1960, Tempe annexed an area which included both plots of land. It then denied Scottsdale a permit.

The Court took judicial notice that the newly acquired land was "generally considered of marginal value for residential purposes."

> Where the power of eminent domain exists, a political subdivision may locate its governmental functions within the territorial limits of another subdivision without regard to limitations created by zoning. [citation omitted]
>
> Local zoning ordinances are not applicable to public uses of property for which an agency of the government has the power to acquire lands by the exercise of the power of eminent domain...the power of eminent domain is superior to property rights... [citation omitted]
>
> It is generally recognized that zoning restrictions do not apply to the state or any of its agencies vested with the right of eminent domain in the acquisition or use of land for public purposes. [citation omitted]

Judgment was found for the city of Scottsdale in the court of origin.

## COMMENTARY

At no time was the real cause of the problem even mentioned. What gave one city the right to annex land owned and used for another city's treatment plant in the first place?

### Disputes Regarding State and Federal Water Pollution Regulation

State statutes, effectively increasing the police power of the state, have, in general, given broad powers to the sewer districts they have created, and, in so doing, have actually subordinated the power of the municipality to that of the sewer district. The sewer districts have been given the authority to prevent or require connections to their systems. How much that power of the municipality is subordinated is determined by the very wording of the statutes themselves.

The impact of federal statutes to alleviate water pollution have further complicated the jurisdictional disputes within and between municipalities. The fact that federal legislation has given the authority to the Environmental Protection Agency (EPA) to administer grant money has given it power over the grantee. The very intricacies of the statutes have been used, in turn, to question that authority.

### SOUTH HILL SEWER DISTRICT V. PIERCE COUNTY
Court of Appeals of Washington, 591 P 2d (1979)

Since early 1970, the County had been concerned with water-quality management in the basin; in 1975, a basin plan was adopted. Also, in 1975, the County entered into an agreement with the City, as the lead

agency, and the Sewer District for the purpose of proposing alternate sites for a sewage treatment facility. Apparently, agreement had been reached on the particular site in question, when, after a public hearing, the unclassified use permit was denied by the County Planning Commission.

The issue was whether the County could use zoning regulations to prohibit the sewage treatment facility from being built at the site the County had initially selected jointly with the City.

The eminent domain given to the City and Sewer District by statutes as relates to regulation of systems was found to be superior to the power to zone, which is derived from general police power:

> ...broad principles of sovereignty require that a state or its agency or subdivision performing a governmental [rather than proprietary] function be free of local control. [citation omitted]

The trial court entered summary judgment for the City and Sewer District:

> declaring that city and sewer district could locate their sewage treatment plant in the county without regard to limitations of county's zoning regulations.

Under appeal, this was affirmed.

## COMMENTARY

The Court of Appeals stated most appropriately:

> Bluntly put, they reneged, and although we do not base our decision on this action, it is clear that in so doing, they jeapordized seven years of planning, study and design, during which, large sums of taxpayers' money had been spent under the supervision of Bonney Lake [city] as the agreed-upon lead agency.

CITY OF BOWIE V. WASHINGTON SUBURBAN SANITARY COMMISSION
Court of Appeals of Maryland, 241 A.2d 396 (1968)

In 1962, Bowie began consideration of the costs and feasibility of building a sewerage system for newly annexed land. Upon negotiating with the Washington Suburban Sanitary Commission (WSSC), Bowie was advised to have engineering plans prepared. If the WSSC decided it would be inexpedient or impracticable for it to construct the system, Bowie would be authorized to proceed. If, however, the WSSC decided to build the system, Bowie would be reimbursed for studies and plans. In 1966, after the plans were studied by WSSC upon their completion, Bowie was told that the Commission had decided to provide the system.

> Bowie thereupon went to court to establish that its authority to build the sewerage system was independent of and paramount to that of the Commission, seeking a declaration, an injunction and a mandamus to compel the Commission to issue a permit.

Code provision that local law confering special powers on a commission could not divest a municipality of the same power did not apply, since WSSC had not been created under a local law. Rather, in 1954,

> No municipal corporation [shall] affect or impair in any respect the powers relating to sanitation, including sewer, water and similar facilities, and zoning, of the Washington Suburban Sanitary Commission...

A municipality was permitted,

> ...to build its own water or sewerage system at its own expense provided the commission determined that it was inexpedient or impracticable for it to build it, and provided that the facility 'shall be constructed under plans and specifications submitted to and approved by said Commission and its construction, maintenance and operation shall be under the supervision and general control of said Commission....' [Citation omitted]

Judgment was entered for the Commission and affirmed on appeal.

SMOKE RISE, INC. V. WASHINGTON SUBURBAN SANITARY COMMISSION
U. S. District Court (Md), 400 F.Supp. 1369 (1975)

In 1970, the Maryland Department of Health and Mental Hygiene issued orders to the WSSC declaring moratoria on sewer hook-ups and limitations of individual septic systems in drainage basins in Montgomery and Prince George's counties. Inadequate sewerage facilities, owned and operated by WSSC, caused the discharge of raw and inadequately treated sewage into the state's waters, thereby constituting "a menace and nuisance to the health, safety and comfort of the public."

The same year, WSSC (existing under the laws of Maryland) entered into an agreement with the District of Columbia and Fairfax County, Virginia, regarding the allocation of the proposed expanded capacity of the regional Blue Plains wastewater treatment plant. To be 309 MGD by 1977, it was to have primary treatment by 1973, secondary by 1974, and advanced by 1977. However, that capacity allotted to Maryland was known at the time not to meet future needs; thus, the moratoria.

In 1973, real estate developers brought action against the Health Department, WSSC, the two Maryland counties, and others challenging the legality of the moratoria. It was initiated in the federal court because the plaintiffs claimed that the moratoria represented a taking of private property under the Fifth Amendment.

The Court determined that the moratoria as ordered represented an exercise of the police power of the State, that exercise was not a

"taking of private property without just compensation or a deprivation of property without due process." It was not an exercise of eminent domain to create a public benefit, but rather one of police power, to prevent public harm, i.e., continued pollution of the State's waters. The exercise was "reasonable," considering the objectives, as the five-year duration of the moratoria, considering the "inter-jurisdictional complexity of the problem." Also, the order had not been "effected for the improper purpose of restricting from...[the] counties, Maryland's fair share of metropolitan regional growth."

Thus, with one exception, not relevant to the discussion, the Court held, in 1975, that the moratorium stood as ordered.

COMMENTARY

In this particular case, perhaps more than in any other case, reading the decision in its entirety is essential for a complete understanding. The Court was aware of the difficulties of achieving the necessary goals to alleviate water pollution in that particular area. The Court also made note of the fact that when the order was lifted, and it was recognized as temporary, that the real estate developers would benefit from the increased sales.

LOUISVILLE & JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT V. DOUGLASS MILLS SANITATION FACILITY
Supreme Court of Kentucky, 592 S.W.2d 142 (1979)

The issue to be settled by the Court was "whether, how, and under what conditions," the county sewer district could require the sewer system which was connected to a privately owned disposal plant to be instead connected to its own comprehensive system. [This case is

included in this topic because the privately owned disposal plant is performing a public function.]

The sewer district had been established by statute in 1946, with broad powers:

> ...it may 'take all steps the board deems proper and necessary to effect the purposes..' [of the statute.]

The private system had been constructed during the 1960's, when the sewer district did not have sewers in the area in question. However, when the county line was completed, the private company did not want to relinquish authority.

In the lower courts, judgment was found for the private disposal operators. The Supreme Court found:

> There can be no doubt that these statutes place the destiny of all sewer and sewage-disposal systems and facilities in Jefferson County in the iron grip of MSD [sewer district].
>
> On the other hand, the statutes contain no provision authorizing MSD unilaterally to discontinue the operation of a privately-operated sewage-disposal facility or to force its patrons to cease using it.

Thus, although affirming the lower courts' decision in part, the Supreme Court remanded the decision to the District Court for consideration of facts:

> The trial court did not make a finding of fact with reference to the Board of Health's charge that the Sanitation Company's operations constitute a health hazard, perhaps feeling that the question is not relevant in a proceeding of this nature, in which injunction relief was not demanded.... The evidence introduced by the Board of Health does rather strongly indicate that the Sanitation Company's plant is not performing in a manner consistent with the public health and safety.

## COMMENTARY

At best, this was a confusing case. The terms of the original agreement between the two parties were not clear; the original statute did not make reference to future construction; and the findings of the health department were not considered at the first trial. If the latter had taken place, litigation might not have taken three years.

## MID-SHIAWASSEE COUNTY CONCERNED CITIZENS V. TRAIN
U. S. District Court, Michigan, 408 F.Supp 650 (1976)

A citizens group brought suit against both state and federal agencies for not complying with the National Environmental Policy Act in their approval of grant money for city sewage plant renovation to meet standards. The EPA had issued a "negative declaration" saying that a complete environmental impact statement was not required, since, essentially, there would not be any "significant environmental impacts."

The treatment methods studies by one consulting firm, a fact to which the plaintiffs objected, included:

> (1) two stage activated sludge with tertiary carbon adsorption; (2) two stage activated sludge with tertiary sand filtration; (3) land disposal; (4) PC with chlorination-dechlorination;. . .

The fourth option, not described other than as removing nitrogen by converting ammonia nitrogen to nitrate, was the process favored by the consulting engineers and EPA, and chosen by the city. Land disposal, that method favored by the plaintiffs, was said to require 5500 to 8000 acres of land as opposed to 3.5 acres for the other methods. In addition, the capital outlay would have been almost three times as high.

According to the consulting engineer, the soil was said to be high in clay.

Defendants' motion to dismiss was granted, and the complaints were dismissed.

COMMENTARY

Never was the reason for plaintiffs' disfavor of the EPA-approved system given. It would appear the plaintiffs took advantages of technicalities of the statute to promote the system they favored. If environmental aspects were the motive, the characteristic of the soil precluded that. It quite possibly was that the plaintiffs wished to sell some land.

It is interesting that either the engineering firm or the Court, or both, considered the capital expense of the land treatment more important than the clay content of the soil.

CITY OF NEW BRUNSWICK V. BOROUGH OF MILLTOWN
U. S. District Court, New Jersey, 519 F.Supp. 878 (1981)

In 1914, the City of New Brunswick agreed, by contract, to receive and dispose of sewage from the Borough of Milltown, without charge, provided Milltown would discontinue its discharge of sewage into a source of drinking water for New Brunswick. The combined flow was treated at the county plant. Up to 1980, Milltown had not paid sewer user charges to the city or county; the city paid all fees.

When the county wanted to extend its plant by building a sludge dewatering facility, it applied for a grant from EPA. Under the Clean Water Act, EPA could not approve a grant for sewage treatment facilities

unless each recipient paid its proportionate share. The borough and the county argued that the borough's sewage was not received directly nor had the borough asked for treatment services. This play on words was discounted by the Court.

As for the old contract,

> Thus, the Court has recognized that the government does have the right to impair existing contractual obligations if the contemplated action is reasonably necessary to further a legitimate public purpose.

The Court found that the EPA could withhold grant money until appropriate user charges were established. If the conditions imposed on the sewage authority would interfere with the previous contract, the grant application could be withdrawn. Whether the borough would collect user charges or send its sewage through the county treatment plant were matters to be resolved in the state court.

## COMMENTARY

This case would seem to best illustrate how federal statutes have complicated the interpretation of the power of the municipality. If anything, and this could be said as well for local and state statutes, federal legislation has resulted in litigation which would not have resulted otherwise. The goal of all the statutes has been the alleviation of water pollution, but one of the results has been much litigation which has had as its main purpose to determine in what jurisdiction that authority to accomplish this goal would be.

## DUTY

According to 63 C.J.S., Municipal Corporations, Sect. 1049,

> ...a municipality is charged with the all-important public service of supplying sewerage and drainage facilities to its inhabitants,...
>
> Mere statutory authority to construct sewers or drains does not impose any duty to exercise such authority; and, unless the duty is positively imposed by the state, the municipality has discretion to determine whether it will construct a system of drains or sewers, ...and a city cannot be compelled to exercise its discretion regarding the construction or maintenance of a sewer system.
>
> However, "after it has constructed a sewer, it must see that it is kept in a proper state of repair.
>
> The duty, if any, of a municipality to drain its streets and avenues is one requiring the exercise of deliberation, judgment, and discretion,...

According to 56 Am. Jur 2d, Municipal Corporations, Sections 568, 569,

> It has been declared broadly that a municipality may not compel consumers outside its corporate limits to purchase commodities or services from it, and that, on the other hand, it cannot be compelled to furnish commodities or services to nonresidents.
>
> It has frequently been stated broadly that a municipal corporation is not bound to construct sewers.

Within Corporate Limits

The above citations have been best illustrated by the following decision. Unlike all other cases in the duty and power section, it was replete with engineering information.

BARNEY'S FURNITURE WAREHOUSE V. CITY OF NEWARK
Supreme Court of New Jersey, 303 A 2d 76 (1973)

This interesting and significant decision involved several businessmen bringing action against the City of Newark for damages caused to their properties by flooding and for injunctive relief. At trial, in 1971, there was "specific" evidence of flood "six or more

times a year since 1961, causing property damage, serious interruption of traffic, and in one instance, loss of life." Flooding antedated 1961 for perhaps decades.

A comprehensive description was given of the storm and sanitary sewers in the area involved and their joining into a common outlet. Much of this combined flow emptied into a ditch, then proceeded over open fields to Newark Bay. The main roads near the plaintiffs' property were 2.5 to 3.5 feet above high tide in Newark Bay and 1.5 feet below many storm tides. The sewers involved served eight square miles of the city.

One engineering report in the early 1960's gave as causes of the flooding (1) reduction in storage space in the meadowlands, (2) increased runoff from impervious surfaces, and (3) diminished channel capacity from silting. In 1970, another engineering report concluded that insufficient slope was the major cause of flooding; in addition, the ditches were "severely silted." Both reports recommended a pumping station. The second report also recommended improvements to the storm sewer system.

For some ten years, efforts were made for the construction of at least the pumping station, but finances prevented these efforts. By the time of the trial, the City was "on the verge" of achieving financial assistance from federal and state governments and the Port Authority.

The Chancery Division awarded the plaintiffs an aggregate of $226,000 in damages. Further, a mandatory injunction ordered the City "to eliminate the flooding" by January 1, 1973, a year and a half after

the judgment was entered. The Appellate Division upheld these judgments. However, on questions of liability, the State Supreme Court reversed this decision, because of the following testimony:

The City contended that all flooding waters represented precipitation or runoff which could not enter the sewers, which were already filled with backflow from the ditches and meadow. The City further contended it had not been negligent in the creation (the date was not found in the records) or maintenance of the sewers, but urban development and the elevation differences made the system inadequate.

An important conclusion of the Court was,

> that while there may be some backup of water from the sewers by far the greater portion of the floodwaters, particularly when tides are high and rainfall is prolonged, consists of either precipitation or back-flow of surface water from the meadows which is unable to enter the sewers or ditches because they are already full.

It was also a finding that flooding was due not so much to disrepair of the system or inadequate maintenance, but rather to the difference in elevations of the flooded areas and the bay, and the inadequacies of the ditches between these two locations. These were the key points in assigning liability.

Citing several cases, the Court stated

> the view that liability does not attach for defects in the general plan of a municipal sewerage system is that generally held.

Also:

> More frequently it is held that if a sewer is adequate when constructed the municipality is not liable because of subsequent inadequacy occasioned by the growth of the municipality and the increased demands made upon the sewer.

In conclusion, "...city did not have positive duty to keep sewer plant abreast of developing needs." [Court meant "system" in the sentence, not "plant."]

COMMENTARY

An interesting feature of the surprising decision was the repeated reference to the "serious financial problems of Newark during the past decade." It is strongly thought that this was a factor in the final decision. Also of great interest are the final statements of the Court:

> The foregoing conclusions are lead to a reversal of the mandatory injunction. An injunction would constitute a direct entry by the Court into a significant discretionary decision in the municipal fiscal area. However, the city should be aware that point could well be reached when continued inattention to serious and progressive injury to private interests might have to be adjudged such an arbitrary failure to act as to compel judicial relief.

Outside Corporate Limits

There has evidently been more litigation concerning the duty of a municipality to furnish services to persons outside its corporate limits.

In ALLSTATE INSURANCE CO. V. CITY OF BOCA RATON, District Court of Appeals of Florida 387 So.2d 478 (1980), the court held that a county plan for water supply did not place a mandatory duty on the part of a city to supply sanitary services to a landowner outside the city. In Florida,

> All parties concede that generally a municipal corporation has no duty or responsibility to supply services to areas outside its municipal boundaries.

Similarly, in TOWN OF CLIFTON PARK V. RIVERCREST SEWERAGE DISPOSAL CORP, Supreme Court, Appellate Division 440 N.Y.S.2d (1981), when a

corporation which abandoned its sewage disposal services to eighteen residents of a subdivision was allowed by the court to discontinue its services, the town was entitled to punitive damages based on fraud, but the town was allowed to reject the offer to continue the existing services, although it was its right.

More often, the courts have found that a municipality has a duty to provide like services to persons within and outside its corporate limits.

DELMARVA ENTERPRISES, INC. V. MAYOR & COUNCIL OF DOVER
Supreme Court of Deleware, 282 A.2d 601 (1971)

Owner of two lots adjacent to but outside the city limits petitioned for a writ of mandamus to compel the City to furnish water and sewer services. The lots were located in a buffer zone established by the city and county in which the City was to have the exclusive right to provide services. The City, however, denied services based on an earlier policy in which it did not extend services outside its city limits.

The writ was originally denied, since the trial court concluded that extended services were an option of the city. This decision was reversed by the State Supreme Court:

> As a public utility, the City is subject to the same requirements of the law as a private utility.... One of the prime requirements laid on a public utility is that in the operation of its existing facilities it shall not discriminate among customers, but shall make its facilities available to all alike.

COMMENTARY

Of similar nature was a recent Arizona decision (COPPER COUNTRY MOBILE HOME V. CITY OF GLOBE, Court of Appeals of Arizona, 641 P.2d 243 (1981), in which the Court of Appeals affirmed the lower court's judgment that a city was in violation of its contract to supply equal services when the city raised the fees of mobile home owners, outside the city limits, to $10.00 per month and left the city fees at $1.00 per month.

SCHANCK V. TOWN OF HEPHZIBAH
Supreme Court of Georgia, 224 S.E.2d 354 (1976)

The developer and lot owners of a subdivision brought action to enjoin the town from discontinuing operation of a sewage treatment facility. To obtain FHA and VA approval, the developers had constructed a sewage treatment plant to be deeded to and operated by a municipal corporation or county. The town agreed to maintain and operate the plant, and it did so for four years, after which time it notified the subdivision owners it would discontinue services in August, 1975, contending that the entire agreement had been unilateral.

The trial court had found in favor of the town, but this was reversed in the Supreme Court:

> ...notwithstanding the outstanding security deed, developer had equitable title to the sewage treatment plant and power to dispose of site, and that owners were entitled to insist upon continued operation of plant by town under agreement which town had authority to enter into.

## COMMENTARY

No attempt has been made to discuss the contractual disputes between the town and the subdivision, complicated as they were by title to the land. Important to this topic:

> Once municipality begins providing governmental services it is authorized by law to provide, discontinuance of such services must be justified.

Of practical interest is that the eighteen residents serviced paid the town for sewerage services. The developers paid the town the difference between the cost of operation and the revenues paid by the residents. It was not stated who paid for the construction of the plant. According to the original agreement, the plant was eventually to be self-supporting and was to apply for a permit from the Georgia Water Quality Control Board, but neither had occurred by the time of the trial.

The lots in the subdivision were too small for septic tanks. If the original decision had not been reversed, the subdivision would have had some degree of hardship.

## Disputes Regarding State and Federal Water Pollution Regulation

### KANSAS CITY, MISSOURI V. KANSAS CITY, KANSAS
U. S. District Court, Missouri, 393 F. Supp. 1 (1975)

The plaintiff city filed action against the defendant city arising from disputes involving the deposition of sewage. In 1917, the City of Rosedale, Kansas, and the City of Kansas City, Missouri, had entered

into a contract by which Rosedale would connect its sewer lines to those of Kansas City, Missouri, within plaintiff's city limits. When Rosedale became incorporated within Kansas City, Kansas, that latter city became party to the agreement. Plaintiff constructed the sewer line, and defendant continued to use the line for 1000 homes. When the flow through plaintiff's sewage treatment plant was increased in wet weather, the flow went directly back across the state line into the Kansas River.

After enactment of the FWPCA, plaintiff upgraded its sewage treatment plant, and, in compliance with the Act, instituted a sewer service charge for all who used the system. The defendant, however, refused to pay.

> The Court "held that plaintiff city had no affirmative duty to dispose of defendant city's sewage and agreement merely gave defendant city right to connect its sewers with plaintiff city's line; that even if it were assumed that plaintiff city was under an affirmative duty to dispose of defendant city's waste, plaintiff city's duty was discharged by supervening federal pollution control legislation which occasioned an extreme increase in expense of performance as result of waste treatment requirements and as result of cutoff of federal grants....

COMMENTARY

There was an unexplained complication to this case. Evidently Kansas wanted to build an interceptor from the line in question and connect to a plant in its state, but EPA mandated the connection with the Missouri treatment plant. This would appear illogical, considering the wet weather overflow of the Missouri plant.

> Both parties have demonstrated an exemplary spirit of cooperation in the processing of the relatively unique questions of law presented in this case. We believe that it is entirely possible that an agreement could be reached in

regard to the preferable form of judgment, now that this Court has determined the questions of law presented.

## CONCLUSION

The decisions to this point have all had as their predominant feature the power and the duty of the municipality. In many of the other cases concerning sanitary facilities, this manifests itself, but, for the purposes of this research, it plays a secondary role to the engineering topic, for example, effluent discharge problems and sewer collection systems. Reference is made to the legal index to determine those cases involving the legal topic, Municipal Corporations.

# III. SYSTEM COMPONENTS

## SEWAGE TREATMENT PLANTS

### Objection to Location

Just as the power and duty of a municipality have been invoked to settle the question of whether a facility can be built, so has that topic also been used to determine where the facility can be built. The location of a facility has been more often litigated based on nuisance and riparian rights. Nuisance can be private, by violating private rights, or public, by violating public rights. It can also be both private and public. The courts have repeatedly said that a sewage treatment plant is not a nuisance by the very nature of its existance, but it can become one. Essentially, the principle of riparian rights is that a downstream landowner has the right to receive water from a stream which has not been unreasonably polluted.

At the heart of all litigation concerning the location of facilities, and sometimes implied directly or indirectly by the courts, is that no one wants a treatment facility near land where he lives, works or plays.

CITY OF SAN ANTONIO V. C.D.J. ENTERPRISES, INC.
Court of Civil Appeals of Texas, 402 S.W.2d 573 (1966)

In 1964, C.D.J. Enterprises applied for a permit from the Texas Water Pollution Control Board to discharge 696,000 gallons per day of treated municipal waste into a tributary near the City of San Antonio.

The Health Department approved the design. The City and private individuals brought suits to rescind the permit.

The City attacked the design, saying it was inadequate. To this the Court said:

> This evidence is not pertinent here.... The Board is primarily concerned with the pollution of the waters of the State. Expert witnesses testified that the efficiency of a treatment plant is primarily dependent upon its operation and maintenance.... Appellants...are concerned that the plant will not be maintained or operated properly. This question is not before this Court at this time. The Board controls the operation efficiency of the plant through the conditions that it imposes on the applicant's permit,...

these being: biological oxygen demand (BOD), 20 ppm; total suspended solids (TSS), 20 ppm; and chlorine residual of not less than 0.5 ppm after twenty minutes contact time. In other words, there would not be any appreciable pollution to the tributary. "The trial court held that the order to grant the permit "was valid and supported by substantial evidence." This judgment was upheld on appeal.

COMMENTARY

More than any other case presented in this thesis, this decision illustrates the philosophy that operation and maintenance, not design, determines effluent concentrations.

STANTON V. TRUSTEES OF ST. JOSEPH'S COLLEGE
Supreme Judicial Court of Maine, 254 A.2d 597 (1969)

This was a case which was decided on riparian rights solely. Riparian owners sought action against a college to enjoin the upstream discharge of sewage treatment plant effluent. The college was to be built in a different watershed from the stream. Near a lake, which was

a public water supply, the college planned to treat the sewage at its present location, then pump the treated effluent overland to the stream in question. It had purchased one lot on the stream and had obtained easement from two riparian owners.

At no time was the quality of effluent, about 50,000 gallons per day, in question, nor were the treatment plans mentioned. Rather it was a case of the college using the stream for non-riparian purposes. The Court stated that under water law, downstream riparian owners have "certain rights to the waters of the stream unchanged in quantity and quality, except by reasonable uses of other riparian owners."

The injunction was granted, and the appeal of the college was denied.

COMMENTARY

This would seem a fair judgment up to a point. It must be asked, if the effluent were properly treated, where was it to be discharged?

BATSON V. CITY OF STILLWATER
Supreme Court of Oklahoma, 453 P.2d 1019 (1969)

The City had condemned parcels of land to be used for extending its sewer system and constructing a sanitary sewage disposal plant. The landowners then brought action for damages because of nuisance. The landowners claimed the very proximity of the sewage disposal plant would "render their premises unfit for human habitation because of the noise, lights and foul odors." "There was testimony by competent witnesses that there was no such damage in the case." The landowners were awarded $6,000 for the taking of their real estate and "for damage done to

remainder," but they were denied "additional damages by reason of a nuisance as result of operation of sewage disposal plant near dwelling on their land."

COMMENTARY

Inherent in this case is a fact long known by sanitary engineers: no one wants a treatment facility built near his land.

PARISH OF JEFFERSON V. MARSH INVESTMENT CORP.
Court of Appeal of Louisiana, 398 So.2d 27 (1981)

The parish sued a landowner to acquire by eminent domain a 78.6-acre site which had been used for dumping the parish sewage sludge. The trial judge had denied the parish's petition because it had already purchased the adjacent land. The parish, however, wanted to use the purchased tract for a sanitary landfill and to construct the treatment plant on the contested site. The trial court had granted the parish the right to use thirteen acres, that actually used for the sludge, and compensation for the other party. Both parties appealed.

The decision was reversed. The parish could "expropriate full ownership," and the landowner was compensated $2,500 an acre plus severance damages less previous credits for payments by the parish to equal a final amount of $18,335.

COMMENTARY

There was a hesitation to include this decision. For one thing, Louisiana law, based on a civil code rather than common law, may be different from other state law. The case itself involved the location of a treatment plant, but the main point of law was eminent domain, not

negligence or nuisance, as in other cases. However, this case contained two salient features, one being the philosophy of the Court itself:

> The present treatment by dumping sludge into permeable ponds must stop because of Louisiana Department of Health and Human Resources and federal Environmental Protection Agency requirements. The ponds must be cleaned up, and the site will remain environmentally foul for some time. A different site for the treatment plant would similarly become fouled.

The other feature had a very interesting engineering implication. The land in question contained permeable ponds containing sewage sludge. The number or size of the sludge ponds was omitted, as was the location of the ponds in relation to the entire 78.6 acres, other than the thirteen acres actually needed. But it was on this land that the parish proposed to construct the treatment plant. Thus, there is the possibility of all or some part of the treatment plant being constructed over the filled ponds; this could lead to foundation problems.

INWOOD FOREST, ETC. V. R.J.S. DEVELOPMENT COMPANY, INC.
Court of Appeals of Texas, 630 S.W.2d 751 (1982)

A homeowners' association sought to enjoin the construction of an apartment complex and its sewage treatment plant. The plant had been approved by the State Water Commission; the homeowners had not objected to that permit. The plant was to be enclosed in a vented building and elevated above the 100-year flood plain.

The district court had granted summary judgment for the defendants, and this was affirmed on appeal.

COMMENTARY

The plaintiffs did not state any specific grounds upon which judgment was to be sought, nor did they exhaust administrative remedies

prior to seeking injunctive action, i.e., they did not contest the permit. The only evidence offerred was subjective. Thus the plaintiffs would have had to have shown "that the operation and construction of the proposed facilities would constitute a nuisance per se."

## Plant Operation and Maintenance

That the operation and maintenance of a sewage plant can specifically result in a nuisance action or other litigation has been manifested in surprisingly few cases. The following three cases are examples. Faulty operation and maintenance caused effluent discharge problems in one case and personal injury in two cases.

### STATE EX REL. ASHCROFT V. MATHIAS
Missouri Court of Appeals, 616 S.W.2d 882 (1981)

The State brought action against the defendant for violation of state clean water statutes. The defendant owned an apartment house. Originally, a three lagoon system had been used for waste treatment, but after a state agency's objection, the defendant installed a state-approved disposal unit. In 1975, he was issued a National Pollution Discharge Elimination System (NPDES) permit, which specified 30 mg/L for both BOD and TSS. In addition, self-monitoring reports were required quarterly.

In August 1976, the extended aeration system was inoperable for two weeks, because electricity had been cut off for non-payment. In August of 1977 and 1978, the system operated poorly, as seen from the condition

of the receiving stream. State tests showed the effluent standards were in such cases exceeded by two to three hundred percent.

The first operator had not maintained the system properly. The second operator, hired in August, 1978, stated that scum and grease had to be removed from the aeration tank, and "[t]he valves to the aeration tank had corroded shut and had to be opened." In early 1979, the system was said to be operating properly.

In spite of these actions and failure to submit quarterly reports, the trial court stated that the defendant was not in violation,

> ...because he installed the state-approved treatment facility, hired state-licensed operators and replaced one when that operator failed to perform adequately, and responded to the directives, complaints and notices of the Missouri Clean Water Commission.
>
> On appeal, the Court noted that the trial court found that respondent's permit standards were not met for twenty-one days and the self-monitoring reports were not filed.

These were violations, and the State was not required "to prove intent or knowledge on the part of the accused." Nor did the act causing pollution need to be "willful or negligent."

The decision was reversed and remanded.

## COMMENTARY

This was an example of a sufficiently designed system not meeting standards because of poor maintenance. In this particular case, a unique additional reason was the lack of electricity. Also inherent is the need for skilled operators and for more strict licensing procedures.

MCGUIRE V. CITY OF CEDAR RAPIDS
Supreme Court of Iowa, 189 N.W.2d 592 (1971)

The wife of an injured man brought action against the City for his injury. Repairs and improvements were being made to the final sludge pumping station.

> ...an odorless, invisible and lethal [sic] concentration of poisonous sewage gases had accumulated in a dry well pit of the final sludge pumping station.

Her husband, an engineer, climbed into the structure to rescue two other employees, whereupon he himself was overcome by gas, and as a result was "permanently disabled, physically and mentally."

The trial court dismissed the plea on the basis of the sovereign immunity of the City. The Supreme Court reversed and remanded the decision:

> This is a statutory delegation of power which, where exercised by the municipality, carries with it a duty to use ordinary care or exercise due diligence to maintain and operate such disposal system in a safe manner. Failure to perform the duty arising from this delegated power imposes liability upon the municipality for injuries to one lawfully coming upon the permises who is injured because of such failure and without fault on his part without any statute expressly authorizing a cause of action.

COMMENTARY

Of extreme importance in the Supreme Court's reversal is that court's recognition of the duty of a municipality to <u>maintain</u> and <u>operate</u> its disposal system with <u>ordinary care</u> and <u>in a safe manner</u>. Indeed, failure to perform that duty subjects it to liability.

CARTWRIGHT V. TRAYLOR BROTHERS, INC.
U. S. Court of Appeals, 7th Circuit (Ind.), 288F.2d 196 (1961)

The Estate of Wayne Kiester sued Traylor Brothers (Contractor) for his wrongful death due to sewer gas poisoning, allegedly caused by negligence on the part of the Contractor. The latter had contracted with the City of Evansville to construct a pumping station for raw sewage. As resident engineer for the consulting engineers on the project, the deceased, along with other employees, was inspecting the project. He fell, was overcome by sewer gas, and died. There was evidence that at the time of the accident the existing ventilation system (83 percent complete) was not operating correctly, because the wire screen at the discharge end was clogged with dirt.

In light of these facts, it would seem surprising that the verdict was directed for the Contractor. Upon appeal, the case was reversed and remanded.

COMMENTARY

Inherent to this, as found in other cases in this thesis, is the rule of Federal Civil Procedure which says, on motion of directed verdict, the Court must consider evidence most favorable to the plaintiff. Evidence to be considered by the jury concerned, to put it in the simplest terms, whose liability it was. The project was 97 percent complete, but not paid for or accepted by the City. The station was used by the City, and, herein would seem to be the whole case, kept locked by the City. Thus, the Contractor testified it did not have possession or control of the station. However, it was testified to that all parties had access to the stations.

The final result is not known. However, it must be pointed out that a person died because sewer gas collected because someone did not clean a filter. Someone of the staff of the Contractor, the City, or the consulting engineers (also not named in the suit) should have had the responsibility to do a simple task like cleaning a screen. Also, in all the legal questions of possession and liability, why was not the simple question asked of why the City did not give keys to Contractor's personnel and the consulting engineers?

## CONCLUSION

These three cases were rather dramatic results of operation and maintenance problems. The problems are thought to manifest themselves in some cases in the following section on Effluent Discharge Problems, but the relationship is, for the most part, unclear. This writer thinks that unclear relationship is caused by the omission of certain engineering facts from the cases.

### Effluent Discharge Problems

#### Common Law Remedy

Common law, in particular, nuisance and water rights, has been the classic remedy for claims involving the effluent discharge of treatment plants. In general, it has been an effective remedy. That nuisance exists must be proven, whether by the very existence of odor or by the results of chemical or biological testing. The actual cause of the problem has been most often the use of a system, designed for a

particular number of people, for a larger number, or, even more common, the complete lack of treatment.

CITY OF DOUGLAS V. CARTRETT
Court of Appeals of Georgia, 137 So.2d 358 (1964)

A landowner had granted easement to the City for the construction and maintenance of an effluent line from a sewage disposal plant. This line ran across her lands and into a creek. Eight years later she gave notice that the effluent line, also referred to as a "ditch," overflowed onto her lands, subsequently killing timber on twenty-seven acres, and rendering the farm and land unfit for livestock grazing.

The plaintiff filed for damages, claiming negligence on the part of the City. Couched in more legalistic terms in the decision because of the existence of easement and possible breach of contract, in brief, the decision was first found for the plaintiff, but on appeal reversed.

"The preservation of the public health is a governmental function." The Court further said, "The establishment and maintenance of a sewage system by a municipality is for the protection of the public health, and is a governmental function."

COMMENTARY

The reversal in favor of the City in light of the Court's obvious acknowledgement of the duty of a muncipality is explained by the fact that the plaintiff brought action under the wrong legal rule. The contract made with the City was no longer in effect. However, the Court said action could be brought under nuisance:

> This is not to say that the grantor of the easement had no remedy if the acts of the City in the use and maintenance of

the easement are such as to constitute a nuisance and resulting damage.

FINK V. BOARD OF TRUSTEES OF SOUTHERN ILLINOIS UNIVERSITY
Appellate Court of Illinois, 218 N.E.2d 240 (1966)

Landowners filed for two injunctions against a university, one to enjoin the defendants from discharging the effluent from a newly constructed sewage treatment plant into a stream flowing past plaintiffs' land, and one to enjoin the defendants from constructing a dam upstream on a branch of the same stream. These two petitions will be considered separately.

The dam will be considered first. The stream was at that time one of intermittent flow. The water was not potable. The dam was constructed so as to impound water for heating and cooling and recreation. There would be a question of a change of flow, for the only water to pass plaintiffs' property would be that which escaped over the spillway. The Court considered this of the type of question of being most beneficial to a majority of people and not so to only a few. [This is often seen in environmental cases.] The evidence showed that the dam would be on only one branch, whereas flow in the other branch would be increased by runoff from the construction of asphalt parking areas and other construction, thought to be favorable.

Concerning the sewage treatment plant, it was activated sludge followed by chlorination. This was the "highest type of practical and feasible treatment normally accepted in the State of Illinois." Initially, it would treat one million gallons per day (MGD) and later two MGD. This plant was to be used for instructional purposes, so there

was a strong possibility of untreated effluent entering the stream about 900 feet upstream from the plaintiffs' property.

The engineers who had designed the sewer system testified as to an alternate means of disposal of the effluent which they favored. This was an outfall sewer line carrying the unchlorinated effluent to another stream, thence to a channel into the Mississippi River. The plaintiffs also had offered right-of-way across their property for this outfall sewer without cost to the university.

The injunction to enjoin discharge of sewage effluent was granted, but the injunction to enjoin construction of the dam was denied. These were both upheld upon appeals.

## COMMENTARY

Considering the dam and the resulting impoundment, evidence was introduced which was taken as favorable, i.e., the very fact the flow from the other branch would be runoff from asphalt areas. Now it is known that this in itself is a very large problem. Also, it was stated that the impounded lake was to be used for recreation as well as heating and cooling. Cooling waters are now known to be detrimental to fish. A decision which was apparently satisfactory in 1966 could well have lead to three other environmental problems: urban runoff, the effect of cooling waters, and the discharge of the unchlorinated effluent through the outfall pipe, if that alternate method of discharge were used.

WHITE V. LONG
Court of Appeals of Ohio, 231 N.E.2d 337 (1967)

Plaintiffs sought action to enjoin continued operation of a sewage disposal plant from discharging effluent into a small stream at a point before it reached their property. Originally, the injunction was granted twice, in 1963 and in 1966. [One must wonder what happened to the sewage in the meantime.] Upon appeal of the 1966 decision, the injunction was denied, because the "plaintiffs had failed to sustain burden of proof."

The evidence supporting the defendants was strong. Sanitary engineers testified to the completeness (including duplicate units) of the design and efficiency (90 percent) of the plant. Most significant was the chemist who testified for both parties. Samples he had taken upstream and downstream from the treatment plant both contained a BOD of 5 or 6 ppm. He did find some slight foaming from the detergents then in use.

COMMENTARY

The injunctions never should have been issued, but it must be noted that evidence was presented at the second trial which was not at the first trial.

RIDDLE V. CITY OF GREENVILLE
Supreme Court of South Carolina, 163 S.E.2d 452 (1968)

In 1965, the owner of a dairy farm adjacent to a stream brought action against the City and County of Greenville for pollution of the stream. The City and County jointly operated an industrial park, for

which they operated a "sewer," as the Court called it, disposal plant. The discharge from this plant ran into the stream in question.

Simultaneously the owner brought action against one of the industries, Ling-Temco-Vought Electrosystems, Inc. (LTV) in the federal court. The actual nature of damages was not in the record of the instant case, since it had been excluded by the trial judge, but the plaintiff obtained a judgment of $26,000.

In the action against the City and County, it was necessary for the plaintiff to prove damages "different in kind and degree" from those that he had claimed in the LTV case. In the lower court, plaintiff obtained judgment also. However, on appeal, this was reversed and remanded for insufficiency of evidence,

> which is, of course, not a decision on the merits and will leave the plaintiff free to commence again, if so minded, and prove, if he can, that he has sustained damages as the result of the alleged acts of these defendants for which he has not already recovered from LTV.

## COMMENTARY

It would have been more feasible to bring one suit against two co-defendants. This evidently was not possible, since the federal jurisdiction of the LTV case was determined by the fact that its offices were in another state.

What engineering testimony, if any, occurred in this case was not apparent. What is most significant is that the appeals judge noted that the counsel for the plaintiff, after an objection to submit evidence from the LTV case at one time in the trial, "never at any time offered the record in evidence."

CROCKER V. COLLEGE OF ADVANCED SCIENCE
Supreme Court of New Hampshire, 268 A.2d 844 (1970)

The owner of an estate petitioned for permanent injuction against the unreasonable use of a sewage easement on the part of a school on adjoining property. In 1908, the owner's father had granted a sewage easement to the adjoining property owners. The latter operated a summer inn, which was open two months each year and which had a capacity of 35 people. The raw sewage was dumped on the plaintiff's land by means of an eight-inch pipe.

In 1960, the defendant purchased the adjoining property and opened a school. By 1969, approximately two hundred people were at the school for nine months of the year. The flow of sewage increased to such an extent that the plaintiff complained. "The Court had the benefit of a view on a nice, cool spring day" and considered that view as evidence! Besides the view and odor, there was a sanitary water analysis, which showed a "very heavy bacterial contamination indicative of sewage pollution."

The State Supreme Court upheld the original decision that the easement granted in 1908 had been so materially increased "as to impose an unwarranted additional and new burden" and "such increased use constituted a nuisance entitling owner...to injunctive relief."

The defendants had been refused a permit to build a septic system because of close proximity to the public water supply. Claiming it had no alternative methods of sewage removal, the defendant further asked the Court to order the plaintiff to permit the defendant to install a

septic tank on plaintiff's property. Thus, the defendant argued that because of removal of the obnoxious odors was too expensive, it should "be allowed to continue it at the expense of the rights of its neighbors."

COMMENTARY

This unbelievable situation should have never been allowed to happen. If there were not alternate sewage disposal remedies available, other than a septic tank, the school should never have been allowed to begin operation in the first place.

HARTMAN V. WITTY
U. S. Court of Appeals, 3rd Cir. (V.I.), 480 F.2d 339 (1973)

In 1971, a riparian owner brought action against the owner of a shopping center for the pollution caused to the stream from the sewage treatment facilities operated for the shopping center. That pollution was rendering the stream unfit for the cattle owned by the landowner. Designed for 3000 gallons of sewage per day, the treatment plant was inadequately treating 13,000 gallons. In broad terms, the permanent injunction enjoined the shopping center from "causing any and all pollution of the stream from any kind and from whatsoever source so long as the injunction remained in force." Damages were assessed for the landowner at $50.00 a day from the time of judgment.

Scarcely two months later the landowner filed a motion for continuing damages because there was still pollution. This motion was denied, to be vacated and remanded upon appeal two years later.

The shopping center had modified the treatment plant, but soon thereafter a pipe had become clogged, thus allowing "soapy" waste into the stream. The appellate court said the trial court gave too strict an interpretation. Since the permanent injunction previously issued enjoined "any and all" pollution, that the plaintiff was not required to bring action for a new pollution. The original damages for $50.00 a day were based on the severe original conditions. The case was remanded for consideration of the degree of damage based on the actual conditions.

COMMENTARY

In light of the current knowledge regarding the severe effects of urban runoff, the injunction as originally issued was even more broad than it was realized at the time. For the shopping center to avoid "any and all" pollution, the Court was, no doubt, thinking of that caused by the treatment plant only. Urban runoff was not considered. Interpreting this case close to a decade after the decision was reached could give an additional, probably impossible, meaning to the wording "any and all."

WILSON V. UNITED STATES
U. S. District Court, Va., 425 F.Supp. 143 (1977)

The lessees of oyster planting grounds brought action against the City of Virginia Beach, its school board, and sanitary district for the discharge of raw sewage and other pollutants into the surrounding waters. This action was brought under negligence, nuisance, and trespass. It was also brought under admiralty law; thus, United States was mentioned as a defendant.

The defendants' motion to dismiss because of sovereign immunity was denied.

> Since the State of Virginia has made itself and its political subdivision subject to court control for water pollution due to waste disposal, city, school district, and sanitation district could not assert sovereign immunity with respect to claims based on negligence, nuisance, and trespass

or under admiralty law.

COMMENTARY

What final action resulted was not a part of this decision. Relevant to this discourse is that a sanitation district of the State of Virginia can not claim sovereign immunity. Thus, if that district is shown to be negligent, it can be liable.

Statutory Remedies

Statutes invoked by state and, particularly, federal legislation have been the bases of claims against effluent dischargers. Although the initial Federal Water Pollution Control Act was enacted in 1946, it was the Amendments in 1972 (FWPCA) and in 1977 (Clean Water Act) which have had such a great impact on cases involving sanitary engineering. The impact of that legislation manifests itself throughout this thesis.

Two trends are apparent in these statutory cases. Common law, if present, is secondary and does not greatly influence the decision. Second, and most important, the litigation changes character. There is no longer the more clear-cut remedy of common law, but rather, like those cases involving authority of a municipality, the issue frequently becomes one more of jurisdiction, without an immediate remedy in most effluent cases.

Characteristic of the statutory cases has been the objection to secondary treatment on the part of the defendants. To some degree inherent in most of the cases. This objection has been discussed in those decisions where it has been obvious to the court, and therefore, to the reader.

PEYTON V. HAMMER
Court of Common Pleas of Ohio, 269 N.E.2d 136 (1970)

Plaintiff landowner sought action to enjoin three defendant landowners from emptying sewage into a stream at a point before it ran through his land. The defendants claimed prescriptive rights since they had been emptying untreated sewage into the stream for twenty-one years.

The Water Pollution Control Act of Ohio of 1951 prohibited the discharge of sewage into a stream without first obtaining a permit. Since the defendants had never obtained a permit, they were illegally discharging sewage. The defendants were given 120 days to change their waste disposal so there would be no pollution added to the stream.

COMMENTARY

This was an unusual case. Decided in 1970, unlike other cases of this time frame, it was not tried on common law, but rather statutory regulations. Ohio had a state water pollution act by 1951.

As has been mentioned, most cases considered in this thesis are those which are appellate decisions. That this case was reported is thought to be significant.

U. S. V. CITY OF ASBURY PARK
U. S. District Court, N.J. 340 F.Supp. 555 (1972)

The United States brought action against the municipal operators of primary sewage treatment plants along the New Jersey coast for the discharge of diluted sludge into the Atlantic Ocean. For forty years, the defendants had discharged both liquid effluent and sludge through outfall pipes approximately 1000 feet from the beach. The chlorinated effluent was pumped continuously; the sludge, however, was stored, and then pumped only from December 15 through March 15. Prior to being pumped, the sludge was diluted with effluent or water.

Brought to court before the final enactment of the FWPCA, the action was brought under the Rivers and Harbors Act. Dating back to 1899, portions of this law have been commonly called the Refuse Act. It makes unlawful the discharge of refuse, "other than that flowing from streets and sewers" and thus "passing in a liquid form," which would impede or affect navigation of the Nation's waters. By testimony to show that sewage sludge often contained higher solids content than raw sewage, thus being different in character, and contained heavy metals, the federal government attempted to remove the effect of the exception. The plants, in violation of state water quality standards, had been directed to upgrade their facilities, but this had not been accomplished.

The evidence proved to the Court that the discharge of sewage sludge, different in character from raw sewage, presented environmental and health hazards. The defendants were enjoined from the ocean dumping

of sludge, since the court found sludge to be outside the exemption for sewage.

COMMENTARY

The Refuse Act had been more broadly interpreted to prohibit pollution from industrial dischargers during the 1960's, but the exclusion clause as to sewers was not overcome. In this case it was overcome by showing that sewage sludge was not raw sewage or "its equivalent," even when diluted.

In U.S. V. LINDSAY, U. S. District Court, N.Y., 357 F.Supp. 784 (1973), the exclusion clause was not overcome. The United States brought action against the City of New York for the discharge of industrial pollutants via its municipal sewer system. The federal government's motion for summary judgment against the City was denied, because the municipal discharges were held to be within the exclusion clause, "even though sewage contained some inorganic matter." The Court stated that the recently enacted FWPCA would offer "the Government sufficient and proper regulatory powers to correct the problem of water pollution caused by municipal sewer systems."

MONTGOMERY ENVIRONMENTAL COALITION CITIZENS COORDINATING COMMITTEE ON FRIENDSHIP HEIGHTS V. WASHINGTON SUBURBAN SANTITARY COMMISSION
U. S. Court of Appeals, D.C. Cir., 607 F.2d 378 (1979)

This case represented the culmination of six years of litigation, and a "long and tortured history," according to the Court. The environmental group (MEC)

> sought to enjoin the Washington Suburban Sanitary Commission (WSSC) from exceeding its allotted share of the sewage treatment capacity of the Blue Plains Sewage Treatment Plant.

In effect, as ascertained from the footnotes, MEC claimed, among other things, that increased levels of phosphorus and nitrogen were above the promulgated water quality standards for the Potomac River.

On appeal, the decision to dismiss the case was affirmed:

> ...primary jurisdiction over the issue was vested in the Environmental Protection Agency where proceedings had been commenced to issue the sewage treatment plant a National Pollution Discharge Elimination System permit.
>
> Thus, orderly administration and appropriate regard for Congress' clear intention to give EPA a substantial initial role in determing the appropriate levels of discharges dictate that the federal courts withhold jurisdiction until EPA completes the pending administrative proceeding.
>
> Even more important, the resolution of the administrative proceeding may make unnecessary any decision in this case. In the first place, MEC may gain a substantial measure or all of the relief it seeks through limitations included in the permit. Even if MEC is unsuccessful before the administrator of EPA, it will have the right to petition this court for review of the permit ultimately granted by EPA.

COMMENTARY

This would seem a very significant decision. It is to be noted that the Court left recourse available to MEC.

CITIZENS FOR A HYGIENIC ENVIRONMENT V. EATON
U. S. District Court, Pa., 14 ERC 2094 (1980)

The citizens' group brought action against the sewage authority under the Clean Water Act for numerous discharges of raw or untreated sewage during periods of heavy rainfall.

Excessive inflow and infiltration caused the flow through the newly completed system to be greater than the design capacity, thus causing discharges of untreated sewage. It was revealed that sagging pipe lines and separating joints resulted from poor construction, i.e., improperly

placed pipe bedding and backfill, which caused settling. Chemical grouting was placed around some of the clay pipe, but this did not lessen infiltration, since according to the testimony "[t]he use of grouting is ineffective in sealing structurally defective pipes."

The defendants were found to have violated the NPDES permit, and were given ninety days to show the Court plans to meet compliance "with the best control technology currently available." The cause of the system's problems, poor construction, was to be addressed in the state court, since the federal court did not have jurisdiction in that matter.

COMMENTARY

This case illustrates a basic concept: no matter how well designed a treatment system might be, and nothing in the case indicated otherwise, it is really only as effective as the collection system.

MONTGOMERY ENVIRONMENTAL COALITION V. COSTLE
U. S. Court of Appeals, D.C. Cir., 646 F.2d 568 (1980)

Citizen groups petitioned for review of EPA permits for two sewage treatment plants discharging into the Potomac River. The petitioners contended that both permits were "lax" in the control of discharging nutrients. In the mid-seventies, petitioners challenged the permits, only to be met by administrative delay. The court stated:

> If expiration of each permit during such delays is allowed to moot each challenge, petitioners may never obtain judicial review.... We also agree that EPA has exhibited an undue tolerance of delay in achieving Congressionally mandated water quality goals....

The Court considered the permit of one plant moot, since it had become subject to Maryland permit. The Blue Plains plant was to be

considered, since it was still subject to EPA permit. Its original NPDES permit enumerated sixty point sources, including fifty-eight overflow points which discharged during heavy rains. EPA claimed, and the Court agreed, that these were not part of the treatment plant. EPA had refused petitioners' request to review proposals to require sewer hook-up moratoria or to require diversion to alternate (land) treatment. It claimed it could do neither legally. Nor did EPA think it was legally bound to require denitrification. It had endorsed phosphorus removal alone as algae control.

A new permit was issued in 1979:

> The new permit, though not identical to the original one, contains no hint of a sewer moratorium, no diversion to alternative treatment methods, and weaker nitrogen standards than those the petitioners consider binding. Not surprisingly, the petitioners have sought to challenge this permit. But, as in the original permit challenge, petitioners have spent roughly the first third of the permit's life waiting for a hearing.

The Court held that:

> EPA erred in excluding petitioners' evidence concerning land treatment and sewer hook-up moratoria as irrelevant, that the EPA did not err in concluding that the combined sewer overflows are not part of the treatment works, and that the EPA is not bound to include a denitrification requirement...

Thus, the decision was remanded for further consideration by EPA.

## COMMENTARY

Whether the combined sewer overflows were part of the treatment works had great significance. The EPA argued that they were not a part of treatment works within the statute, and therefore, their effluent limitations would be determined by "best practicable technology" applied to point sources, other than publically owned treatment plants.

Conversely, the petitioners' claim that they were part of the treatment works would make them subject to secondary treatment. The Court stated that Illinois v. Milwaukee, U. S. Court of Appeals, 7th Cir., 559 F.2d 151 (1979), discussed in the next section, was not applicable in the present case, since the outflow effluent would, according to the EPA, be treated. In upholding the EPA's claim, the Court said the petitioners still had recourse if these outflow effluents did not meet best practicable technology.

The problem of combined sewer overflows is one not resolved satisfactorily by the Courts or the engineering profession.

BIRCHWOOD LAKES COLONY CLUB, INC. V. BOROUGH OF MEDFORD LAKES
Superior Court of New Jersey, 432 A.2d 525 (1981)

In 1975, residents of the Birchwood Lake area brought action against the Borough of Medford Lakes for compensatory damages resulting from the pollution of that lake from the borough's sewage treatment plant and also for injunctive relief under the Environmental Rights Act of New Jersey. Recovery was sought for the cost of chemicals of dredging to alleviate algal and aquatic growth in the lake.

Having begun operating in 1939, the sewage treatment plant was upgraded in 1964 or 1965, as approved by the State Department of Health. [If design changes were in the trial testimony, they were not in the final decision.] Effluent flowed into a stream and, then 500 feet downstream, into the lake, which had been created in the 1950's. Mats of algae began to be noticed in 1969. By the early 1970's, the lake was unusable for recreational use. A senior biologist from the Division of

Water Resources of the Department of Environmental Protection reported that the flow of effluent contained phosphorus in excess of the department's standard and that the plant should restrict its phosphorus discharges. The plant was then ordered to comply. There followed years of attempts on the borough's part to raise funds by bonds. A construction permit was issued in 1974. By 1977, the borough was to receive federal grant money. All construction was to completed by 1979. The record available to the trial did not give the then current status of the project.

At trial, plaintiffs were awarded $45,000. The judgment was reversed and remanded, with the new trial being limited to the issue of liability on the part of the Borough. If the plaintiff were to prevail at the new trial, judgment would be in the amount of damages previously awarded plus interest and costs.

## COMMENTARY

At best, this case was legally complex and confusing. The Borough, according to the jury, was not negligent in the design, construction, and maintenance of the plant. There was a problem of the "capacity" of the plant, so the jury found the Borough negligent in its "duty to take corrective steps." In an apparent contradiction, according to the appellant Judge, the jury at the same time absolved the Borough of negligence in its "response" to the 1972 order to comply. The jury was not instructed as to nuisance; in fact, many of the instructions to the jury were said to be erroneous. At appeal, the main consideration was

the immunity of the Borough and so its liability. That issue was not resolved.

Facts of the design of the plant or the effluent quality were not stated. The biologist in 1972 made the statement that phosphorus concentration represents one-third that of phosphate, and the phosphorus in a stream entering a lake must not be over .05 mg/L. The standard for effluent quality for the plant was stated to be 1.5 mg/L as phosphate (.05 mg/L as phosphorus), a physical impossibility. If the standard were 1.5 mg/L phosphate and .5 mg/L as phosphorus, this would be more in line with that currently advocated by a well-known limnologist such as G. Fred Lee ("Eutrophication-Related Water Quality in Dillon Reservoir," National Environmental Engineering Conference, N.Y., N.Y., 1980). However, if the standard were .15 mg/L as phosphate and .05 mg/L as phosphorus, this would have been difficult, perhaps impossible, for the plant to achieve. This effluent phosphorus limitation is an area of controversy.

The lake was ruined by algae; that algae was greatly, if not completely, caused by the phosphorus in the effluent of the sewage plant. At the same time, the Borough could not raise funds from bonds to implement needed changes. Perhaps some of the same residents that complained about the eutrophication of the lake refused to vote on the bond issue. As a practical matter, this failure to approve bonds could be one of the largest problems in this area of environmental enforcement.

MARINO V. SENECA HOMES
Commonwealth Court of Pennsylvania, 439 A.2d 1267 (1981)

Homeowners had sought action against the developers, the sewage authority, and the engineer for the improper discharge upon their land from the sewage treatment plant. The engineer in turn filed a complaint against the Department of Environmental Resources (DER), complaining that DER had negligently approved the plans for the sewage plant. It was this appeal solely which was addressed by the present decision.

In 1978, the State Supreme Court had abrogated the doctrine of sovereign immunity in Pennsylvania. However, the same year, the Legislature had reinstated sovereign immunity (with the exception of eight categories). In this decision, the Court concluded that DER had sovereign immunity.

COMMENTARY

The implications are great. If the engineer were found negligent, he could be found liable. In this case, he would not have immunity because the government agency which approved his plans did have immunity.

This case contained little, if any, engineering data. However, the significance to engineers practicing in states that grant sovereign immunity is of extreme importance.

A similar result is seen in STUART V. CRESTVIEW WATER CO., Court of Appeal, California, 110 Cal. Rptr 543 (1973) in the Water Treatment and Distribution Section.

SEWERAGE COMMISSION OF THE CITY OF MILWAUKEE V. DEPARTMENT OF NATURAL RESOURCES
Supreme Court of Wisconsin, 307 N.W.2d 189 (1981)

During the extensive litigation between Illinois and Milwaukee, which is discussed in the next subsection, litigation also occurred within the state of Wisconsin involving the same problems. In 1974, the Department of Natural Resources (DNR), under Wisconsin law, set forth effluent limitations of 30 mg/L for BOD and TSS, and fecal coliform limitations of 200 per 100 milliliters, for two treatment plants in Milwaukee. Moreover, compliance was to be achieved by January 1, 1975, for one plant, and late December, 1974, for the other plant. This secondary treatment requirement was over two years in advance of the date set by FWPCA.

The Sewage Commission of the City of Milwaukee sought to review the permits, denying the authority of the DNR to evoke such standards. The Court adopted a complicated plan, entered into by all parties, which called for implementation of secondary treatment and phosphorus removal (not stated as to method) by 1982, which corrected wet weather problems, and which extended the date of compliance to that of the FWPCA. In fact, secondary treatment standards were met by late 1977. The circuit judge said the DNP was not authorized to set an earlier date, so found for the sewage commission. On appeal, this was reversed and remanded.

The State Supreme Court held that

> (1) the commissions waived their only opportunity for judicial review by failing to follow proper procedural statute, and thus the declaratory action should have been dismissed, but (2) the DNR's counterclaim for forfeitures would lie in accord with both governing law and the parties' stipulation.

The decision of the Court of Appeals was vacated, part of the initial judgment was vacated, and the case remanded.

COMMENTARY

It is difficult to ascertain just what this judicial nightmare accomplished. The whole problem was that the state set forth a date of compliance two years ealier than that of the FWPCA. If that authority were settled, and if it truly were the fact was not readily apparent, it was accomplished after the fact. Compliance was met in late 1977.

COSTLE V. PACIFIC LEGAL FOUNDATION
U. S. Supreme Court, 100 S. Ct. 1095 (1980)

This case was one of administrative procedure, which will be dealt with briefly, because at the core of the problem was a large engineering decision. The Hyperion Wastewater Treatment Plant operated by Los Angeles discharged through three ocean outfalls; one, fifty feet out for emergency flow, the second discharging 340 MGD at 187 feet deep five miles out, and the third discharging diluted sludge at 300 feet deep seven miles out. The wastewater received primary treatment, with one-third receiving secondary treatment by activated sludge.

The original NPDES permit required secondary treatment of all wastewater by 1979, with gradual elimination of ocean disposal of sludge, to be replaced by an alternate method. When this permit expired, EPA extended the permit, and gave notice of doing so. No party responded. However, the Pacific Legal Foundation (PLF) and the City of Los Angeles brought suit to review the permit, claiming that they had

not been given proper notice. The Court of Appeals found that EPA had not given them sufficient notice. The Supreme Court reversed this.

COMMENTARY

Clothed in administrative and legal procedure was the real problem. EPA endorsed a land disposal of sludge which would require 255 round trips per week of digested, dewatered, caked sludge for 42 miles. The City and PLF objected to this for the obvious economic reasons. They also claimed that there would be more adverse effects on both "marine and land environment" caused by sludge land disposal than by ocean disposal. This last statement is most thought-provoking, and one that this writer does not understand, since it disregards any treatment by the soil.

RITE-RESEARCH IMPROVES THE ENVIRONMENT, INC. V. COSTLE
U. S. Court of Appeals, 5th Cir., 660 F.2d 1312 (1981)

After obtaining bond approval for building a sewage transmission line to a secondary treatment plant, the City of Miami Beach, Florida, applied to the EPA for approval of "deep current assimilation." As endorsed by RITE, a non-profit group, this deep ocean outfall would alleviate the need for secondary treatment, as required by EPA under FWPCA. EPA disapproved the request. Supporting evidence showed that EPA indicated that future funds would be difficult to obtain, in "an abuse of power," according to the Court. The City withdrew its suit, and RITE brought suit against federal, state, and local officials.

While the litigation was pending, the Clean Water Act of 1977 was passed. This modified the secondary treatment requirements, but was

interpreted by EPA as pertaining to limited geographical areas. When Miami then asked for further consideration of the method, EPA said that any delay in construction would be in violation.

RITE's claim was dismissed by the district court, which held it did not have standing. On appeal, the Court held that RITE did have the right to bring suit, and so reversed and remanded the suit. Since the transmission line was completed, the Court suggested that on remand the district court should determine whether any other party in Florida wished to file an application for deep ocean outfall. If not, the case was moot. If so, clarification of EPA's position was to be obtained. The Court stressed it could not direct the EPA to grant a permit, but it could direct the EPA to consider fully an application on the merits.

COMMENTARY

The adequacy or inadequacy of deep ocean outfall has not been proven to this writer, but opposition to one claim of RITE's must be expressed. RITE claimed injury, thus providing standing, would be sustained to its members by chemical contamination caused by secondary treatment. It would be interesting to have read the explanation of this statement.

The Court noted that Miami Beach, a defendant in this intricate case, should be treated as a plaintiff upon remand, since it had "encouraged RITE to pursue a battle which it believed it could not by itself win."

NATURAL RESOURCES DEFENSE COUNCIL, INC. V. EPA
U. S. Court of Appeals, D.C. Cir., 656 F.2d 768 (1981)

Alaskan municipalities and interest groups, in a consolidated case, challenged variance regulations of EPA, as authorized by the Clean Water Act of 1977, which excused certain sewage treatment plants from secondary treatment, as required by FWPCA. The Natural Resources Defense Council (NRDC) found them too lenient, whereas the Pacific Legal Foundation and the Alaskan municipalities found them "too restrictive and impracticable."

The regulations were upheld on most counts. (1) They were not restricted to the West Coast and island jurisdictions, as NRDC had claimed. (2) Treatment plants with discharges containing a "substantial" amont of toxic pollutants were not ineligible to apply for permits. Neither EPA or NRDC could define "substantial." The Court thought that other regulations adequately covered toxics. (3) EPA was correct in considering depth as only one factor, not the controlling factor. NRDC had wanted a definite number stated. (4) Permit applications based on current or improved discharge were correct. NRDC had wanted them based on the discharge as of a certain date.

The regulations were remanded on two counts. (1) In spite of EPA's intrepretation that it did not, tne variance regulation meant to the Court that since it authorized "any pollutant," it therefore authorized sewage and sludge, which would have been in opposition to the statute. (2) Prohibiting a permit for plants already achieving secondary atreatment was "arbitrary and capricious," or as the Court stated, "The Agency is rewarding failure and punishing achievement."

## COMMENTARY

Under the FWPCA, publicly owned treatment plants were to have secondary treatment by July 1, 1977, but "thousands" had failed to achieve this.

> The principal reason for this failure was unavailability of federal construction funds due to a Presidential impoundment.

Many argued that it was unnecessary in some locations to have secondary treatment to protect the environment, because of particular geographical conditions. For example, Seattle had argued such concerning Puget Sound. Anchorage, one of the petitioners in this case, contended that the water into which its three plants discharged had tidal waves over thirty feet. By amending the FWPCA in 1977 as to allow variance clauses under certain conditions, Congress was, in effect, going back in some degree to the water quality standards before 1972. Under the correct conditions, this would seem reasonable.

The Court made an interesting statement that legislative history could not be relied on to interpret the Act, but it did just that, as all other courts have done in cases based on the FWPCA.

### Relation of Common Law to Statutory Remedies

The interplay between common law and statutory law would seem to have had the most significant effect on decisions involving sanitary effluent, as traced through the following decisions. Because of the Supreme Court's decision in the early 1970's, the common law remedy of nuisance became a companion of statutory remedy. This would seem a logical and necessary action. However, within a decade, the Supreme

Court made a dramatic reversal when it decided that the FWPCA displaced federal common law.

COMMITTEE FOR JONES FALLS SEWAGE SYSTEM V. TRAIN
U. S. Court of Appeals, 4th Cir., 539 F2d 1006 (1976)

Private citizens brought action against EPA to enjoin discharge of raw sewage which from "time to time" flowed over the weir of the city sewage treatment plant into a stream. The dismissal by the district court was affirmed by the Court of Appeals.

While the case was pending, Baltimore obtained a permit from the Maryland Department of Natural Resources, a permit authorized by the EPA. The Maryland statute had provided that, during the application period, discharges would not be a violation of the statute. The Court said the plaintiffs had no cause of action under the federal statutes:

> The question is whether there is a body of federal common law conferring rights upon private citizens to enjoin intra-state stream pollution which is not enjoinable under the Federal Water Pollution Control Act Amendments of 1972.
>
> When it appeared that the plaintiffs might have no cause of action under the statute, they tendered an amended complaint alleging also a federal common law right of action....
>
> This 'new federal common law' respecting water came into being as a necessary expedient in the resolution of interstate controversies.
>
> We may thus take it as established that there is a body of federal common law by which a public nuisance in one state which infringes upon the environmental and ecological rights of another state may be abated.

The Illinois v. Milwaukee, 92 S.Ct 1385 (1972), was thus cited, but this case was said to differ in that any nuisance action was intrastate, not interstate as in the cited case.

The controversy was said to be a local matter, and the district court's dismissal was said to be correct, since a claim upon which relief might be granted was not stated.

COMMENTARY

This was the most incongruous decision imaginable. This statement is supported by the dissenting opinion representing three of the seven judges. This opinion thought the decision should have been remanded; the stream in question was a part of all navigable water, and as such, nuisances polluting it were subject to federal common law. The city actually insisted that new sources of sewage could legally by added to the overloaded system. In essence, the dissenting opinion broadened the meaning of waters and federal common law, more in keeping, they thought, with the 1972 Illinois v. Milwaukee case.

PEOPLE OF STATE OF ILLINOIS V. CITY OF MILWAUKEE
U. S. Court of Appeals, 7th Cir. (Ill.), 599 F.2d 151 (1979)

Historical note: this decision subsequently has been reversed by the U. S. Supreme Court, but the case is included here for evolutionary perspective.

Perhaps the most significant and most widely known litigation concerning sanitary engineering started some ten years ago.

> The State of Illinois brought suit under the federal common law of nuisance to enjoin the City of Milwaukee and the sewerage commissions of the City and County of Milwaukee from discharging raw sewage and inadequately treated sewage into Lake Michigan.

The original action was denied in the Supreme Court on original jurisdiction and remanded for further consideration to a district court

in Illinois. This action thus established the existence of Federal common law as a basis for pollution enforcement. [Illinois v. City of Milwaukee, 92 S.Ct. 1385 (1972)]

The present case represented the appeal from the district court judgment to not only require the defendants to cease discharging raw sewage but to treat sewage in compliance with effluent limitations more stringent than those imposed by the Federal Water Pollution Control Act (FWPCA).

Illinois contended the sewage discharged by Milwaukee contained pathogens, both viral and bacterial, which were transported by currents into lake waters within Illinois, and thereby was a health threat to the people of Illinois. That State also contended that nutrients from the same sewage accelerated eutrophication of the lake. On this matter, Michigan intervened as a plaintiff also.

Procedural points, as to where the case would be tried, were at issue. Of extreme importance was that federal common law had not been preempted by statute, but citing the 1972 Supreme Court decision, "that new federal laws and new federal regulations may in time pre-empt the field of federal common law of nuisance." [The importance of this will be discussed in the next case.] "When the complaining party is a neighboring state, the federal common law of nuisance provides a peculiarly appropriate remedy." Thus, this crucial point was upheld on appeal at this level.

The matter of dictating state standards more stringent than national standards was also affirmed upon appeal:

> ...it is fully consistent with the Act to impose effluent limitations more stringent than those required by the Act, if this is necessary to prevent harm to a complaining party.

The sewer systems operated by the defendants contained some 239 bypass or overflow points from which untreated sewage flowed directly or indirectly into Lake Michigan. In addition, inadequately treated sewage from two treatment plants at times flowed into the lake. It was testified that bacteria and viruses lived long enough and the currents were strong enough to enter plaintiffs' waters. The district court had required the elimination of all overflows outside the combined sewer system areas by July 1, 1986. The 112 combined sewer overflows were to be restructured to a collection and conveyance system with a storage capacity of 2605 acre-feet by the last day of 1989. Any overflow from this system was to receive minimum treatment of bar and drum screen filtering and chlorination. This was affirmed on appeal:

> It would be senseless to prohibit the discharge of effluent from publicly owned treatment works not meeting the secondary treatment requirements...if raw sewage can nonetheless be discharged at will from overflow points before it reaches the treatment works.

The district court had ordered the defendants to modify existing facilities or construct new facilities to meet the following effluent limitations by December, 1986:

(1) $BOD_5$ and TSS, a monthly average of 5 mg/L each, with no sample over 10 mg/L, as compared to the then existing 30 mg/L each.

(2) A free chlorine residual after 15 minutes exposure time, as compared to no specific requirements in the discharge permit, other than monitoring.

(3) Fecal coliforms not exceeding 40/100 ml, as compared to a monthly average of 200/100 ml and a weekly average of 400/100 ml in the discharge permit.

(4) A monthly average of 1 mg/L phosphorus, same as the permit.

The effluent limitation of phosphorus was upheld upon appeal. However, concerning the other limitations:

> We are unable to conclude, after a careful examination of the evidence cited by plaintiffs to justify the limitations imposed, that this evidence was sufficient.

For example,

> The evidence shows that suspended solids and organic matter interfere with chlorination, and therefore that there is some correlation between suspended solids and $BOD_5$ and effective chlorination. The evidence does not, however, show how much more effective chlorination would be at 5 mg/L suspended solids and $BOD_5$ than at 30 mg/L suspended solids and $BOD_5$; the difference may be significant or it may be de minimis.

Thus, the decision was affirmed in part, and reversed and remanded in part. The City of Milwaukee appealed the case to the U. S. Supreme Court.

## COMMENTARY

What, in effect, the reversal did was to establish secondary treatment in this case, rather than advanced treatment. In the September, 1980, issue of Civil Engineering, it was said that the outcome of this case would not only be a "crucial test of how strictly the Clean Water Act will be enforced," but it would have more effect on publicly owned waste treatment plants than any other litigation to date.

The same article contained a section about Joe Karagamis, who is said to be a leading environmental lawyer and who was Special Assistant

Attorney General for the State of Illinois. He noted that the federal district judge required tertiary treatment and was the first person to address viral contamination levels. Thus, the Court did in the Milwaukee case what EPA has not done, because the threshold level is not now known.

Needless to say, the ramifications of this decision had enormous impact on the sewage authorities in Milwaukee.

CITY OF MILWAUKEE V. ILLINOIS AND MICHIGAN
U.S. Supreme Court, 101 S.CT. 1784 (1981)

In 1981, the U.S. Supreme Court vacated and remanded the preceding case by holding that the FWPCA displaced federal common law,

> at least with respect to the claims brought by the State, and federal common law could not be used to impose more stringent effluent standards than those set forth under the Act and the attendant regulations.

There was reference to "vague and indeterminate nuisance concepts." It was stated that EPA would control overflow effluent problems, a concept strongly objected to by Illinois. It was also said that Illinois did not participate in public hearings involving the permits, nor did that state request EPA to veto permits affecting its waters.

COMMENTARY

Selected quotations from the dissenting opinion of three justices best illustrate this writer's strong views:

> Today, the Court decides that this nine-year judicial exercise has been just a meaningless charade.
>
> It fails to reflect the unique role federal common law plays in resolving disputes between one State and the citizens or government of another.

> ...there was ample recognition of and foundation for a federal common law of nuisance applicable to Illinois' situation.
>
> Indeed, it is undisputed that Illinois made prolonged and diligent efforts to secure administrative relief. Nonetheless, the Court in effect concludes that it is not enough to exhaust administrative remedies that existed at the time a common law action was initiated; a complainant must also be prepared to pursue new and wholly unforeseen administrative avenues even as it seeks a final judgment in federal court. I am aware of no case that adopts so harsh an approach to the pursuit of administrative remedies, and I see no basis for imposing such a requirement in this context.
>
> The EPA in fact has relied upon the federal common law of nuisance in addition to the remedies available under the statute in seeking to protect water quality.
>
> The problem of controlling overflows is particularly amenable to application of this common law authority.... In a single month in 1976, discharge from 11 of the 239 discrete overflow points amounted to some 646 million gallons of untreated sewage.
>
> No provision of the Act explicitly addresses the discharge of raw sewage into public waters from overflow points.... While the Administrator has issued regulations that define secondary treatment in terms of certain minimum levels of effluent quality, he also has acknowledged that combined sewer overflows raise special concerns that must be resolved on a case-by-case basis. This record demonstrates that both Congress and the Administrator recognized the inadequacy of the statutory scheme.
>
> Instead of promoting a more uniform federal approach to the problem of alleviating interstate pollution, I fear that today's decision will lead States to turn to their own courts for statutory or common law assistance in filling the interstices of the federal statute.

In June, less than two months after this decision, the very thing predicted in the last quote took place. In SCOTT V. CITY of HAMMOND, INDIANA, U. S. District Court, Illinois, 519 F.Supp. 292 (1981), an individual, the State of Illinois, and the sewage district of Chicago brought action against Hammond for contamination of its sewage on

Illinois beaches. The defendant's motion to dismiss was denied. However, it was not a matter of federal common law, but one of Illinois common and statutory law "for which relief could be granted against non-Illinois defendants."

> As in other cases which must be decided after a recent Supreme Court decision changes what had been recognized as controlling law, this case presents a difficult issue....

In October, in SCOTT V. CITY OF HAMMOND, U. S. District Court, Illinois, 530 F.Supp. 288 (1981), the same plaintiff met similar defeat, when he brought action against the same defendants. He contended that the EPA failed to comply with the FWPCA by not promulgating fecal and viral criteria. The Court held that the FWPCA required the state, with the approval of the EPA, to set total maximum daily loads (TMDLS) for discharges into a waterway, such as Lake Michigan. If such were deficient, the EPA was to set TMDLS within thirty days. Since neither Illinois or Indiana had set TMDLS, the Court held that the plaintiff should have sought relief in the state courts. The Court emphasized that EPA's authority was limited to <u>state-submitted</u> TMDLS.

Also, in June, the U. S. Supreme Court itself handed down an even more limiting decision. In MIDDLESEX COUNTY SEWERAGE AUTHORITY V. NATIONAL SEA CLAMMERS, U. S. Supreme Court, 101 S.Ct. 2615 (1981), shell fisherman had sought action against federal, state, and local agencies for damage caused to fishing grounds by sewage. Not only were the fishing organizations denied action under FWPCA and Marine Pollution, Research, and Sanctuaries Act of 1972, but the federal common law remedy

was preempted. What, if any, state remedy was available was not discussed.

As the dissenting opinion in the City of Milwaukee case asked: "When should a person injured by a violation of federal law be allowed to recover his damages in a federal court?"

The judicial trend represented by these cases is not only disappointing, but, in this writer's opinion, detrimental to the objectives of the Act itself.

## CONCLUSION

After reading the cases discussed in the topic, Effluent Discharge Problems, roughly 330 pages of judicial decision, this writer strongly thinks that common law and statutory remedies are both necessary in most litigation concerning that topic. One without the other is often not sufficient. Common law can lack the sophistication and precision of statutory law, which in turn can lack the innate good sense of common law. As determined from the cases, this view is supported by some jurists and the EPA itself.

If litigation in this area is going to progress, it must be retrieved from the quagmire of cases which have become purely ones of jurisdiction. At this time what the engineering profession can do about this problem is not known, but it must be addressed. It is a legal problem which will become increasingly an engineering problem. The impact of the litigation on the city of Milwaukee is a case in point;

for example, the influence of the Supreme Court reversal on sewer construction projects already in progress.

Plant Construction

The advent of federal grant money, as legislated in the FWPCA, for the construction of publicly owned sewage treatment plants has had a great influence on construction cases involving financing and bids and awards of those plants because of review and approval authority reserved by EPA.

Financing

The question of financing alone is illustrated by the following two cases:

MANATEE COUNTY, FLORIDA V. TRAIN
U. S. Court of Appeals, 5th Cir., 583 F.2d 179 (1978)

In 1971, the County was awarded a federal grant of 33% for the construction of a sewage treatment plant, under the Federal Water Pollution Control Act. In 1972, the Act was amended to read that grants approved in the first six months of 1971, as the County's was, "shall, upon the request of the applicant, be increased to 75%," if certain conditions were met. The County sought action to receive the 75% federal grant.

One of the conditions was the State Pollution Control Board certified that the quantity of available groundwater would be insufficient without the project. EPA rejected this, instead saying not only that the available ground water was not insufficient, but, because

of certain geological conditions, "the project could not possibly improve ground water."

The Court concluded that it was irrelevant that EPA disagreed, that the very word "shall" set the percentage amount of the federal share once the project was approved, and so the percentage was not left to the discretion of the Administrator

COMMENTARY

The concurring opinion was pleased with the "even-handed application of the law, as enacted by the Congress, to the material facts which are not in dispute." Thus, one word, "shall," resulted in the County receiving 75% of the money, rather than 33%.

CITY OF MANASSAS V. UNITED STATES
U. S. Court of Claims, 633 F.2d 181 (1980)

This claim was an interesting one which was held by the Court not to be in its jurisdiction. The Upper Occoquan Sewage Authority (UOSA), composed of four northern Virginia municipalities, had initially received a grant of $49,300,000, 75% of which was to be federally funded.

> The grievance here is that EPA arbitrarily and needlessly caused an increase in the project cost, rounded off, from $49,300,000 to $82,280,000, with corresponding increase ultimately borne by the municipalities of their ungranted 25 percent.
>
> EPA rejected plaintiffs' original plans because they did not conform to the regulation as interpreted. Plaintiffs submitted revised plans which did, and were approved. Plaintiffs are thus in the position of having acquiesced in the change. Their explanation for this is that they were not aware how great the cost overrun would be.

> The defendant's motion for summary judgment is granted and the petitions are dismissed.

Bids and Awards

The subject of bids and awards has been more frequently litigated. To obtain grant money, conditions must be met by the grantee. The most common trend is that the second low bidder, or otherwise unsuccessful bidder, has challenged the low bid, claiming that it was not responsive, i.e., not correct or in conflict with EPA regulations.

GRUMMAN ECOSYSTEMS CORP. V. GAINESVILLE-ALACHUA COUNTY REGIONAL ELECTRIC, WATER AND SEWER FACILITIES BOARD
U. S. District Court, Fla., 402 F.Supp. 582 (1975)

The Contractor, who was unsuccessful bidder, challenged the bid procedures by which another contractor was low bidder on a sewage treatment plant, funded "in large part" by federal grant.

> Of critical importance to the project was a Denitrification Filter System, a relatively new and untested piece of hardware.

The filter supplier refused to provide an escrow account, nor would it even guarantee the components of the system. The contractors bidding were thus instructed to provide the escrow account. Whether the plaintiff did this or not was not mentioned, but the low bidder did. However, according to the plaintiff, the low bidder did it in such a way, handwritten and vague, that it made his bid unresponsive. The plaintiff notified the EPA of his intention to bring action; the next day EPA notified the City to award the contract to the low bidder.

The latter action by the EPA caused the Court to state:

> In the opinion of the Court, nothing is more reprehensible, nothing more capricious, than EPA's flagrant violation of its own rules of procedure.

However, the plaintiff did not bring this to the attention of the Court when it had initially applied for a temporary restraining order.

> Arrogant as EPA's latter day actions are, the Court is persuaded that it would now be unjust to penalize either Norflow [low bidder] or the taxpayers..
>
> In short, EPA may thank the saving grace of circumstance for the final outcome of this litigation.

COMMENTARY

As is often the case, even if the challenging bidder is found to be correct in Court, the contract has been awarded and money spent. The Court assigned the court costs incurred by the plaintiff to the EPA.

Another feature of this interesting case is the fact that the City's consulting engineers favored awarding the bid to the plaintiff, whereas the City Attorney claimed the low bid was responsive and so favored the low bidder. There were many conflicts at all levels.

DARIN & ARMSTRONG, INC. V. U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V
U. S. District Court (Ohio), 431 F.Supp. 456 (1976)

In 1975, the EPA awarded a construction grant for 75% to Cleveland Regional Sewer District (CRSD). The estimated total cost was $87,000,000, of which EPA would pay $65,000,000, provided certain procurement requirements were met and the project was begun within a year and a half from the date of the grant.

The term "provided certain procurement requirements" was the basis for the action Darin brought against the EPA, when its low bid was

rejected. The main issue was that a contractor was to perform at least 42% of the work himself, with the remaining 58% performed by subcontractors. Substantiation of this was at question.

The Court held that EPA had formed conclusions not supported by documents, and further had not followed Ohio law in the time frames associating the bids and invitations to bid. The order from EPA to CRSD to disqualify Darin's bid was reversed, and an injunction restraining CRSD from following that order was issued.

COMMENTARY

Blount, another contractor, was also defendant in this case. Initially its bid was the lowest, and Darin had made the same objection to its bid that Blount later made to Darin's, i.e., that the bid was not responsive. All bids were then rejected in the first set of bids. In the second set of bids, Darin was lowest, at which time Blount wrote EPA a letter stating its intention to appeal the award. The EPA had ordered CRSD to disqualify Darin.

Essentially, at issue was which contractor would do the project, Darin or Blount. It would seem that EPA was used as a tool.

ALBERT ELIA BUILDING CO., INC. V. SIOUX CITY, IOWA
U. S. District Court, Iowa, 418 F.Supp. 176 (1976)

The second low bidder challenged EPA's determination that low bid on a wastewater treatment plant was responsive. The plaintiff contended that the low bid was not responsive, since it had been based on noncomplying equipment, i.e., it had named specific manufacturers of products [not specified].

Both the City's engineers and attorney agreed that the low bid was not responsive, and the City rejected the low bid and accepted that of the plaintiff. The low bidder then filed for review with EPA, which wrote to the City to accept the original low bidder.

The Court found that EPA had not been "arbitary and capricious" in overruling the City's choice. The plaintiff had argued that the low bidder's listing of suppliers became a counter offer. The Court stated:

> In addition the invitation did not require a bidder to list specific equipment but only to name a manufacturer listed in the invitation. In this regard the contractor is on notice the listing of a manufacturer does not imply automatic approval of all equipment but this responsibility for compliance with the spec's remains with the contractor.

Thus, the action was dismissed.

COMMENTARY

Attention should be called to the burden placed on a contractor by the Court. Also, the plaintiff had argued that EPA had considered other than Iowa law. However, the Court said that state and federal authorities agreed on what constituted a responsive bid.

It is quite probable that the City engineers and attorney wanted another manufacturer listed than the ones listed by the low bidder. The Court noted that half of the other bidders, besides the low bidder, had listed specific manufacturers, not equipment.

The same company met with similar defeat in ALBERT ELIA BUILDING CO. V. VILLAGE OF BROCTON, Supreme Court, Appellate Division, 446 N.Y.S.2d 769 (1981), when as second low bidder on a village's wastewater treatment plant, it brought action against the low bidder and the

village on grounds that the low bidder did not comply with the bidding requirements of federal regulations granting the 75% total costs.

The Supreme Court affirmed the lower court decision and held that the plaintiff failed to exhaust administrative remedies before seeking judicial action. The Court recognized that the role of the federal government in the bidding process was usually secondary to that of the state or local grantee, but the expressed purpose of federal law could not be impaired by state law.

Construction Phase

After the contract has been awarded, common law, most often breach of contract, is the predominate remedy for construction cases. As seen from the following cases, breach of contract is usually manifested in delay, changed conditions, or defective work. The problem involved is generally structural, mechanical, or electrical.

Of extreme importance is the subject of the liability of the engineer. Because of alleged defective plans and specification, the engineer has been named as a defendant or a third-party defendant. There are also those cases in which he should have been named and was not. There are an increasing number of states in which, if found negligent, he is liable. Thus, there is a growing recognition on the part of the courts that an engineer should practice "due care," that he has a responsibility, whether he has a contractural relationship or not.

MACON-BIBB COUNTY WATER AND SEWERAGE AUTHORITY V. TITTLE/WHITE CONSTRUCTORS, INC.
U. S. District Court, GA., 530 F. Supp. 1048 (1981)

The Authority sued the Contractor and a Subcontractor for breach of contract for the installation of sludge incinerators. After EPA approval of the awards, conflicts had caused the Subcontractor to withdraw its bid. Because of this, the prime Contractor had withdrawn its bid.

The "disagreement and confusion" which caused the Subcontractor to withdraw was originally caused by a clause in the specification which called for sludge incinerators manufactured by a particular company, not the Subcontractor. Prior to submission of bids, however, the engineers had approved the Subcontractor as an alternate source. As a result of negotiation between the Contractor, Subcontractor, and the manufacturer named in the specifications, the Subcontractor was supposed to furnish an indemnity bond. This it refused to do.

At some time later, a Georgia company announced it had a new type of boiler which could utilize the sludge produced by the treatment plant as fuel. The Authority determined that by using this option it could save $1,200,000 in capital expenditures and $155,375 in annual operating costs.

In determining the amount of damages due the plaintiff the Court relied on the theory of offsetting benefits, whereby as a result of using a less expensive method, the Authority realized a large saving which it could not have if the Contractor had performed under the

original contract. Therefore, the plaintiff was not entitled to the difference between the low bid and next lower bid.

However, concerning liquidated damages, the plaintiff would be entitled to $250.00 per day for each day after the completion date (540 consecutive days) that the project remained incompleted. Engineer and attorney fees and damages for delay were to be granted if the contract were determined to be valid.

COMMENTARY

The entire situation could have been avoided by a clause in the specifications which said after the named manufacturer "or equal."

McGOVNEY & McKEE, INC. V. CITY OF BEREA, KY.
U. S. District Court, Ky., 448 F.Supp. 1049 (1978)

This claim, originating in 1970, was brought by the Contractor when the City terminated his contract; the resultant counterclaim was brought by the City against the Surety to recover damages for the Contractor's breach of contract. Eight years later, after the deaths of a judge, a lawyer, and an engineer, and increased case loads, etc., the case was concluded. Jurisdiction was in the federal court because of diverse citizenships.

The Contractor was to build a sewage treatment plant for the City. In late 1969 or early 1970, a recently-poured concrete aeration tank, eighty-eight feet in diameter floated from its original position and lodged on a rock "at a tilt," due to accumulations of surface or ground water. Before this happened, the engineer who had designed the project had seen the rising water and had told the subcontractor he could shut

down because of bad weather. The engineer had stated that water in the aeration tank was flowing from another tank and would prevent the tank in question from floating. Bad weather prevented drainage of the tank until the spring, when it was ascertained that the tank floor was so damaged as to necessitate being repoured.

The Contractor awaited instructions from the engineer or the City, even presented plans from another engineer as to how to correct the problem, but he received no such instructions. The engineer then notified the City that the Contractor was in violation of the contract. The Surety for the Contractor took no action, so the City had another contractor finish the project, "although the aeration tank was still slightly off level, which did not affect its operation."

The question before the Court was whether the Engineer's plans and specifications were defective. The Court decided they were not:

> Although [engineer] had not made calculations on the tank's flotation potential and there is a two-foot discrepancy between the ground water elevation..., there is nothing to show that either had anything to do with the fact that the tank floated. It floated because the water exerted pressure on the outside of the tank, which pressure was not equalized on the inside of the tank. Had the Contractor installed a flap valve or left a hole in the side of the tank during construction...the tank would not have floated.
>
> It was not the practice or custom for such valves or holes to be designed in this type of tank constructed in Kentucky, for it was the practice of contractors to protect the job by making sure these tanks remain in place during construction. There are other ways Contractor could have kept the tank from floating: filling the tank with water, constructing dams, or using pumps...None was done.... Although Berea has suggested negligence...,there is no proof of negligence in this case, on the part of Contractor.

Damages were entered against the Contractor and Surety for $83,386.83.

## COMMENTARY

A very unfair decision, it would seem the fault was shared by all, but least by the Contractor. That the engineer, who had died before the case was concluded, did not include a flap valve in the plans because it was not customary to do so in Kentucky did not make it correct. That it was the practice for contractors in that state to do this might not have been known by the Contractor, who was from Ohio. The inaction of the City, the Surety, and the engineer while the Contractor waited to complete the job was the source of the problem. Regardless of the Court's decision, the plans and specifications were defective. In addition, the engineer stated the tank would not float. It did.

### BATES & ROGERS CONSTRUCTION CORP. V. NORTH SHORE SANITARY DISTRICT
Appellate Court of Illinois, 414 N.E.2d 1274 (1981)

This case was a significant example of a trend in some states concerning the liability of an engineer. The Contractor and two Subcontractors filed suit against the Sanitary District and the Engineer to claim damages arising from construction delays of a sewage treatment plant.

The trial court dismissed the complaint because of a clause in the contract between the Contractor and District which categorically stated "no damages for delay."

The complainant had sought damage for engineering negligence in the designing of electrical switchgear and for failure to correct design defects and to provide electrical services on time. Upon appeal, the Court affirmed the dismissal against the District because of the stated clause. However, it reversed the decision concerning the Engineers:

> In dismissing these counts against the Engineers the trial court concluded that the Engineers owed no duty to the contractor as a matter of law. We cannot agree.... To so conclude would conflict with Illinois cases as well as a majority of cases in other jurisdictions which had held [similarly].... We have recently held that an engineer owes the contractor a duty of care in the design and administration of the project.
>
> Further, it should be noted, that the Engineer unlike the District, does not warrant the accuracy of the plans and specifications, but only has the duty toward the Contractor to design the plans and specifications with reasonable care.
>
> Nor do we agree with the claim of the Engineers that the no damage for delay clause in the contract between the Contractor and the District, also protects them against delay damages as a matter of law.

## COMMENTARY

This decision is one of those recent cases in which engineers are not excused from liability because of a clause written by them in the client's contract with the contractor. Similar are those cases in other sections in which the sovereign immunity of the client does not protect the engineer from liability.

The recognition that certain courts have stated that an engineer owes a contractor a duty is commendable. However, it would seem that this principle should be carried further. A contract which contains a clause "no damages for delay" should not be written or signed by any party as a matter of ethics and fair play, since most of these contracts

require the contractor to pay the owner liquidated damages in the event it delays the project. It is interesting to note that all federal construction contracts must contain a Suspension of Work clause which provides that the Government will pay for delays it causes.

DANIEL HAMM DRAYAGE CO. V. WALDINGER CORPORATION
U. S. District Court, Mo., 508 F.Supp. 390 (1981)

Even though not technically or exclusively involving sanitary waste, this case is included to illustrate pertinent facts because of the process units it involved. The plaintiff was to rig and assemble pollution control equipment for a client. He brought action against the supplier claiming damages caused by fraud, because of a misrepresentation of delivery dates. In fact, the delivery of the "internal mechanisms" of the large clarifiers was five months late. The defendant filed a counterclaim against the plaintiff, because, upon completion of the work, it was apparent that the center columns in three clarifiers were out of plumb. The plaintiff refused to correct this. With regard to the importance of the delivery schedule, the Court stated:

> An equipment delivery schedule is material to the preparation of a bid on a construction project. Work scheduling and labor costs, and considerations relative to weather conditions, are all relevant to the preparation of a bid, and are all affected by the equipment delivery schedule.

In answer to the plaintiff's claim, however, the Court stated:

> To recover for fraud, plaintiff must establish that defendant knowingly made a false representation of a material fact intending that plaintiff act upon the representation. Plaintiff must further establish a right to rely on defendant's representations, actual reliance, that such

reliance was reasonable, and that by reason thereof, plaintiff was damaged.

Delivery delays in the construction industry, standing alone, do not provide a sufficient basis for inferring fraud.

In concluding that the plaintiff had established fraud by sufficient evidence the Court awarded the plaintiff $111,998, as measured by the expenses less compensation received. The defendant was awarded in his counterclaim $39,951.

COMMENTARY

The clause "no pay for delay" was included in the contract between the two parties. However, because of fraud, the contract was rescinded, thus making the clause ineffective.

MOORHEAD CONSTRUCTION CO. V. CITY OF GRAND FORKS
U. S. Court of Appeals, 8th Cir.(N.D.), 508 F.2d 1008 (1975)

The City planned to have constructed a sewage treatment plant in two phases, each to be performed by separate contractors. Phase I was designed by the City engineers and "covered earthen work and site preparation for four aerated-anaerobic treatment ponds...." [explained as primary treatment in aerated cells and secondary in lagoons]. The contractor was to complete his work in September, 1969, before phase II construction began; it was actually completed in November, 1970. The contractor was paid in full in late 1971, at which time the legal obligation of the first contractor was terminated except in case of fraud or latent defects.

Phase II, designed by an engineering firm as agent for the City and constructed by the plaintiff, included completing buildings, manhole installation, and all mechanical and electrical equipment.

> However, due to adverse weather, soil conditions, and delays, which are the subject of this litigation, phase II was not completed until November, 1971....

The plaintiff claimed both changed conditions and breach of contract, in that the City had not prepared the site as warranted. The court concluded:

> Thus, the City's arguments that Moorhead's claim actually rests on delays and changed conditions caused ultimately by the phase I contractor, Valley-Mayo, and not by the City, are of no avail. The causal relationship is of no avail to the City if the legal basis for indemnity between it and Valley-Mayo has been terminated. The City previously had accepted Valley-Mayo's work and discharged it from further obligations under its contract, without reserving any claims. Absent fraud or latent defects, the City thus waived any rights against Valley-Mayo which may have arisen because of delay or on the performance bond.
>
> At the time Moorhead bid on the phase II contract, the phase I earth work had just commenced. Because an inspection of the site by Moorhead would not then have disclosed the difficult site conditions which it would later face due to excess moisture and lack of compaction, Moorhead in estimating its bid necessarily relied upon the City to provide a construction site prepared in accord with the specifications of phase I. Those specifications...called for 90% compaction of the soil embankments and cell bottoms.

The engineering firm fully supported the Contractor's claim of changed conditions. The president of the construction firm had refused to take responsibility for it. The lagoon surface bottoms were extremely soft; in fact, most of the foundation footings had to be redesigned. Besides not being allowed on the site until two months

after he was supposed to begin, the Contractor had to work in the winter months.

> Its claim is that its phase II job was entirely changed and greatly increased in cost; it therefore demanded an equitable adjustment of the contract price pursuant to the contract's terms.
>
> The District Court found, however, that Richmond Engineering, as agent for the City, had determined that changed conditions did exist and that failure to carry the administrative process to a final written contract modification was chargeable to the City's neglect, not to Moorhead's.
>
> Specifially, the District Court found that the City's failure during phase I to exercise its authority either to alleviate the soft soil conditions by employing a lime drying additive or to supervise the phase I work more closely had the effect of saving the City money but inequitably shifted the extra costs to Moorhead.
>
> Consequently, the court applied the total cost theory and awarded Moorhead $109,994.26, the difference between its actual expenses and the City's payments.
>
> The Court of Appeals affirmed the lower court's decision.

COMMENTARY

This case raises serious questions concerning the manner in which this project was managed by the City's engineers.

CITY OF DURHAM V. REIDSVILLE ENGINEERING CO.
Supreme Court of North Carolina, 120 S.E.2d 564 (1961)

The City had brought action against the Contractor and its Surety for defective power and light wiring at a sewage treatment plant. The present case involved only the cross action the defendants filed against the supervising engineers.

The contract was between the City and Contractor. The Supreme Court stated:

> There is no mandatory provision in the contract to the effect that it shall be the duty of the Engineer to supervise the work of the contractor and inspect the materials used and to see that the work and materials conform in every respect to the plans and specifications. Under the terms of the contract, the responsibility for the proper completion of the job remains on Construction Company until its completion and final acceptance.
>
> ...the supervisory engineers were not responsible for the proper completion of the contract, and could not be liable to the surety for defects which subsequently became known even if the engineers negligently failed to properly supervise the work.

In so stating, the Supreme Court reversed the lower court's decision.

COMMENTARY

It should be noted that North Carolina has changed is law regarding liability of engineers to contractors. In DAVIDSON AND JONES, INC. V. COUNTY OF HANOVER, Court of Appeals of North Carolina, 255 S.E.2d 580 (1979), it was held that an engineering firm was liable to the contractor not withstanding lack of privity. Several states have held that architects can be liable to sureties for negligence in carrying out their duties of supervision and inspection of construction. The law is equally applicable to engineers.

NORDIN CONSTRUCTION CO. V. CITY OF NOME
Supreme Court of Alaska, 489 P.2d 455 (1971)

In the mid-1960's, Nordin contracted with the City of Nome for the construction of the water and sewer system, including both water and sewage treatment plants. How much preexisting system was available was never stated. Upon completion, the engineer, who supervised construction, stated the work was acceptable, and Nordin was paid $1,353,885.60 less a small amount to cover deficiencies.

The City had another engineering firm inspect the system, deficiencies were found, and Nordin was to correct them. In 1966, Nordin submitted a bill to the City for $196,334.59 for extra work. The City then filed suit for over $3,000,000 for Nordin's failure of substantial performance. Nordin counterclaimed for additional work costs.

The defects testified to by the City, and of course denied by Nordin, were so extensive that even a summary is long.

Because of the Alaskan weather, water and sewer lines were contained in utilidors, under which there was to be bedding and backfill for support. To be of certain specified gravel size, free from organic matter, and compacted to 90% or 95%, the fill was, instead, in tested locations, what had been excavated: planking, board, tundra, silt, permafrost, and ice, and without compaction. Because of this, sections were pulling apart and sagging, causing the water and sewer lines to leak. The sagging of the utilidors caused them to be so misaligned that home connections could not be made without tearing up the streets. The wooden sewer lines were in places clogged; loose joints allowed raw sewage to escape. The water pipes were to contain pitorifices to permit continuous water circulation. As placed, they were useless, requiring all homes in Nome to have a circulating pump.

At the water treatment plant, a broken inlet pipe meant there was no way to prime the pumps to fill the storage pumps. Black fittings in the facilities rusted and contaminated the water. A crack in the foundation of the plant caused water to leak out. Because of an

ineffective saline cutoff, the entire system filled with salt water at the first high tide.

The chlorinator on the raw sewage discharge of the sewage treatment plant was never hooked up, so the receiving water was contaminated. Whether even primary treatment was provided was not stated.

Upheld on appeal was that the Contractor return to the City, under the theory of restitution, the entire amount of money paid for construction less that received for extra work.

## COMMENTARY

This case represents water and sewer lines, a water treatment plant, and a sewage treatment plant. Rather than dividing it into various engineering categories, it is presented in the sewage treatment plant section. The case is a classic one: it represented defective work on the part of the contractor, poor engineering, and inadequate legal representation.

That the Contractor lost is certainly understandable, but that he repaid the entire sum is, upon authority, unusual in construction cases. In the jury trial:

> Finally, Nordin strenuously objected to the use of a verdict form which would have permitted the jury to return a verdict for the City of less than the full contract price, and as a result the court filled in the blank space with the entire contract price. Nordin utilized an all-or-nothing approach in its final argument to the jury.

Nordin's lawyer even objected to inclusion of expert testimony as to the normal life of the system. Nordin argued at appeal that even if it had failed to "substantially perform," the City had received something of

value, but the "burden of proof was on Nordin to show benefit." This was not done.

At one time, Nordin claimed design error. This was not at question, but one fact prevails: the consulting engineer who supervised the project had approved it. How he could have approved a system so obviously defective is, to say the least, questionable. Why was he not party to the suit?

The Supreme Court not only affirmed the decision, it ordered it modified "to reflect the additional award of interests and costs."

What repairs were accomplished is not known, but the contested system is still in use today in Nome.

LOUIS LYSTER GENERAL CONTRACTOR, INC. V. CITY OF LAS VEGAS, N.M.
Supreme Court of New Mexico, 489 P.2d 646 (1971)

The Contractor brought action against the City for the unpaid balance of the contract price for the construction of a sewage treatment plant. In its counterclaim of defective work, the City also brought action against the engineering firm which had designed the plant.

The clarifier-digester was forty feet in diameter and thirty feet high of reinforced concrete. A tray eight feet from the top acted as a divider between the two chambers. In the middle of the tray was a four-foot opening through which the solids were to fall. Directly over the tray was a revolving arm.

During the time the plant was being tested, a crack appeared around the tray; the tray dropped, with part of it hitting the revolving arm, jamming it, and rendering the structure inoperative.

Ultimately, both the Contractor and the Engineer were found equally at fault. The Engineer was found so because of unnamed defects in plans and specifications. The Contractor was said not to have placed some of the specified reinforcing steel bars in accordance with the plans and specifications. Moreover, the Contractor was said to have seeded the clarifier-digestor with raw sewage during cold weather. The sewage evidently froze in the top chamber so as to prevent entrance to the bottom chamber. The Contractor claimed he had followed the specifications.

## COMMENTARY

Originally, the case had been reversed and remanded to simplify the confusion between the issues and the parties, but upon its second appeal, the Court noted that this had "proven a vain hope." The confusion of legal issues was matched by confusion of engineering issues.

The Engineer was found to have been at fault, but how the plans and specifications were wrong was not explained.

The Contractor, from the facts presented, was at fault, but there was an omission. He had, in his appeal, said that the lower court erred in its refusal to find that the Engineer's contract with the City required him to provide a resident inspector. The Supreme Court stated:

> This point is abstract and without relevance. Since no causal relationship between the want of a resident inspector and the failure of the structure is suggested, the court's action related merely to evidentiary matters, and the error, if any, was harmless.

This writer thinks that the Supreme Court failed to consider an important factor. If anything, a resident engineer should have been more knowledgeable about the effect of cold weather.

The structural failure of the clarifier-digester was well described, and the cold-weather seeding was also well described. However, it was never stated which came first; it can only be assumed that the seeding came before the failure.

In spite of the vagueness of the decision, the fact remains that the structure failed, and both the Engineer and the Contractor were held equally liable.

MOOSEHEAD SANITARY DISTRICT V. S.G. PHILLIPS CORPORATION
U. S. Court of Appeals, 1st Cir. (ME.), 610F.2d 49 (1979)

Beginning in 1976, the Sanitary District had brought a diversity action against several private contractors for damages caused by faulty design and construction of a tertiary sewage treatment plant. One count was that the two flocculation-filtration units, referred to as moving bed filters, were faulty. The plant was inoperable and had been abandoned.

In the instant case, the state of Maine wished to intervene in cross claims against both parties, since it had funded one quarter of the plant's construction. Denial to intervene was affirmed upon appeal. Maine was not a party to the contract; Moosehead had no duty to Maine; Maine was adequately represented by the existing plaintiff.

## COMMENTARY

The whole reason for this case is that Maine wanted to insure the recovery of money if the plaintiff recovered. The federal court said that this issue could be addressed in the state courts. The resulting decision might well have been different if EPA had wanted to intervene. Although not definitely stated in the case, it has been assumed that EPA provided 75% of the grant, since the State had provided 25% of the grant.

This case was a great disappointment to this writer. The actual decision discussing the facts of the flocculation-filtration units may well not be published or even settled. In 1979, the action had "apparently not advanced beyond the pleading stage." It would be most interesting to read this case.

## SEWAGE LAGOONS

Common law, specifically, nuisance, has been the remedy in those cases involving objection to location, capacity and operation, and effluent discharge problems of sewage lagoons. Generally, it can be stated that there are sharp discrepancies in these decisions involving lagoons. A court in one state might find a lagoon is a nuisance because of the odors it produces, whereas a court in another state might find it is not a nuisance because odors will not be produced. If it were not for this apparent conflict in two Supreme Court decisions in the same state, there would seem to be a regional difference in mid-Western and Southern states. This has probably resulted from the different

engineering experiences with lagoons. Also, of engineering significance is one case which recognized the danger of a lagoon being placed in a flood plain, whereas another completely ignored that fact.

KRIENER V. TURKEY VALLEY COMMUNITY SCHOOL DISTRICT
Supreme Court of Iowa, 212 N.W.2d 526 (1973)

The owners of a dairy farm brought action for damages and injunctive relief against the school district for its sewage lagoon. This was a nuisance action on noxious odors and water contamination of a stream. It was a lengthy trial with massive records and with much conflicting evidence.

The plaintiffs' witnesses all testified to the presence of obnoxious odors. On the other hand, the defense witnesses reported little or no odor. The owners apparently gave a subjective description of the stream and stream bed, based on visual reports. A sanitary engineer witness for the school district performed tests (not stated) of the lagoon and its effluent (flow-off, as the Court termed it), but the results were not given, except for the statement that he had noticed no odors more than twenty-five feet from the lagoon. Testing of the creek was apparently minimal, other than testing for Pseudomonas aeruginosa as a cause of mastitis in the cattle. Only once was this organism said to be found in the lagoon effluent.

Most important from an engineering standpoint was that the lagoon, designed and constructed in accordance with "accepted" engineering standards and approved by the State Department of Health, was designed

in 1963 for a student population of 600. By 1970, that population had almost doubled.

Since nuisance was the legal theory involved, it was of importance to the Court that the dairy farm was there first, so the concept of "coming to the nuisance" was not involved.

Because of the apparent lack of biological and chemical testing of the stream and the conflicting evidence of the presence of odors, it is not surprising that the trial Court held for the school district. However, upon appeal, the decision was affirmed in part and reversed in part and remanded. It was held that the evidence as to odors from the stream established that the lagoon constituted a nuisance; thus, the dairy farm owners were awarded $3,600 for each year the odors had been present to trial time. The lagoon was held not be the cause of mastitis in the cattle. On remand, the trial court was to take further evidence to determine if the nuisance had been abated; i.e., if the lagoon had been enlarged, chlorinated, or improved by "other adequate scientific means." If such measures had not taken place, injunctive relief was to be granted to the plaintiff.

## COMMENTARY

It would seem that this case is an excellent example of the effectiveness of common law remedies. It has been a surprising revelation to this writer that this has been a predominant trend in the cases involving common law remedies which are included in this thesis. It is perhaps possible that the very presence of a physical characteristic such as odor means more to the judge and jury than

dissolved oxygen and BOD, for example. It is thought that such scientific procedures would lend more credence to the decision. However, this leads to the very real possibility of one party having the capability of retaining more and better experts. There are great ethical considerations here.

It is interesting to compare this case with another Supreme Court decision in the same state.

BADER V. IOWA METROPOLITAN SEWER COMPANY
Supreme Court of Iowa, 178 N.W.2d 305 (1970)

Property owners sought action to enjoin operation of a sewage lagoon on adjacent property and for damages that that lagoon was a nuisance. In 1960, the plaintiffs had bought eighty acres for future real estate development. Subsequent to this date, in late 1966, the lagoon was operated for a residential development adjacent to plaintiffs' property.

Two ponds were constructed "in accordance with engineers' specifications." One cell was in operation by the time of the trial in 1967. The court stated:

> ...uncontradicted testimony establishes that properly maintained and operated sewage lagoons for residential purposes are odorless, with the possible exception of a few days in the spring when the ice goes out. Even then the odor is not likely to be noticeable very far from the lagoon.

"A sewage disposal facility is not a 'nuisance per se', but may become a nuisance in fact or per accidens by reason of particular circumstances or location." The Court said there was insufficient evidence for the plaintiffs to prove nuisance by the presence of odors.

The lagoon was within 190 to 380 feet from sections of the plaintiffs' property line. A State Department of Health representative testified that a lagoon could not be built within 1200 feet of an occupied residence. A real estate appraiser testified that the presence of the lagoon resulted in a loss of $27,000 for future development. However, the Court stated that this "evidence was not enough to establish a nuisance in fact."

Relief for the plaintiffs was denied, and this was affirmed on appeal.

## COMMENTARY

This Iowa decision was in sharp contrast to other decisions involving lagoons. Depreciation of land and presence of odors were not sufficient to prove nuisance. Also, not taken into consideration in this decision was the idea of "coming to the nuisance." The plaintiffs owned the land six years before operation of the lagoon started, but this was not considered by the Court.

Several factors could well have influenced this decision: (1) The plaintiffs had bought the land for future residential development. They did not live on the land. Other cases involving odors from lagoons involved landowners who were daily subjected to odors. (2) Action was brought six months after the lagoon began operation. Perhaps a judgment more favorable to the plaintiffs would have resulted if more time had elapsed before initiation of the suit. (3) The decision stated that the lagoon system, approved by the health department, was used in "many" Iowa towns. Perhaps, sufficient expertise had developed which resulted

in "odorless" lagoons. (4) A problem not sufficiently dealt with was the proximity of the lagoon to the property line. Permits were obtained from both the State and County, but evidently the health department's requirement of 1200 feet from inhabited dwellings was not considered to deal with such future dwellings on the plaintiffs' land. It is thought that this possible inadequacy in the permits was at fault in this case.

A speculative question would be what type of treatment option would the plaintiffs propose for their own development?

Very similar was an earlier Idaho decision, LARSEN V. VILLAGE OF LAVA HOT SPRINGS, Supreme Court of Idaho, 396 P.2d 471 (1964). The plaintiff sought to enjoin a proposed lagoon from being constructed across the river from his motel. Approved by federal and state health agencies, in spite of the fact that it was in an area that could be flooded by the river, the lagoon was found not be a nuisance. A health official, who had all current 23 lagoons in Idaho under his jurisdiction, stated none gave off objectionable odors. The State Supreme Court reversed the lower court and denied injunction.

KANNAPELL V. DULWORTH
Court of Appeals of Kentucky, 497 S.W.2d 718 (1973)

This case, essentially a question of zoning, will be mentioned briefly. Property owners living adjacent to a proposed subdivision brought action against the approval of that subdivision. The commission's approval was sustained and affirmed upon appeal.

Relevant to the subject at hand was the objection of those property owners to the installation of a temporary sewage disposal system, which

was not described. The property owners failed to show that the design was defective, as alleged. Therefore, they had failed to show that the installation would develop into a nuisance, and the Court denied injunctive relief.

COMMENTARY

Unlike other cases, this decision did not even mention the type of the treatment plant involved, other than that it was to be temporary. The word "temporary" could well imply a lagoon, about which courts in different states have expressed very diverse opinions.

TOWN OF HOKES BLUFF V. BUTLER
Supreme Court of Alabama, 404 SO.2d 623 (1981)

Several property owners opposed the construction of a sewage lagoon by the Town outside its city limits. The location of the proposed lagoon was the only consideration. It was upheld upon appeal that the Town could not be permitted to construct a lagoon at the particular location.

An important consideration of nuisance was that even though a project was authorized by law, it may be unlawful as a result of being constructed in an improper manner because of its location.

The lagoon was to have been situated near a river bank. It was to have a clay liner, earth banks, and a size of twenty to thirty acres. It was to be in an area which was prone to flooding. There were nine houses within 1000 feet of the proposed lagoon and 42 within 2000 feet of it. The Supreme Court remarked that it did not have available to it

all the trial testimony. The engineer who designed the lagoon "was generally supportive of the Town's position."

COMMENTARY

All witnesses agreed that the lagoon would "produce vile and offensive odors..." This statement would make this case seem to be one that could have been decided at least a decade earlier. In the year it was decided, 1981, sanitary engineers were being taught that lagoons could be properly designed so as to prevent odors. In this case at least, in this part of Alabama, it was taken for granted that lagoons would have an odor.

It would seem that the location alone, being near the river bank, and thus subject to floods, was sufficient to deny construction. It is interesting to note that nothing was said about possible contamination of the river. If this were even implied, it was not stated.

PATE V. CITY OF MARTIN
Supreme Court of Tennessee, 614 S.W.2d 46 (1981)

Landowners brought action for abatement of a nuisance and for damages against the city of Martin's operation of its sewage lagoon. Constructed in 1969, in an unspecified location other than being "in the vicinity" of the landowner, the lagoon had little odor for two or three years. This indicated to the Court that it was operating properly.

However, after that time, a scum of raw sewage formed on the top, and an odor was prevalent. The odor "convinced" all judges that the lagoon was a "nuisance in fact." Upon complaints, the City purchased a

motor boat, which for several months "churned" the scum in the lagoon. This was the only attempt to alleviate the problem.

Originally, the decision was for the homeowners, then, on appeal, for the City. In the Supreme Court, the judgment for the City was reversed. The nuisance was said to be a temporary one, i.e., one that could be corrected by "the expenditure of time and labor," as opposed to a permanent nuisance. Thus, Martin was to take all reasonable steps to terminate odors from the lagoon, including the use of the motor boat to break up the surface matter and the use of "enzymes" to effectively decompose the wastes. Further, the decision was remanded for redetermination of damages for the landowners.

## COMMENTARY

The issue of whether the nuisance was permanent or temporary was important in this case. It has played an important legal role in cases in at least two states, Texas and Tennessee. The facts did not change in either case. In this one, the lagoon produced excessive odors and did not operate properly. Thus, the nuisance existed, but whether it could be abated or whether damages could be awarded defendant depended on the Court's interpretation of whether that nuisance was temporary or permanent. This strict interpretation could well be a defect in common law remedies for cases of this type.

Also, more would like to be known of the exact nature of the "enzymes" to be added.

# SEWAGE COLLECTION SYSTEMS

## Operation and Maintenance

The cases representing the operation and maintenance of sewer collection systems have classically involved system dysfunction which has caused a backflow into the plaintiffs' homes. The remedy has been one of common law, involving nuisance and/or negligence and municipal corporations. The five cases presented in this section share these elements. However, there has been a marked discrepancy in individual states as to the "duty to exercise due care in the maintenance" of sewer lines. Thus, in some states, even though the city might have been negligent, the courts have found it did not have the duty to maintain the sewers. As to the actual maintenance, it would seem to be that the key ingredient is inspection, the need for which is thought to be of great importance.

### ROTELLA V. McGOVERN
Supreme Court of Rhode Island, 228 A.2d 258 (1972)

The plaintiff brought action for damages from the City for backflow of sewage from the city sewer system into his basement. Following the accident, the city's emergency crew cleaned the "accumulation of debris" from a manhole on the line to which the plaintiff's line was connected.

At trial, it was established that the City of Providence, in operating 467 miles of sewer lines with 20,373 manholes, never inspected lines unless there was no grade. The line in question had not been inspected for thirty years. The City said the plaintiff had not requested a permit for hooking onto the line, but the Court discounted

this, since, after receiving the plaintiff's taxes for eleven years and not notifying him of the need for a permit, the City had "ratified the acts of the plaintiff."

To the City's denial that negligent maintenance was proximate cause, the Court responded:

> ...the duty to exercise due care in the maintenance of a sanitation sewer main may include the obligation to make reasonably periodic inspections when, by the passage of time, deterioration or obstructions are reasonably foreseeable.

The Court found damages of $2,536.17 for the plaintiff, as well as damages for two other plaintiffs whose cases were consolidated with this case. This judgment was affirmed on appeal.

FINAMORE V. CANN
Court of Appeals of Ohio, 334 N.E.2d 518 (1975)

Homeowners filed suit against the County for a defective sewer system which had backed up more than 82 times into their home. They asked for damages for inconvenience and labor costs. The homeowners could not withdraw from the sewer system, because a septic tank and leaching bed would have violated health regulations.

The trial court found for the defendants, but on appeals the decision was reversed.

> Plaintiffs may not recover from dependants money damages for their own inconvenience, or for labor expended by them, predicated upon the negligence of the agents of the county.

However, a "serious nuisance" existed, "for which defendants appear to be responsible." Upon a trial, if these issues were shown to be true, an injunction could be granted, or if the nuisance could not be abated, the plaintiffs could be compensated for property rights.

COMMENTARY

That the defendants could have caused the nuisance, but that the plaintiffs not be awarded for past inconveniences, is wholly unjust to this writer. It is unbelievable that no one thought of the simple and obvious solution: the use of a check valve.

WARD V. CITY OF CHARLOTTE
Court of Appeals of North Carolina, 269 S.E.2d 663 (1980)

In 1977, homeowners sought action against the City of Charlotte for the damage caused by the backflow of 980 gallons of raw sewage into their home the previous year. The plaintiffs

> alleged that the backflow had occurred as a proximate result of defendant's negligent failure properly to inspect, maintain, repair and keep unobstructed the sewer line serving their home.

Defendants admitted the backflow had occurred, that the damage had resulted, but denied any "liability for breach of contract, breach of implied warranty, negligence, or trespass."

The sewerage system, originally installed by a private developer, had been accepted for maintenance by the City in 1974. Three lateral sewer lines intersected at a manhole one block from the plaintiffs' house. From this point an eight-inch lateral ran beside the house, from which a four-inch line connected to it, then to another manhole. The plaintiffs' house was three feet higher than this manhole, but it was lower than manholes upstream on the eight-inch lateral. In previous years, the manhole below the house had overflowed.

City employees found a blockage and a two-inch displacement of a joint in the eight-inch lateral, but a witness (civil engineer) for the

plaintiff testified that this type of blockage could not have caused the manhole to overflow, but rather another manhole further downstream. City records were not complete enough to show any evidence of inspection or cleaning of the sewers in that area before the accident. The court stated:

> In spite of the absence of such records, there is evidence in the record that any sewerage system accepted by the City for maintenance receives periodic cleaning.

The trial court held for the City; upon appeal, this judgment was affirmed.

> Homeowners could not recover from city for damages caused to their home by backflow of sewage, even assuming that city had not inspected or cleaned sewer lines after accepting them for maintenance, there was no evidence to show that defects which caused the backflow had been present for sufficient time to place city on notice or to show that an inspection would have disclosed their presence.

## COMMENTARY

This decision, to this writer, was unreasonable. Records kept by the City were inadequate; plaintiffs had not seen anyone inspecting the sewers, but the Court seemed to assume that inspection had taken place. One manhole had overflowed before, but the plaintiffs had not had any trouble in their home before the time of the accident. The fact that manholes upstream of the house were higher was only noted. The writer would have asked the defendants, what did the City think caused the backflow, and if the City were not liable, what party was?

LOWERY V. CITY OF ABBEVILLE
Court of Civil Appeals of Alabama, 405 So.2d 372 (1981)

The owners of a recently purchased home claimed negligence on the part of the city for two incidents when the city sewer system flow backed up into their home.

The first incident occurred three weeks after purchase, during a period of heavy rainfall. City employees attempted to correct the problem. A hole was placed in the sewer line, allowing the effluent to flow into a nearby creek. A bypass drain or overflow valve was installed, and the line was cleaned out. About two weeks later, when rainfall was not a contributing factor, the sewer line again backed up into their home. The line between the bypass-overflow valve and the home's service line had become clogged. The City then replaced the entire section of sewer.

On the plaintiff's request, the following instruction had been given to the jury: "The fact that the advice of skilled engineers was followed is not a justification or excuse for the failure to exercise due care in the maintenance of a sanitary water system."

The jury returned a general verdict for the City, and this was affirmed on procedural points upon appeal. The Appeals Court "held that the general verdict for the city was not so against the weight of the evidence as to be manifestly wrong and unjust."

COMMENTARY

This particular case would be one in which it would be of interest to the engineer to see the trial testimony. From the facts presented it would be very possible that the City did not exercise due care for

maintenance of its sewer lines. Any sanitary facility, regardless of how well it is designed, must be operated and maintained properly, and it should be the duty of the City to do so.

McWHORTER V. CITY OF NEW SMYRNA BEACH UTILITIES COMMISSION
District Court of Appeal of Florida, 400 So.2d 23 (1981)

Homeowners brought suit against the City for damages due to flooding as caused by blockage in the city sewer sytem. During the evening, sewage water backflowed and flooded their house to a depth of two to three inches. The total damages experienced by the family, including an infestation of maggots and worms, amounted to thousands of dollars. The flooding was found to be caused by blockage in the main line of the city's system, and in no way attributable to the homeowners.

The trial jury denied damages, leading the appeals copurt to state: "As incongrous and improbable as it may seem, the jury found no responsibility on the part of the City Utilities Commission."

The appellants had pleaded estoppel, negligence, nuisance, trespass, and contract. However, instruction to the jury had included simple negligence only, thus omitting res ipsa loquitur. This doctrine "provides an injured plaintiff with a common-sense inference of negligence where direct proof of negligence is wanting..." and applied where:

(1) the instrumentality involved was within the exclusive control of the defendant at the time of the injury, both as to operation and inspection;
(2) the injury was not the result of voluntary action or contribution on the part of the plaintiff; and
(3) the accident would not have occurred had the defendant used due care.

On this basis, the decision was reversed and remanded.

COMMENTARY

As concluded by the Court,

> While most homeowners would anticipate a possible blockage, few, if any, would anticipate a reverse flow.... We suspect that the reason there are so few cases in point in Florida illustrates that it is practical to design such a system or that few cities require their residents to carry such a loss.

## Construction

The cases involving the construction of sewer collection systems have been so numerous that it would be difficult to write about each individually. The two main causes for litigation have been subsurface conditions and personal injury or wrongful death. The legal remedy has been one of common law, often negligence.

### Liability of Engineer

Of great concern to the sanitary engineer are those cases which have involved the liability of the engineer because of his alleged negligence. Containing different legal remedies, the following cases have had this question of liability as their main consideration. Thus, many of the cases involve subsurface conditions, the subject of the next section, but, as an issue to the court and therefore relative to this particular topic, they play a secondary role.

There has been an increasing trend, as mentioned before in the section on sewage treatment plants, of the courts in some states finding engineers liable to contractors for economic harm caused by the

engineer. The importance of this trend cannot be over-emphasized to the engineering profession.

ST. RITA'S HOME, INC. V. TOWN OF AMHERST
Supreme Court, Appellate Division, 327 N.Y.S.2d 674 (1971)

St. Rita's Home (Owner) had, until 1967, been serviced by a septic tank. At that time, it requested Gordon & Broderick (Engineers) to design the connection to the town trunk sewer. Engineers did so, stating compliance with the Plumbing and Drainage Ordinance of the Town of Amherst, which, among other things, required a gate valve to be closed at all times except when the fixtures were in use.

Shortly thereafter, the main sewer trunk backed up, with the expected damage. The Owner then received a letter from the Town stating a violation of the sewer ordinance existed from the lack of a gate valve in the connection.

At the original trial, the complaint of the Owner against the Engineers and Town was dismissed for failure of plaintiff to establish negligence on the part of Engineers. This was reversed upon appeal, and damages of $5,793.55 plus costs were entered against the Engineers.

The Engineer is obligated to "exercise reasonable care and diligence in performing his duties to his employer, act with reasonable judgment and taste, and without neglect." (N.Y. Jur., Architects, section 19). The plaintiff had engaged another firm to inspect the system and make corrections, including the addition of a gate valve. A member of this firm testified that no gate valve was present upon his inspection. Not required in all sewers, gate valves were more common in

Amherst because the sewers were high with a minimum line of flow. Moreover, St. Rita's was "the worst flooding area in Erie County."

The Engineer testified he had never seen a gate valve in a septic tank, that the ordinance did not require one at that site, nor was it checked whether there was one available. He further stated the matter of the gate valve was one of mechanical engineering and not one of civil engineering. The Court likened this to a quote (paraphrased) from a case in 1889; an architect building a house could not excuse his ignorance about plumbing fixtures by saying he was not a plumber. (Hubert v. Ailken, 25 N.E. 954)

COMMENTARY

Negligence and evidence were the legal considerations. One must question in this town ordinance the use of a gate valve, which must be operated manually. It would seem that a check valve, which permits flow in one direction only, would have been more appropriate.

METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO V. ANTHONY PONTARELLI AND SONS, INC.
Appellate Court of Illinois, 288 N.E.2d 905 (1972)

The sanitary district brought action against the contractor, its surety and against the plaintiffs's former chief engineer based on fraud in connection with the construction of a sewer. There were several counts, one being conspiracy on the part of the contractor and the engineer to defraud the plaintiff. The lower court entered summary judgment in favor of the defendants.

The plaintiff argued that the sewers were faulty; they were out of alignment, had a rough grade and sharp breaks; in sections had settled

more than eight feet; the concrete bed was unstable; less reinforcement steel was used than required, but the plaintiff was billed for more; there were leaks; and the flowage capacity was reduced. Approximately ten percent of the sewer needed repair, and some was, but portions were abandoned and other portions collapsed. Infiltration was increased to the extent as to decrease the efficiency of the treatment plant.

It was the duty of the engineer to inspect the project; both he and his resident engineer certified that the work was done in compliance with the specifications.

The engineer testified that he had encountered unstable subsurface conditions, i.e. quicksand. He had judged that a better grade of concrete would be more important than the actual amount of reinforcing steel.

> He felt the reduction in cost as a result of the partial elimination of reinforcement steel would be offset by increases in other costs.... He knew that all of the steel paid for was not installed in the sewer and found nothing wrong with the payment for the steel in spite of the fact that some steel was not installed.

He thought the contractor was doing a good job, and that the sewer was defective because of subsurface conditions.

Upon appeal, the summary judgment in favor of the contractor was affirmed, but that in favor of the engineer was reversed.

## COMMENTARY

This was a very significant decision. First, a sanitary district sued its own former engineer. Second, the Appellate Court found that the evidence was sufficient for the lower court to try that part of the suit.

This decision was in sharp contrast to a North Dakota case the following year, CITY OF WAHPETON V. DRAKE-HENNE, INC., Supreme Court of North Dakota, 215 C.W.2d 897 (1973), in which the City was awarded damages in its action against the contractor. The backfill compaction was found to be defective at the time the project engineer signed the certificate of completion, but the question of the obvious failure to inspect and omission of compaction tests was not adequately considered.

W. H. LYMAN CONSTRUCTION CO. V. VILLAGE OF GURNEE
Appellate Court of Illinois, 403 N.E.2d 1325 (1980)

The contractor, after completing a sewer project for the Village, brought action against the Village and the engineer, who, as agent for the village, prepared the plans and specifications and acted as supervising engineer. Action was brought on "breach of warranty of accuracy and sufficiency of the plans and specifications." Also, the plaintiff claimed the engineering firm had been negligent.

Part of the sewer was constructed through subsurface soil which was predominately sand and silt, rather than clay as the plans had indicated. An unexpected high groundwater table required frequent dewatering.

> Due to the high subsurface hydrostatic pressures, the manhole bases as designed were unable to be sealed by the means permitted in the plans and specifications. Lyman requested approval from Baxter & Woodman [engineer] to use a sealing method which was prohibited by the plans, and Baxter & Woodman allegedly did not grant this approval for many months, causing delay in sealing the bases.

The trial court dismissed the complaint. Upon appeal, the question involving subsurface conditions was affirmed:

> It is well settled that a contractor cannot claim it is entitled to additional compensation simply because the task it has undertaken turns out to be more difficult due to weather conditions, the subsidence of the soil, etc...

The contractor was expected to make his own site inspection; thus, his "failure to inspect" caused him to meet adverse conditions.

Concerning the manhole, the Court reversed the lower decision:

> ...when the Village requires a contractor to perform the contract in accordance with plans and specifications supplied by the Village, the Village impliedly warrants that these plans and specifications will allow the contractor to successfully construct the improvements, thus allowing the contractor to fully perform its part of the contract,....

This reasoning was extended to the complaint against the engineer, even though there was no contractual relationship between the contractor and the engineer. In so doing, the Court cited NORMOYLE-BERG & ASSOCIATES, INC. V. VILLAGE OF DEER CREEK, Appellate Court of Illinois, 350 N.E.2d 559 (1976), which was the first case in Illinois to deal with this issue. Factually, the earlier case was very similar; the contractor had charged the engineer with negligence because he had not completed certain portions of the plans and had failed to "give timely responses to contractor's request for instructions." In reversing the trial court's dismissal of the complaint, the earlier decision held:

> We conclude that a supervising engineer owes a duty to a general contractor to avoid negligently causing extra expenses for the contractor in the completion of a construction project. A supervising engineer must be held to know that a general contractor will be involved in a project and will be directly affected by the conduct of the engineer. This relationship of supervising engineer and general contractor gives rise to a duty of care on the part of each party to the other. Such a duty exists even in the absence of a direct contractual relationship.

TURNER, COLLIE & BRADEN, INC. V. BROOKHOLLOW, INC.
Court of Civil Appeals of Texas, 624 S.W.2d 203 (1981)

Brookhollow, a developer, hired Whitelak, a general contractor, to construct an underground sewer system. The developer hired Turner, Collie, and Braden to act as engineers on the project. The contractor completed the system; however, before final inspection, leaks and cracks appeared. The contractor started repairs, to be halted by a land dispute, then resumed the repairs. The line finally was abandoned to be replaced by another line.

In the suit that followed, with the contractor suing the developer for money for extra work, the developer suing the engineer for damages caused by engineering negligence, and the engineer suing for unpaid fees, the main issue was which party was liable for the leaks and cracks in the line. The engineer was found liable initially and upon appeal.

There were points of law concerning, among other issues, contracts, evidence, and witnesses, but engineering facts were the dominating factor in this case. The contractor had claimed the engineer liable because the latter would not approve the use of a construction method known as special section 5 of the specifications. A procedure sometimes used in the construction of underground lines when the soil is frequently wet, this involves encasing and reinforcing the pipe with timber and compacting with shale and other materials.

The engineer tried to introduce evidence concerning another pipe line, functioning, not constructed by special section 5, and similar to the one in question. This was excluded because, although both lines were laid in wet sand, at about the same depth, and were concrete, the

line involved in this case was deeper by four to eight feet, was of reinforced concrete, and was larger in diameter. The Court pointed out that

> the type of sand is critical, as is the width and depth of the trench and the diameter of the pipe, because they determine the stress and pressure the pipe will be required to withstand.

Not emphasized because of a complex question of evidence was a comprehensive report from another engineering firm which disagreed with at least one of the engineer's methods of repairing the line.

In 1981, the Texas Appeals Court held 1) that the

> contractor was not obligated to deliver the line in operating condition regardless of any deficiency in the plans and specifications, or of the conduct of owners or engineer hired by owners:

and 2) that the engineer was the sole cause of the failure of the sewer line to be in operating condition. However, since the evidence before the Court did not establish as a matter of law that the engineer failed to use ordinary care in designing the location of the sewer and instructions to the jury were incorrect, determination of damages due the developer was remanded. The trial court had originally awarded $298,472.67.

## COMMENTARY

Considering the available facts, this would seem to be a very fair case, and a very important case. The Court's recognition of the importance of the type of sand would lead to the question, not mentioned in the case, of whether or not the engineer performed any soil analysis. The refusal on the part of the engineer to allow a known specification

procedure endorsed by the contractor, or an alternative, is believed to be particularly significant.

MILLER V. CITY OF BROKEN ARROW, OKLAHOMA
U. S. Court of Appeals, 10th Cir. (Okla.), 660 F.2d 450 (1981)

The City of Broken Arrow (City) contracted with Miller Construction Company (Contractor) to build sewer lines and with Benham Blair & Affiliate (Engineers) to plan, design, and inspect the construction.

Shortly after the work was started, the Contractor encountered an "extremely muddy unstable area" which would not support the sewer line. Since "such areas of unstable material could not be anticipated in advance of actual excavation," a Change Order was issued to provide crushed stone of a miminal size of 1.5 inches, as authorized by the Engineer. Upon this modification, the Contractor completed approximately 93 percent of the line. However, it was unable to complete the remaining 7 percent, because it could not stabilize an unusually muddy area with the crushed stone.

What followed became an important consideration to the Court; the Contractor made repeated oral and written requests to the Engineers for an adequate design change, only to be ignored. The Court made mention of the "complete rudeness" on the part of the Engineers and of the many efforts on the part of the Contractor. As advised by the Engineers, the City terminated the Contractor for failure to complete the project. The Contractor then canceled its contract with the City.

Not considered in the trial, but of great interest, is that the City then relet the contract to another contractor. This second

contractor completed the project by using a "clamshell" rather than a backhoe and 18-inch riprap rather than the 1.5 to 4-inch crushed stone as used by Miller. This was done without "actively soliciting the advice of Engineers."

The Contractor, entitled to reply on plans and specifications prepared by the Engineers, was relieved of liability under its contract with the City, because of impossibility of performance where none of the parties anticipated unstable areas, for loss or damage resulting from an insufficient or defective plan. The City was originally awarded damages of $22,500 against the Engineers. Upon appeal, because of the Engineers' "persistent refusal to exercise reasonable care and professional skill" in working with the Contractor, the determination of damages was remanded, with the possible amount to be $266,925.31.

COMMENTARY

All parties agreed to the unexpected poor quality of the supporting soil. Again, as in the preceding case, soil analysis could have shown the existence of this condition. The fact that soil analysis was not mentioned in the trial, but rather that all parties appeared to be surprised, is very questionable.

This case was in sharp contrast to a 1977 Michigan case, EARL L. REAMER CO. V. CITY OF SWARTZ CREEK, Court of Appeals of Michigan, 256 N.W.2d 447 (1977), in which a City was found liable in that it failed to disclose needed information in the plans and specifications to the contractor. The engineer, who had omitted the information and who was a third-party defendant, was not found liable.

## Subsurface Conditions

Subsurface conditions have been the most frequently litigated cases involving sewage collection systems. More commonly referred to as changed conditions cases, they include, in the order as they appear in the following cases: the broad topic of extra work; the more specific topics of misrepresentation, mutual mistake, and assumption of risk; and those litigated because of the contractual changed conditions clause.

The above topic classifications are self-explanatory. The changed condition clause, as encountered in many sewer construction cases, is based on one contained in federal government contracts and adopted by some states. Essentially, it states that if a contractor or owner encounters subsurface and/or latent conditions materially different from those on the drawings, or in some cases, "unusual," the engineer is to be notified. If the engineer finds that they do "materially differ," he is to make the necessary changes. If these changes cause an increase or decrease in the amount due, the adjustment will be made, and the contract modified. As the courts themselves have stated, the clause is mutually beneficial to both parties, as explained in the appropriate decision.

NORTH SHORE SEWER AND WATER, INC. V. CORBETTA CONSTRUCTION CO.
U. S. Court of Appeals, 7th Cir. (Ill.), 395 F.2d 145 (1968)

A subcontractor and his surety brought action against the contractor and the owner of the construction site for extra work caused by the leakage of hot water from another sewer of the owner's. The contractor then cross-claimed against the owner.

It must be stated that this was an industrial sewer, but it has been included in the sanitary discussion, because of the unusual lack of similar cases in the industrial waste field. The 1600-foot long sewer was constructed as a relief sewer which was to divert effluent flow from two existing sewers.

The soil investigation report, given to all bidders, stated that subsurface conditions in certain areas were not known. It was stated that well points or similar dewatering systems would be required, but "No special precautions or other construction techniques were noted."

After work was in progress, hot water "seriously hampered" the operation. Claimed by the owner to be either "perched water above the old river bed" or an underground spring, the hot water caused extensive dewatering. A dye study eventually proved it to be from a leak in the adjacent sewer, which collected cooling water that had been in contact with furnaces of temperatures over 2800° F. The time for tunneling was more than doubled because of cave-ins and voids caused by the hot water. The work was completed only by means of special, more expensive tunneling techniques.

The district court awarded damages for the subcontractor and the contractor against the owner. On appeal, the Court affirmed the lower court's rejection of the owner's theory that the hot water was ground water heated by plant operations. The owner claimed both the subcontractor and contractor knew of the sixty-year-old sewer from the drawings, which they did, but they did not know the condition of the sewer. The Court held that the contractors were not obligated to know

that condition, i.e., the fact that it leaked. The owner's negligence caused the "unforeseen and extraordinary construction difficulties."

The decision was remanded only for redetermination of the damages. The subcontractor was to be awarded damages based on actual additional expense, not including those based on delays caused by "equipment failure, insufficient manpower, and surveyor's mistakes." The contractor was to be awarded only those additional expenses plus the unpaid balance.

COMMENTARY

A decision noteworthy for the logic of the determination of damages, this case contained a fact which was included only as a part of the sewer map. At least one sewer, the one which leaked, carried excessively hot water directly into a river. An environmental issue independent of the concerned parties, the potential adverse effects of this were not considered in this case.

VALENTINI V. CITY OF ADRIAN
Supreme Court of Michigan, 79 N.W.2d 885 (1956)

The contractor brought action against the City for damages for excessive costs for sewer construction because the City had misrepresented the character of subsurface conditions. Consulting engineers had designed a comprehensive sewer system. Plaintiff was to construct approximately 8,600 feet of sewer lines.

The contract required each bidder to examine the plans and specifications and to make its own examination of the site. Boring data was offered only as information; it was the bidder's responsibility to

form his own conclusions. However, the drawings did not show the quicksand the plaintiff encountered in 1,500 feet of the line, nor did they show the excessive water conditions. Both conditions "had been known to the City for several years." Part of the sewer collapsed.

> The withholding by the city of its knowledge of the known conditions, resulting in excessive cost of construction, forms an actionable basis for plaintiff's claim for damages. Nor does the requirement that the contractor examine the specifications and make a personal examination of the site bar the plaintiff from recovering damages caused by the undisclosed subsoil conditions.
>
> The testimony fairly establishes that the city, through its consulting engineers, had knowledge of the unfavorable subsoil conditions; that these conditions were not make known to the plaintiff...

Judgment was found for the plaintiff and affirmed by the Supreme Court.

## COMMENTARY

This misrepresentation of the character of subsurface conditions known by a city, legally, failure to disclose superior knowledge, was the predominate feature of two other cases.

Of great similarity was a California case, CITY OF SALINAS V. SOUZA & McCUE CONSTRUCTION, Supreme Court of California, 424 P.2d 921 (1967), which involved "unstable" soil conditions. Again, the Supreme Court affirmed judgment in favor of the contractor, although reversing and remanding for redetermination of the damages.

In both of these cases involving soil conditions, an engineer was not named as party to the suit. However, in a later case, EARL L. REAMER CO. V. CITY OF SWARTZ CREEK, Court of Appeals of Michigan, 256 N.W.2d 447 (1977), the engineer was named. In preparing the plans and

specifications for a sewer project, he omitted 50 to 60 house leads, some storm sewers, manhole cover elevations, drains, gas lines, telephone conduits, and catch basins. Various city employees knew of these. In reversing the lower court's decision concerning the city's liability, the Court of Appeals found judgment for the contractor, citing the above citation from Valentini. It is to be noted that the City's action against the engineer was dismissed by the lower court; this dismissal was not reversed upon appeal, despite the engineer's many omissions in the design plans.

JOHN BURNS CONSTRUCTION CO. V. INTERLAKE, INC.
Appellate Court of Illinois, 433 N.E.2d 1126 (1982)

Burns sued Interlake to obtain further payment for a sewer project which serviced the latter's pig iron plant and other sites and discharged to the Chicago sewer system.

> Prior to soliciting bids Interlake knew that the subsoil in the area to be excavated might contain cinders, large chunks of iron and coal called 'skulls' or 'buttons,' buried railroad ties, abandoned concrete foundations and concrete-like slag.

Interlake had followed the policy in "50 to 75 instances prior to mid-1972" of inviting contractors to bid on the basis of "virgin soil" to insure compatible bids. Burns was low bidder. Interlake also did not inform Burns of a break in the existing sewer line or that periodically wastewater backed out of one manhole at a rate in excess of 1500 gallons per minute.

> Burns obtained construction permits from the Metropolitan Sanitary District, the Environmental Protection Agency and the City of Chicago...

> Prior to the actual commencement of work, the parties met at the job site and discussed the possibility of non-virgin subsoil conditions. They agreed to tabulate all non-virgin work on Burns' own time and material sheets...

However, this policy was not continued throughout the project; instead, a representative from Interlake led Burns to believe that Interlake would pay for all the cost overruns.

Needless to say, work was hindered by the need for dewatering and by accidents, including a subcontractor breaking through a sewer line. Near completion of the project, Burns was again led to believe his costs of $217,647.80 plus a previous $49,299.81 would be paid. However, upon receipt of the final bill, Interlake agreed to pay only the contract price of $68,117 plus $6,085.77 for hard digging.

> Interlake's position was that these costs were either unrelated to non-virgin soil conditions or were incurred because of Burns' own errors. Burns brought suit.

Burns claimed, among other things, (1) fraud, that he had been misled as to nature of the subsoil; and (2) mutual mistake, that both parties were mistaken about the condition of the subsoil.

The trial court held that Interlake had not committed fraud, but awarded Burns $130,406.25. On appeal the question of fraud was affirmed. On the question of mutual mistakes, the amount of damages was vacated and remanded to determine the value of Burns work, which was not to include costs "attributable to Burns' own construction errors."

## COMMENTARY

That any company could have continued the policy in some known fifty to seventy-five instances of not informing bidders of subsurface conditions, including breaks in sewer lines, is incomprehensible.

Regardless of the findings of the courts, it is, in effect, fraud. The Contractor made mistakes, but it would appear they were not due to his negligence, but rather from lack of knowledge which should have been available to him.

CRUZ CONSTRUCTION CO. INC. V. LANCASTER AREA SEWER AUTHORITY
U. S. District Court, Pa., 439 F.Supp. 1202 (1977)

The sewer contractor brought action against the sewer authority to recover money over the contract price because of his reliance on information supplied by the sewer authority. The contractor encountered rock "at much higher elevation than were indicated on the test borings shown on the plans." This precipitated three times more cubic yards of rock removal. He also had to remove rock from a greater width, thus necessitating more backfill.

The consulting engineers stated that they did not utilize "test borings because of their great unreliability, and that it was a mistake to include such information in the plans."

The federal court, in accordance with the laws of Pennsylvania, followed the philosophy that data in the plans and specifications are for the information of the owner, that the correctness of such information is not guaranteed by the engineer or the owner, and not part of the contract, which stated:

> The Contractor shall satisfy himself, by careful examination, as to the nature and location of the work, the character of equipment and facilities needed preliminary to and during prosecution of the work, the general and local conditions, and all other matters which can in any way affect work under this contract.

Because of this provision and because the Contractor had not submitted a written work order for extra work in the time called for in the contract, the sewer authority's motion for summary judgment was granted.

COMMENTARY

If plans and specifications are only for the information of the owner, why should they even be given to the contractor? If this method prevailed, it would place an unnecessary burden on the contractor, as it did in this case.

In another Pennsylvania case, TRI-COUNTY EXCAVATING, INC. V. BOROUGH OF KINGSTON, Commonwealth Court of Pennsylvania, 407 A.2d 462 (1979), the Court affirmed a lower court's action which reduced an arbitrator's award of $163,500.00 to $17,988.16 in favor of a sewer contractor. The contractor had encountered unforeseen mine water, utility lines, and a storm main. The Court affirmed the award in connection with the utility lines and storm main, but not the mine water. According to the contract, the contractor was to assume full responsibility for subsurface investigation and "any local condition that might affect work."

The rigid adherance to such exculpatory language in the contract as to the assumption of risk is in sharp contrast to those cases which have been to court on the changed conditions clause, as demonstrated in the following cases.

METROPOLITAN SEWERAGE COMMISSION OF THE COUNTY OF MILWAUKEE V. R.W. CONSTRUCTION, INC.
Supreme Court of Wisconsin, 241 N.W.2d 371 (1976)

The sewer district brought action against the contractor for termination of contract prior to completing an 8,300 foot segment of a sewer system; the contractor filed a counterclaim under the changed condition clause. The eight-foot diameter pipe was to be laid one hundred feet below ground.

The contract drawings of sixteen borings showed a glacial till, an irregular type of soil, "a clay layer interspersed with pockets of silt and sand," in the top fifty to seventy feet, below which was limestone bedrock. A "great deal of ground water" was indicated. This necessitated extensive dewatering, either by compressed air or deep well. However, none of the drawings indicated artesian water, under pressure and so more difficult to dewater, rather than static water, not under pressure. One boring report had indicated artesian water, but this was deleted from the actual contract drawing.

> Almost immediately, R. W. ran into artesian water, a condition which persisted throughout the construction period.

Sixteen months after work began, water broke through a trench heading. The contractor was running out of money when the "final disaster" occurred: carbon dioxide gas, stripped from the ground water by the compressed air used for tunneling, began to leak and then settle in residential basements. The contractor tried to invoke the changed condition clause, but the sewer district refused, stating that the contractor must resume work or the contract would be terminated.

In the district court, the sewer district was awarded a judgment of over $5,000,000, and the contractor's counterclaim was dismissed. On appeal, the Court stated that the trial court had relied on the common law concepts of misrepresentation and mistake, rather than relying on the federal precedents of the changed condition clause.

> The changed-conditions clause is a contractual innovation designed for the mutual benefit of both the government and the contractor. The government benefits by the use of such a clause because the contractor no longer needs to add large contingency sums to his bid in order to cover the risk of encountering adverse subsurface conditions. The contractor benefits because he is awarded extra compensation if adverse subsurface conditions are encountered which materially differ from those indicated in the contract.

Artesian water was encountered, but static water was indicated:

> Contract "indications" need not be explicit or specific, but only enough to impress or lull a reasonable bidder not to expect the adverse conditions actually encountered.

An important factor to the Court which confirmed that the contractor had encountered changed conditions was that another contractor was awarded over eight million dollars for completing 85 percent of the work which the original contractor had agreed to perform for less than four million dollars.

The Supreme Court remanded the decision to determine the amount of "equitable adjustment" to which the contractor was entitled.

## COMMENTARY

The sewer district had cited several contractual provisions which warned the contractor of possible difficulties and so relieved the district of liability. The Court stated:

It is well settled that such broad admonitory and exculpatory

> clauses do not restrict the application of the changed-conditions clause...

It must be noted that this extremely important statement is followed in some states, but not in all states at this time.

Very similar was an earlier Wisconsin decision, FATTORE COMPANY V. METROPOLITAN SEWERAGE COMMISSION OF THE COUNTY OF MILWAUKEE, U. S. Court of Appeals, 7th Cit., (Wis.), 505 F.2d 1 (1974), in which a contractor brought action against the same sewer district for additional costs involving 6,600 feet of sewer line, also one-hundred feet below ground. Relying on the defendant's test borings that clay, coarse sand, and gravel were the soil character down to the one-hundred foot level, the contractor used one type of tunneling method, only to encounter solid rock and mixed face throughout the first 496 feet of the tunnel. Remanded by the Court of Appeals (545 F.2d 537, 1971) to the District Court for determination of equitable adjustment, both parties appealed the award of $1,500,000 to the contractor. The judgment was affirmed.

Also factually similar was KENNY CONSTRUCTION CO. V. METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO, Supreme Court of Illinois, 309 N.E.2d 221 (1974), which reached the Supreme Court twice for final determination of damages. The sewer contractor was awarded damages for unforeseen subsurface conditions, including water, running sand, and silt, because of the changed conditions clause.

JAMES JULIAN, INC. V. PRESIDENT & COMMISSIONERS, TOWN OF ELKTON
U. S. Court of Appeals, 4th Cir. (Md.), 341 F.2d 205 (1965)

This case was one which involved the more complete interpretation of the changed condition clause. In addition to materially differing

subsurface conditions, the contract clause also included those of "unknown conditions of an unusual nature differing materially from those ordinarily encountered..."

The contractor brought action on these grounds against the Town, for which he had constructed a sewer line parallel to the river. He encountered the remains of an old wharf, which had "over a long period of time, been covered over by natural or man-made fill to a depth of 5 or 6 feet," and a concrete slab ten inches thick. He had not seen any evidence of this on his pre-bid inspection.

The Town argued that this was not unusual, that the contractor was negligent in "failing to conduct a proper pre-bid inspection of the site." The trial court considered the condition to be unusual, but held that the contractor was negligent.

The Town's consulting engineer in his pre-bid investigation had seen nothing unusual. However, the resident engineer was familiar with the property and knew about the old wharf, but he did not suggest to anyone that these "structures should be noted on the project drawings."

On appeal, the Court held that the evidence did not support negligence in the plaintiff's pre-bid inspection. The decision was reversed and remanded.

COMMENTARY

The effectiveness of the changed condition clause was further documented by the Court:

> ...the primary reason for including a "changed conditions" provision in a government contract is to encourage lower bids but bidding with the understanding that an adjustment in the

> contract price will be made where the circumstances so warrant.

Other Construction Phase Legal Problems

By far less frequent have been those cases involving delay, adequacy of bids, and the engineer's certificate of completion. More frequent have been personal injury and wrongful death cases. With the exception of the one bid case involving sewage collections systems, the other cases were all caused, in some degree, by negligence, most often manifested by insufficient supervision and inspection.

HIGGINS V. CITY OF FILLMORE
Supreme Court of Utah, 639 p.2d 192 (1981)

The sewer contractor brought action against the City for breach of contract; the City filed a counterclaim for liquidated damages because the project was finished later than the specified time.

> Progress on the project was impeded by construction of a freeway and access ramp above the proposed sewage line, the City's failure to obtain the necessary right of ways, and the City's determination to change twice the location of the lagoons after commencement of work at each previous location.

The contractor was awarded $78,120.18. The Supreme Court in affirming the judgment against the City also affirmed the resulting expenses caused by the delay. These included increased labor expense, loss of efficient use of men and machines in the winter months, cost of alternate materials because of City's inadequate inspection, work done on one of the lagoon sites that was abandoned, and for work done at the freeway crossing.

COMMENTARY

The construction problems encountered appear to have been caused by poor planning on the part of the City's engineers.

RIVERLAND CONSTRUCTION CO. V. LOMBARDO CONTRACTING CO., INC.
Superior Court of New Jersey, 380 A.2d 1161 (1977)

The bids were received by a township for sewer construction were all rejected. The two low bids were within $6,000 of each other and compared favorably with the estimate of the township's engineer. The one issue in contention was a unit price bid on fill for the sewers. The township engineer estimated 8,078 cubic yards at $5.00 a cubic yard. The low bidder, Lombardo, submitted a unit price of one cent per cubic yard; the second low bidder, Riverland, submitted one of one dollar per cubic yard.

> The township considered both bids "so low as to be unbalanced."
>
> The trial judge agreed as to the Lombardo "penny" bid, but found that the $1 bid was not so nominal as to render it "unbalanced." It was on that basis that he proceeded to find the Lombardo bid invalid and the Riverland bid to be the lowest valid responsible bid.

On appeal, this was reversed and remanded:

> An unbalanced bid comprehends a bid based on nominal prices for some work and enhanced prices for other work. The mere fact that a bidder has submitted an unbalanced bid, does not automatically operate to invalidate an award of the contract to such bidder. There must be proof of collusion or of fraudulent conduct on the part of such bidder and the city and its engineer or other agent, or proof of other irregularity of such substantial nature as will operate to affect fair and competitive bidding. [citation omitted]
>
> The contractor, backed up by a performance bond, is required to complete the backfilling in accordance with the township's

> specifications whether he bids one cent, one dollar or five dollars a cubic yard for the fill.
>
> ...the submission of the nominal bid by Lombardo commits it to perform the portion of the work relating to back-filling, whether it does so at a profit or loss.

Thus, the township was ordered to award the contract to Lombardo as low bidder.

COMMENTARY

That this was the only case found documented involving bidding on a collection system, in opposition to more cases involving bidding on a treatment plant or the complete system, is thought to be explained by the fact that EPA does not usually award grants expressly for collection systems which are not a part of an overall collection and treatment project.

UNITED PACIFIC INSURANCE CO. V. COUNTY OF FLATHEAD
U. S. Supreme Court of Appeals, 9th Cir. (Mont.), 499 F.2d 1235 (1974)

This case involved the engineer's certificate of completion. The insurance company brought action for the contractor, since it had advanced financial assistance to avoid default, against the sewer district for the balance due on a contract price for a sewerage system.

In late 1965, the engineer had made his final inspection. On March 30, 1966, he made his final certification, "certifying that all work had been completed in conformity with the contract, and ordering final payment." The district did not make the final payment. Instead, in late 1966, a second final inspection was made, and on March 22, 1967, shortly before the one-year guaranty was to expire, the contractor agreed to make the necessary corrections. At some time later, the

system was inspected by the use of a closed circuit television. As a result, the district refused to accept the work.

The Court of Appeals found that

> The court correctly decided that in the absence of fraud or mistake the final certificate of completion by the Engineer was conclusive.

The terms of the contract continued the responsibility of the contractor for those defects "which shall appear within a period of one year from date of final acceptance of the work." The district was ordered to make final payment.

## COMMENTARY

The counterclaim by the defendant "that the sewerage system was so negligently constructed that large sections were unusable unless extensive repairs were made" was dismissed at trial. Before trial, a cross-complaint filed against the engineer had been dismissed. Judging from the facts, it probably would have been advisable for neither to be dismissed, but rather for evidence to be introduced and evaluated.

## HENNIGAN V. ATLANTIC REFINING COMPANY
U. S. Court of Appeals, 3rd Cir. (Pa.), 400 F.2d 857 (1968)

This was a wrongful death action against the City of Philadelphia and the oil refining company on the part of three of four men killed in a sewer tunnel explosion in 1962.

The City Water Department had designed the tunnel, which was located under a street adjacent to the oil storage facilities. The contract between the City and the contractor provided that an inspector from the Water Department would be present at all times during

construction. The soil around the tunnel area was saturated with petroleum products. The tunnel ran through the water table, by which means gases reached the tunnel. This presence of highly inflammable gases necessitated the use of blowers and gas masks.

The City was found negligent, "both in designing the sewer tunnel and in failing to order proper precautions with regard to the accumulation of vapors in the tunnel." The plaintiffs claimed that the City knew of the concentrations of gases in the soil prior to design. It was further found that the City "acted with reckless disregard for the safety of the decedents in failing to take proper precautions against the known danger of fire and explosion," and "that its negligence was the proximate cause of the explosion." Atlantic was not found to be negligent.

Plaintiffs were awarded compensatory and punitive damages against the City, and this was affirmed on appeal.

KOPPINGER V. CULLEN-SCHLITZ & ASSOCIATES
U. S. Court of Appeals, 8th Cir. (Iowa), 513 F.2d 901 (1975)

This was a wrongful death action against the engineering firm which had supervised a sewer construction project, four engineers individually, the contractor, and the gas utility.

During construction, the contractor damaged three gas lines, and the gas utility repaired them with Dresser couplings:

> The evidence was that these couplings were used rather than rewelding, as was the usual practice, because IPS [gas utility] could not readily get access to the gas shut-off tee due to the sewer construction.

The sewer line was relaid and backfilled under the supervision of the engineer. The gas utility checked for leaks during backfilling, but did not return because of bad weather.

Shortly after this repair, the plaintiff's house exploded, killing her husband. Investigation showed that two of the gas lines were broken and leaking at the coupling, because of frozen backfill resting on them.

> There was evidence that Goerdt [contractor] had hastily backfilled the trench and that frozen material was pushed into the trench haphazardly, along with the remaining backfill.
>
> While there was evidence that the procedure followed was not uncommon and that CSA [engineers] had given Goerdt permission for the procedure, the defendants agree that the gas lines were not properly supported and anchored. Moreover, the procedures followed did not comport with the written contract specifications between the city and Goerdt.

On appeal, the lower court's award to the plaintiff of $990,000 compensatory damages against the engineering firm, contractor, and public utility and $60,000 exemplary damages against the contractor and engineering firm were affirmed. However, the jury did not find against the engineers individually.

## COMMENTARY

There is agreement with the Court's statement that this was a fair decision. The contractor, as supervised by the engineer, was "careless in the backfilling." He was unsupervised by the gas utility, even though that utility was to be responsible for repair of the gas lines. However, in the Court's own words:

> The CSA employee-inspector on the job was [individual]. He was not charged individually in the complaint. From the evidence in the case, the jury could reasonably find that CSA's duty to the plaintiffs was breached by reason of the

> poor quality of inspection and supervision afforded by [individual].

It would seem that the individual engineers should have been found liable.

The evidence was very conclusive in this case, as opposed to McLAUGHLIN V. CONSUMERS POWER CO., Court of Appeals of Michigan, 218 N. W.2d 122 (1974), in which a contractor's employee brought action against a gas company on counts of negligence, strict liability, and breach of warranty. Not knowing that gas had accumulated in the manhole in which he was working, he lit a cigarette and was burned in the resulting explosion. The Court of Appeals affirmed the lower court's dismissal of strict liability and breach of warranty but remanded the summary judgment for the defendant on negligence. Even though the plaintiff had contributed to the negligence, evidence was to be taken, since there had been previous repairs on the gas line.

HARE V. FEDERAL COMPRESS AND WAREHOUSE CO.
U. S. District Court, Miss., 359 F.Supp. 214 (1973)

The widow of a subcontractor's employee brought action for his wrongful death, due to a cave-in, against the property owner and the prime contractor. The defendants' motions for summary judgment were granted, and the complaints was dismissed.

It was held (1) that construction of a sewer line by a subcontractor was not inherently dangerous, (2) that the third party liability of an independent contractor does not extend to his employees, (3) that the employer of an independent contractor is not liable for torts of the independent contractor, and (4)

> Federal safety and health regulations did not enlarge responsibility of the property owner who hired prime contractor or of the prime contractor who hired independent sewer line subcontractor whose employee was killed...

Any action under Mississippi law was solely against the subcontractor.

COMMENTARY

This court did not hold construction of a sewer line as inherently dangerous.

The dismissal of a complaint against a property owner was similarly treated in a Maryland case, WALDEN V. WEINSTEIN, Court of Appeals of Maryland, 284 A.2d 1 (1971). A municipal employee, injured in a cave-in during the construction of a sewer, brought suit against the adjoining property owners. In affirming the lower court's judgment for the defendant, the Court of Appeals held that the property owner, while benefiting from the construction, "did not hire, pay, or supervise municipal employees;" thus, he was not liable.

In contrast, in OLSON V. KAYSER, Supreme Court of Montana, 505 P.2d 394 (1973), the property owner had employed the contractor for a sewer line installation. After the plaintiff sued both the owner and contractor for injuries sustained when she fell into a hole in a recently filled trench, the Supreme Court held that the owner's "duty of care" afforded her a new trial. The contractor was found not to be liable, since the accident occurred fifty days after he had completed the project. Thus, he had "surrendered care" to the owner.

CITIZENS MUTUAL INSURANCE CO. V. EMPLOYERS MUTUAL LIABILITY INSURANCE CO. OF WISCONSIN
Court of Appeals of Michigan, 212 N.W.2d 724 (1973)

A contractor's employee was killed when a water main broke into the trench being constructed for a new sewer line, causing the side walls to collapse. Other workmen ran to the cut-off valve to shut off the flow, but the hydrant key was missing. His widow was paid by Citizens, a general liability insurer. Citizens then sued Employers, which had written a public liability policy for the contractor. The judgment was vacated, because of a particular clause in the contractor's insurance policy which provided that the bodily injury clause, did not apply:

> To any act or omission of the named insured or any of his employees, other than general supervision of work performed for the named insured by independent contractors.

There was never a determination of the liability of the contractor or the city at trial. Upon appeal, the Court noted that the city might well have been negligent, but:

> "General supervision" of the actions of an independent contractor digging a sewer line does not and cannot, in our view, extend to keeping a hydrant key available for use in a possible emergency.

COMMENTARY

This has been the second case in which a mundane object such as a key contributed to a death. (See CARTWRIGHT V. TRAYLOR BROTHERS, INC.) Neither trial court addressed the negligence of the city concerned. In Citizens, a particular clause of the contractor's policy was the deciding factor in the decision. The Court emphasized that the director of public works testified he had never read the policy, other than receiving the "certificate of insurance attesting that the contractor

had obtained insurance in the required amounts." The Court admonished officials of other municipalities to be more thorough:

> Additionally, we suggest that a precise record be kept in something other than the memory of the city employee as to exactly what coverage is demanded by the municipality, and insistence upon no exclusions which limit the coverage written.

## SANITARY LANDFILL EFFLUENTS

In general, solid waste management, not covered in the subject matter of this thesis, has been litigated with some degree of frequency. However, it is greatly disappointing to find that an aspect of solid waste management which is within the realm of this subject matter, leachate as a source of water pollution, has apparently been the subject of litigation less frequently and only in the last few years. Whether this has been a result of inadequate enforcement of statutes, themselves often inadequate or late in coming, indifference to a less glamorous aspect of sanitary engineering, or actual lack of knowledge, or a combination of these factors, is not readily determinable. The recent decisions represent an increasing recognition of this problem, perhaps best manifested in the increasing interest in groundwater pollution.

The few cases documented represent two main problems: (1) enforcement, by permit, and the authority of the particular agency to do so, of landfill operations so as to avoid leachate problems, and (2) sanitary landfills which are in reality hazardous waste landfills.

It is of practical interest that three of the six cases dealt to some extent with financial considerations. With respect to sanitary

engineering in general, health considerations have taken precedence over financial considerations.

BROWNING-FERRIS, INC. V. TEXAS DEPARTMENT OF HEALTH
Court of Appeals of Texas, 625 S.W.2d 764 (1981)

The rejection by the health department of an application for a landfill operated for municipal solid waste was upheld. The landfill was to be a 293 acre tract on which 4000 tons of municipal waste was to be deposited daily. Part of the supporting evidence was for the more usual problems associated with landfills (odor, noise, possibility of fire, objection of neighbors), but there was also the "potential damages to the surface and sub-surface waters near the proposed site unless corrective measures were developed by appellant." The possibility of groundwater pollution was only one of several reasons for the denial.

COMMENTARY

However, in LAND RECLAMATION, INC. V. DEPARTMENT OF ENVIRONMENTAL QUALITY, Court of Appeals of Oregon, 640 P.2d 699 (1982), possible groundwater contamination was the only reason for upholding the denial of a permit. Water pollution statutes and solid waste statutes were to be applied together.

As succinct as these two cases were, they both illustrate the growing recognition of groundwater contamination.

MARTELL V. MAUZY
U. S. District Court, Ill., 511 F.Supp. 729 (1981)

A sanitary landfill operator brought action against the state EPA challenging that agency's denial of an operating permit. Operated since 1971, the landfill was purchased by the plaintiff in August of 1979. From that time until a month before operations were ceased because of denial of permit,

> garbage, demolition wastes, and liquid, semi-liquid, and solid hazardous and non-hazardous wastes [were placed] in trenches constructed and sealed so as to contain the wastes and prevent contamination of ground and subsurface waters. The disposal of hazardous waste materials was discontinued after November 18, 1980.

Two main sets of trenches, at a total cost of $197,000, had been constructed. The landfill was inspected and approved by the agency personnel and permits issued. However, upon enactment of new state statutes in September, 1980, three weeks after the last permit was issued, a new operating permit was denied. Past violations were mentioned, but were really not in support of the denial of the permit.

Of importance to the Court was the often-used balance of interest principle, by which the financial damage done to the plaintiff and his due process was greater than the damage to public interest, as demonstrated by the agency's former approval.

The Court entered judgment for the plaintiff in that he could continue to operate until a hearing of the facts could take place with the EPA.

## COMMENTARY

In light of the facts presented, the conclusion of the Court was reasonable. However, there was a severe deficiency represented by this decision, probably most illustrated by:

> The Agency concedes that until [statute] became effective, it could not refuse to issue an operating permit based on alleged prior violation of federal, state, or local laws, regulations, standards, or ordinances in the operation of waste disposal sites.

This could well imply that the previously issued permits did not mean much. If this were the case, why did engineers approve the landfill? The trenches were not described; whether they had linings, how they were covered, the type of soil - none of these were answered.

Most important, the plaintiff was allowed to continue to dispose of nonhazardous wastes. The fact that hazardous waste was accepted during the entire time of his ownership was not dealt with by the EPA or the Court.

## LACKWANNA REFUSE REMOVAL, INC. V. COMMONWEALTH
Commonwealth Court of Pennsylvania, 442 A.2d 423 (1982)

The Department of Environmental Resources (DER) had ordered a sanitary landfill to cease operation and the owner to construct and operate a leachate collection and treatment facility. In violation of its permit, it had clandestinely accepted hazardous and toxic substances, as evidenced by the presence of drums, drivers' reports of associated medical problems, and presence of carcinogens in the leachate. That leachate flowed directly to a river.

Upon appeal of the agency's decision, the Court upheld the order, noting that the presence of a nuisance was not a precondition.

COMMENTARY

Tank cars, many barrels, and 11,550 drums were found in the landfill. The defense of the landfill operators bordered on the absurd; for example, the landfill owner claimed the DER chemist could not name the person who recorded that the legal seals on the sample were intact (the DER chemist testified he himself had done the recording). The owners also faulted the DER for not testing the drums themselves, many of which were labeled "hazardous," "poison," etc.

CITY OF GARY V. STREAM POLLUTION BOARD OF STATE OF INDIANA
Court of Appeals of Indiana, 422 N.E.2d 312 (1981)

The City appealed from an order issuing a preliminary injunction mandating that the City operate its landfill in compliance with the State Stream Pollution Control Board. The Court of Appeals affirmed the order, holding that financial difficulties did not excuse the City's non-compliance.

COMMENTARY

That the problem of solid waste disposal is intimately intertwined with stream pollution was not stated in the decision but is one of general knowledge, and that permit agency responsibility for compliance was the Stream Pollution Control Board are reasons enough to include this case. More important was its dicussion of a concept and a trend stated, but not always followed, in many cases in the enviornmental field:

> This principle is supported by a clear legislative policy, recognized nationally, that health considerations take precedence over economic and technological considerations. Consequently, financial and technological defenses when raised by pollution sources have been typically rejected at both common law and under federal and state legislation. See W. Rogers, Jr., Environmental Law at [sections] 2.11 and 3.9(c)(1977).

Similarly, in O'LEARY V. MOYER'S LANDFILL, INC., U. S. District Court, Pa., 523 F.Supp. 659 (1981), financial incapability was not a defense. A consolidation of private suits and one of the State Department of Environmental Resources (DER), this case involved improper operations of a landfill also. A leachate pond, 100 feet by 100 feet by 2 to 3 feet, had formed. If the sides gave way, some 250,000 to 500,000 gallons of leachate would have flowed into a nearby stream. The DER had ordered the pumping of at least 50,000 gallons per day. The landfill had not complied with this or other methods to prevent leachate impoundment. A preliminary injunction was granted.

## SEPTIC SYSTEMS

### Common Law Remedies

Effluent problems associated with septic systems have been most often litigated under the common law remedies of nuisance or negligence. It is understandable that the cases concerning effluent problems contain, on a smaller scale, the same problems manifested in cases involving sewage treatment plants and collection systems. These include faulty design, use of a system originally designed for a smaller population than the current one, and ignorance of or failure to

recognize soil characteristics. There have been cases which have found a designer of a septic system negligent. However, a common failing of many of the case is often an inadequacy of engineering information in substantiating that negligence.

POLLARD V. LANDWEST, INC.
Supreme Court of Idaho, 526 P.2d 1110 (1974)

The owners of a service station brought action against the owners of a campground for maintenance of a nuisance, that nuisance being a septic tank which contaminated plaintiffs' well water. Several days after the station was opened, the plaintiffs noticed a "foul smelling" well water "dirty in color." A second well was dug, with the same results. A third well, deeper than the previous two, produced potable water.

There was no mention of any bacteriologial testing. Instead, witnesses for the plaintiff testified to its taste and odor. The defendant argued that the foul smell was caused by methane or hydrogen sulfide, inferring that the water was not polluted by sewage, but rather decaying organic matter from a nearby swamp.

Most important is the fact that the 1000-gallon septic tank was inadequate from the beginning. It discharged into a seepage pit, which overflowed the year the service station opened. This waste disposal system was in violation of state standards and a county ordinance. State standards required a drain field rather than a seepage pit in areas such as the one involved where the primary geological formation was fractured basalt. Expert witnesses stated that the seepage pit

would discharge sewage in such a manner as to pollute the well water. In addition, there was the "coincidence between heavy use of the defendants' waste disposal system and beginning of pollution of plaintiffs' water supply."

The owners of the service station were awarded damages of $1,225 as costs for a new well and general damages of $1,000.

MCDONOUGH V. WHALEN
Supreme Judicial Court of Mass., 313 N.E.2d 435 (1974)

This and a companion case were a consolidation resulting from two other cases in which the McDonoughs (Owners) brought action against Whalen (Designer) and DesVergnes (Contractor) for personal injuries and property damages, allegedly caused by negligent design and installation of a septic tank and leaching field.

Whalen had designed the septic tank system for the Contractor, using a form of design he had prepared for the local board of health. He also performed percolation tests before installation. He was paid by the Contractor for his services, an important point. Later he inspected the system as an agent for the board of health. Within a year, the lot was flooded from the leaching field. Again the Designer inspected it and advised the Owners to restrict their use of water. Eventually, the Contractor constructed a drainage area; the Owners engaged another party to solve the sewerage problem; and the Owners resold the house to the Contractor, at a loss of $1000. This amount is the amount the Owners were awarded this amount as damages by the Court.

The Court considered the evidence in such a way most favorable to the plaintiffs. The Designer requested immunity because he was an agent for a government agency. This was disregarded since he had done these services for a private individual and was paid accordingly. Overruling a long-standing rule in Cunningham v. T. A. Gillespie Co., 135 N.E. 105 (1922), the Court treated a builder of houses the same as a manufacturer of goods. Thus, there is no reason why a homeowner should be prevented from recovering for damages merely because "he is not in privity with the builder or contractor responsible for such work." Thus, a contractor or builder may be liable for damage caused by his negligence, even though his work is completed and accepted by the owner before the event occurred.

The Court held that Designer was negligent in the design phase and in the inspection after installation. [It is interesting that the Court did not mention the rather questionable situation of one individual as a government agent inspecting work he himself had performed as a private individual.] The Court also held the Contractor liable for the negligent installation of the system. Evidence showed that the leaching field was not placed at least four feet above ground water level, as required by the State Sanitary Code and the town's construction permit. Damages for mental anguish on the part of the plaintiff were dismissed, since the evidence did not prove extreme negligence by intention to cause severe emotional distress or physical harm.

## COMMENTARY

This case is perhaps one of the most difficult to report upon in this area of cases. Many courtroom hours were spent for a small amount of damages, the legal questions were somewhat complex, and the engineering facts were reported at a minimum. A designer was found negligent because something did not work. One must ask why it did not work, other than improper placement of the leaching field, which in itself could cause failure. More evidence must have been presented to the lower court; more information of this type should be included in appellate decisions.

## CROMMELIN V. FAIN
Supreme Court of Alabama, 403 So.2d 177 (1981)

A property owner brought action against the property owner upstream for decreasing the flow of the stream and polluting the water. The plaintiff used the stream water to partially supply water for swimming pools. He had, prior to this time, entered into a covenant with former upstream owners not to pollute the stream or decrease the flow.

The defendant, found by the Court not bound by this covenant, drew water from the stream for his domestic use only. It was said that the wastewater was not returned untreated to the stream, since it was "filtered" through the defendant's septic tank. He had also constructed a concrete culvert over the spring. This culvert, according to the plaintiff, stirred up mud and so polluted the water.

The Court denied plaintiff relief, and this was affirmed in the State Supreme Court: "Defendants' reasonable use of water did not deny plaintiff riparian rights in stream."

COMMENTARY

This decision was in some aspects questionable, especially considering the recent date of the decision, because of facts omitted. The purpose of the culvert was not stated. It was certainly reasonable for the defendant to draw water from the stream for his domestic use. If the culvert were used to facilitate that, it was not stated. The most surprising aspect of the case was the equating of pollution with mud stirred up by the culvert, not the so-called "filtered" effluent from the septic tank. A septic tank without a leaching field, or some similar device, is not satisfactory. Did the effluent pass directly from the septic tank into the stream? Or, is it to be taken for granted that the effluent traveled through sufficient soil for treatment?

Addressed at great length was the covenant itself. This was the primary concern of the Court. It was taken for granted that the septic tank effluent was treated. That the plaintiff operated pools used by the public, and that water from the stream could have been a public health problem was not addressed at all.

CONANN CONSTRUCTORS, INC. V. MULLER
Court of Civil Appeals of Texas, 618 S.W.2d 564 (1981)

Two homeowners, Kolbert and Muller, each bought a lot from Conann, one in 1970, and the other in 1972. The Kolbert property had a septic tank in the front yard, but it never worked properly, from 1971 to the

trial date. In 1975, Muller sought action against the Kolberts for nuisance caused by septic overflow from their lot running over his lot. The Kolberts then filed a third party action against Conann for damages under several causes, including breach of warranty, strict liability, and fraud.

The septic tank system, effective in other similar lots, did not function in that particular lot. The trial decision awarded a total of $99,225 in damages against the contractor, and $10,000 for nuisance and $7,125 for lost rental value for Muller against Kolbert. On appeal, the damages to be paid the Kolberts by the contractor were reduced by about one-third, and the $10,000 award to Muller for nuisance was affirmed.

COMMENTARY

From the limited facts presented as to the septic system itself, it would appear that this was essentially a problem of location. The drain field had overflowed beginning soon after the house was occupied. The Kolberts had complained to the contractor, but he had said it could not be repaired.

PARSONS V. BEAULIER
Supreme Judicial Court of Maine, 429 A.2d 214 (1981)

Homeowners brought action against a contractor for damages for his breach of contract to construct a septic system. The case also involved the construction of the house foundation and garage, but this portion of the case will be deleted.

In 1974, the plaintiffs contacted the defendant, who was the town's plumbing inspector, to seek a plumbing permit for the house the

plaintiffs were building. Their lot had a "heavy clay soil" and had previously failed a soil percolation test. The contractor, claiming he had installed a septic system on his own land, which had similar characteristics, agreed to install the system for $1000. Beginning in the spring of 1975, effluent flowed onto the lawn, odors were prevalent, and the house drains were clogged. The contractor made unsuccessful attempts to remedy the conditions.

In late 1977, the plaintiffs hired a "site-use evaluator," who told them the existing system was inadequate. After bringing suit, the plaintiff had installed a replacement system for $4,000. After a non-jury trial, they were awarded damages based on replacement costs. The septic system, along with the other items, was not "installed in a workmanlike manner" and was defective.

The defendant did not contest the finding that the system was defective or unworkmanlike, but that the replacement costs were too high. Thus, he claimed the plaintiffs had been compensated for a system not available in 1974. At trial, expert testimony had shown that properly designed systems were based on the number of bedrooms, not the limited capacity of the contested system, as based on occupants alone. It was said that the "raised bed system," as a replacement, was not generally known in the area at the time of the original installation. However, a new plumbing code was to be issued in 1974. Most important, a "skillful and prudent" contractor would have not installed a conventional system on such a lot. An adequate system could have cost even more than $4,000 at that time. The decision was affirmed.

COMMENTARY

The septic system failed for one reason alone, that being the character of the soil, as shown by the failure of the soil percolation test.

COBURN V. LENOX HOMES, INC.
Supreme Court of Connecticut, 441 A.2d 620 (1982)

Three months after the plaintiffs purchased a home in 1974, and two and one-half years after its installation for the original owners, the septic system failed, resulting in effluent surfacing in the back yard. The plaintiffs then brought action in contract and in negligence against the developer. In 1977, the state Supreme Court affirmed the dismissal of this complaint on "implied warranty, contract, and express warranty because the plaintiffs lacked contractual privity with the defendant." However, it remanded the case on the grounds of negligence.

The present case was the appeal of the defendant challenging the award of $16,390 in damages for the plaintiffs. The defendant first said that there was insufficient evidence to even prove he had constructed the system or even owned the property. This was discounted. Next, he said there was no contract between him and plaintiff. The Court found:

> ...the plaintiffs alleged that the defendant owed a duty to the plaintiffs to construct the septic system in a good, substantial, workmanlike manner. Because the plaintiffs alleged a common-law duty of care, the failure to introduce direct evidence of the existence of a contract between the defendant and the first purchasers is not fatal to the plaintiffs' recovery of negligence.
>
> A duty to use care may arise from a contract, from a statute, or from circumstances under which a reasonable

> person, knowing what he knew or should have known, would anticipate that harm of the general nature of that suffered was likely to to result from his act or failure to act.
>
> When negligent construction is alleged the plaintiff must prove that the defendant knew or should have known of the circumstances that would foreseeably result in the harm suffered.
>
> Where there is a duty of finding out and knowing, negligent ignorance has the same effect in law as actual knowledge. [Citation deleted]

The septic system included galleries, each two feet deep. The town building inspector testified that one, possibly two percolation tests were performed, but the percolation rate was not indicated. A professional engineer and the town sanitarian testified to slower rates of percolation than indicated in the permit application. The town sanitarian further testified that his tests indicated high groundwater and rock levels in the leaching area, and that backfill existed in large quantity. The defendant claimed to have no notice of these conditions, which would have precluded a well-functioning septic system. Town officials testified that the required engineering report as to the suitability of the leaching area was not submitted by the defendant. The Court stated:

> There was testimony at trial that a skilled builder exercising due care should design a system to accommodate the highest seasonal ground water table as determined by percolation tests conducted over a period of time.... The use of builder's fill in the leaching field is totally unacceptable because it is contrary to the fundamental principles of septic system operations.

The evidence was sufficient to affirm the trial court's "conclusion that the defendant breached its duty of care." The defendant claimed that the sole proximate cause of the system's failure was the use of a

water softener and a garbage disposal. The disposal had been disconnected by the plaintiffs. The water softener was determined to contribute twenty gallons of the daily 510 gallons of sewage. Also there was testimony that the softening chemicals inhibited the bacterial action of the soil. This was discounted in the conclusion that the defendant's actions were the "sole proximate cause of the harm suffered by the plaintiffs."

## COMMENTARY

This Connecticut decision was one of the best presentations of both legal issues and sophisticated engineering principles of all the cases considered. However, there were two defects, one before initiation of legal action and one during the trial itself. First, sanitary engineering surveys of the site as conducted by local officials were well documented. It was known from the beginning that defendant's system was inadequate. It was not clear in the decision how, in spite of this, did he obtain a permit to build in the first place? Second, the claim of the defendant that the use of the garbage disposal, which adds grease, and the water softener, certain cations of which can inhibit bacterial growth, were the sole cause of failure had some merit. The use of both certainly could have hastened the failure. The result was the same; they were there because the developer put them in the house, and only used because they were there.

The years of litigation were surely more than the cost of a replacement system.

Statutory Remedies

Statutes prohibiting septic systems in certain soil regions have been enacted to prevent effluent problems. Several characteristics are manifested in the resulting cases. Septic systems have been more recently been referred to by the courts as "Individual Sewage Disposal Systems." Engineering information, especially soil characteristics, has been, at best, concise, most often, minimal. Financial difficulties on the part of the permitee have not been an excuse for the courts. If the standards of one governmental body are more strict than another governmental body, the courts have not seen this as a problem, as long as there has been no conflict between the statutes or ordinances mandating those standards. It must be noted that although all four so-called enforcement cases presented were decided in 1981, they were originally brought to court sometimes years before that date. Enforcement by legal intervention is time consuming.

KONKEL V. TOWN OF RAYMOND
Court of Appeals of Wisconsin, 305 N.W.2d 190 (1981)

As the Court stated:

> Owner, whose request for approval of installation of holding tank system on his property was denied by town, sought declaratory judgment finding town resolution banning use of holding tanks invalid.

Summary judgment was found for the owner, and the town appealed.

The town's ordinance that there be no holding tanks on residential land was based on reasons of possible pollution and financial problems, and lack of manpower to police scattered individual holding tanks.

State statute provided the issue of permit "only upon evidence that the local government was willing to accept ultimate responsibility for upkeep and proper disposal." Thus, in reversing the decision, the appeals court stated: "Local ordinances may impose stricter standards than similar state regulation so long as they do not conflict."

Further:

> ...town ordinance against use of holding tank systems was not preempted by and did not conflict with state regulation allowing issuance of holding tank permits upon agreement between local government and owner to guaranty pumping and transport of contents to satisfactory disposal site, where statute authorizing adoption of regulation recognized that statewide uniformity was not feasible.

COMMENTARY

During the time of the trial, the state statute was made more rigid. The Court noted this, and it evidently affected the decision:

> The new regulations expressly authorize the town's action. The former, unofficial policy of the state has become an official part of the code. This court cannot ignore such direct evidence in assessing the propriety of the town's resolution.

It is important to notice the Court's acceptance of more strict standards on the part of a smaller unit of government over those of a larger unit of government.

MILARDO V. COASTAL RESOURCES MANAGEMENT COUNCIL OF RHODE ISLAND
Supreme Court of Rhode Island, 434 A.2d 266 (1981)

Plaintiff's proposed "Individual Sewage Disposal System," i.e. septic tank, not described, was conditionally approved by the State Department but denied approval by the defendant. This action was

affirmed by the lower court and State Supreme Court based on expert testimony.

Plaintiff wanted to dispose of the effluent into marsh lands. The Court stated:

> The council found "a significant probability that effluents from this system will reach the marsh area and further alter, and disturb the hydrology and biology within the barrier wetland." In addition, the council found that "there would be an introduction of nitrogens, nitrants, [sic] and phosphates into the marsh in significant amounts." [citation omitted]

Plaintiff's own witnesses testified that such systems often had maintenance problems.

COMMENTARY

There was a rather unusual facet to this case. Plaintiff claimed that a denial of permit constituted a "taking," for which he should have been compensated. The Court said it was a police power for the public good, which merited no compensation. Thus, in effect, the plaintiff wanted to be compensated for not being able to use a deficient disposal system.

STONE ENVIRONMENTAL ENGINEERING SERVICES, INC. V. COLORADO DEPARTMENT OF HEALTH
Colorado Court of Appeals, 631 P.2d 1185 (1981)

In 1974, the plaintiff had been denied certification for an individual sewage disposal system by the State's Department of Health and Board of Health. The action was affirmed by the district court.

However, the Court of Appeals reversed and remanded this decision to the district court for consideration of the "complete" facts. A hearing officer from the Board of Health had stated that the system met

the Department of Health's regulations for subsurface discharge and had conditionally approved surface discharge. The board had reversed this in its denial.

COMMENTARY

A description of the system and involved soil would have better explained the discrepancies within and between the agencies. The discrepancies precipitated a seven-year wait, at which time conclusive denial or approval of the system was still not obtained.

A three-year wait occurred in LEWIS V. STATE OF MAINE DEPARTMENT OF HUMAN SERVICES, Supreme Judicial Court of Maine, 433 A.2d 743 (1981). The owner of two waterfront lots challenged not only a denial of a permit for two septic tanks, or, alternately, two holding tanks on his property, but also the authority of the agency to do so. The lower court held and the Supreme Court affirmed that the agency had the authority. Upon establishment of that authority, the regulation which did not permit either system in alluvial and beach sand was enforced:

> ...installation of holding tanks in so-called alluvial and beach deposit soils poses risks to public health because of possible leakage, tank overflows, and tidal flooding in the shoreland zone.

It is interesting to observe this opposition to the authority of an agency to deny permits. Not as yet seen by this writer in other cases in the sanitary field, it is very common in the industrial waste field. It forces the court to establish that authority by restating statutory language. As more statutory cases go to court, this opposition to

authority will probably be more frequently encountered in sanitary cases.

## WATER TREATMENT AND DISTRIBUTION SYSTEMS

The cases concerning water treatment and distribution systems have closely paralleled those involving sewage collection and treatment. For this reason, except where there are specific differences in water and wastewater problems, the same principles will not be repeated. This in no way lessens the importance of water treatment and distribution; it only reflects the fact that there has been far less litigation in the water field. (This naturally does not include water rights.)

### Liability of Engineer

The liability of the engineer has not been the subject of as much recent litigation as in the wastewater field. Of the following cases, one concerned design error on the part of the engineer, and three concerned property damage, from excessive or insufficient water, caused by omission in the plans and specifications.

#### COVIL V. ROBERT & COMPANY ASSOCIATES
Court of Appeals of Georgia, 144 S.E.2d 450 (1965)

The plaintiff, one of three landowners in identical suits, brought action against the engineering firm who designed and supervised the construction of a water pumping station. The Court stated:

> The project was not skillfully planned and designed by defendant because defendant failed to provide bracing of the T-joint sufficient to prevent the T-joint from slipping off the 24-inch pipe from the pressure of water stored in the

> adjoining reservoir.....the T-joint slipped off the 24-inch pipe, causing millions of gallons of water to flow upon plaintiffs' property. By the exercise of a reasonable degree of care, skill and ability as engineers...defendant should have provided adequate bracing for the T-joint...and plaintiff has been damaged directly and proximately by defendant's negligent failure to do so.

The plans and specifications were "chaotic with ambiguity":

> Although defendant might originally have conceived bracing for the T-joint, yet if it was negligent in expressing that concept...

The plaintiffs lost because of the wording of their pleading; they had pleaded that the construction of the pumping station was <u>begun</u>, rather than <u>completed</u>, by the defendant's plans and specifications.

## COMMENTARY

> The law imposes upon persons performing architectural and engineering services the duty to exercise the care, skill and ability ordinarily employed by members of the profession.

These were the first words of the Court, followed by the fact that the Court recognized that there was sufficient evidence to prove negligence. In spite of some rather strong language on the part of the Court, these thoughts were lost in the nuances of the law, and the decision became dependant on literally one word in the pleadings.

If anything, this case serves to illustrate that which must be recognized by the engineering profession: the wording of plans and specifications must exactly say what the engineer means to say.

CROCKETT V. CROTHERS
Court of Appeals of Maryland, 285 A.2d 612 (1972)

Property owners, into whose homes water came under pressure when a water main was broken, brought suit against the Contractor, who broke the water main, and against the Engineer (Crockett), whose plans and specifications did not show the existence of the water main. The Court found judgment (the amounts not stated) for the Homeowners. The Engineer appealed.

The Engineer stated that, as per normal practice, aerial photographs were used, supplemented by a field survey, including talking to all utility companies. He, on the one hand, stated "We exhaust all possibilities;" on the other hand, he stated there was no physical subsurface investigation. The Engineer and the Mayor of the town were both aware of plans previously drawn by a "well-known and long established" firm, which showed the main that had been broken. In the words of the Court, the damage was caused by the Engineer's "failure to use due care."

Upon appeal, the Court affirmed the judgment, stating that from the evidence given, the Engineer "did not exhaust all reasonable possibilities of discovering the main's presence," and that his failure to investigate further "constituted negligence that was a proximate cause of the damage."

STUART V. CRESTVIEW MUTUAL WATER CO.
Court of Appeal, Cal., 110 Cal.Rpt. 543 (1973)

Property owners brought action against the water company, the residential developer, and the engineers who designed the water distribution system for fire damage due to the inadequate supply of water from that system. The lower court entered judgment in favor of all three defendants. On appeal, the decision was remanded for further consideration, that being the liability of the engineer.

In supporting the sovereign immunity of the water company, the appeals Court stated that "California case law has immunized water companies from civil liability for loss of fire due to failure to maintain their systems properly." Also part of the plaintiffs' complaint was breach of contract on the part of the water company. This was dismissed, because the water company "did not specifically undertake to supply water for that purpose," i.e., fire protection.

The Court found no authority to support the developers' and engineers' contention that they too had immunity. On the other hand, the Court found no basis for holding the engineers liable on a strict liability theory:

> [T]he well settled rule in California is that where the primary objective of a transaction is to obtain services, the doctrines of implied warranty and strict liability do not apply.

COMMENTARY

Sovereign immunity of a water company exists in some states. That this writer thinks that this is not right is perhaps irrelevant. The key point in this decision is that the Courts continued the doctrine of

immunity of a water company, but at the same time disallowed immunity for the engineers who designed the system. Thus, if, on remand of the decision, the engineers were found to be negligent, they could be liable.

The Court's very strict interpretation of the contract in that it did not specifically undertake to supply water for fire protection does not correlate with the good engineering practice of planning for water for that purpose.

In support of this latter principle is COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS V. LOUISVILLE WATER COMPANY, Court of Appeals of Kentucky, 470 S.W.2d 626 (1972), in which the water company, required by statute to supply ample water for fire protection, was ordered to pay the cost of relocating (approximately $120,000) a system of water mains disrupted by highway construction. This comparison with the former case illustrates the state-to-state discrepancies of the responsibility of a municipality, as addressed in a previous section.

CARTER V. WOLF CREEK HIGHWAY WATER DISTRICT
Court of Appeals of Oregon, 635 P.2d 1036 (1981).

Carter had provided engineering services for the Water District for sixteen years; one project was the design and construction of Schell Reservoir. The reservoir water storage tank was completed; however, water could not be drained from the tank. There was a dispute in the testimony as to what water distribution system was promised to the Water District, but it was noted by the judge that the jury could "reasonably

infer that the...reservoir...was intended to operate and to carry water to and from the tank."

The Water District hired another engineer, who designed a system whereby water entered through the existing line and was removed by a parallel line. This system, upon completion, worked properly.

Carter sued for fees due him for several projects, including planning an alternate distribution line. The Water District countersued for a larger amount for constructing the new line, contending that the Engineer was negligent in the design. The jury awarded the Engineer $1,020.84 for his claim and the District $10,000 for its counterclaim. These damages were in the same proportion as the original claims but very much smaller (about one-thirtieth). These damages were upheld upon appeal.

## COMMENTARY

Questions of easement and limitation of actions were important legal considerations as to the awarding of damages. The paucity of engineering information is noteworthy; the case would have been more informative if more engineering facts were presented. However, the facts that the tank as designed did not drain, and the engineer was found to be negligent in his design are of significance.

### Construction

The cases involving the construction of water treatment plants and distribution systems have involved, in the order in which relevant cases appear in the text, the bid process, extra work, compensation, delay,

and defective work. Almost without exception, the outcome of each case depended upon the judicial interpretation of contractual language, sometimes a phrase or a word. In the so-called compensation cases, the actual amount to be paid to a party was determined by that interpretation.

The subject of subsurface conditions has not been as predominant in the water as in the wastewater field, primarily because water pipes are not installed at the depth that sewer lines are. The predominant engineering feature has concerned the pipes themselves. Subject to a greater pressure in a water distribution system than in a sewage collection system, the pipes are more subject to leaks. Thus, defective work, manifested as leaks from pipes, has been one of the main reasons for litigation in water systems.

HARRY PEPPER & ASSOCIATES, INC. V. CITY OF CAPE CORAL
District Court of Appeal of Florida, 352 So.2d 1190 (1977)

The City had advertized for bids for the construction of a water treatment plant. The specifications called for the use of pumps manufactured by one of three particular pump manufacturers or equal. The lowest bidder listed a pump "which all parties agree would not be acceptable to the City." An engineer in the firm retained by the City notified the low bidder, who then changed his bid to conform to those specified.

Although the plaintiff, who was second lowest bidder, contended that the amended lowest bid was unlawful, the City accepted the lowest

bid. The trial court denied the plaintiff an injunction and denied him all relief.

However, on appeal, this decision was reversed in favor of the plaintiff. The purpose of the bidding process, according to the Court, is, among other objectives, "to secure fair competition upon equal terms to all bidders."

> In order to insure this desired competitiveness, a bidder cannot be permitted to change his bid after the bids have been opened, except to cure minor irregularities. [citations omitted]
>
> The city exceeded its authority by allowing [low bidder] to bring its bid into conformity with the specifications and then accepting it.

ROBERT E. LEE & CO. V. COMMISSION OF PUBLIC WORKS OF THE CITY OF GREENVILLE
Supreme Court of South Carolina, 149 S.E.2d 55 (1966)

The contractor installed fifteen miles of forty-eight-inch water pipe for the City. After completion, he brought action to recover the balance of the contract price and for extra work caused by misrepresentation by the City. The trial court found for the plaintiff for the former count but not for the latter.

The contract contained a clause which said the boring tests were not guaranteed and that each bidder had to form his own conclusions:

> ...there is no expressed or implied guarantee as to the accuracy of the information given nor of the interpretation thereof. Each bidder must form his own opinion....

The Supreme Court noted:

> The plans did not fully disclose the information contained in the logs of the test borings; they did not show location of

> ground water, and their subsoil classification differed from that of the logs.

The defendant admitted the difference between its own information and that in the plans, but argued that the extra work was caused by the plaintiff's inefficiency.

On appeal, the Supreme Court reversed the lower court's judgment concerning the misrepresentation count:

> The contractor was entitled to rely upon that representation; and the owner's responsibility under it was not overcome by the disclaimer clauses...

## COMMENTARY

This South Carolina case was one of the early ones in which the court held that broad disclosure clauses did not overcome certain rights of the contractor.

In contrast to the resolution of this case was R. C. TOLMAN CONSTRUCTION CO., INC. V. MYTON WATER ASSOCIATION, Supreme Court of Utah, 563 P.2d 780 (1977), in which the contractor brought action for extra work caused by undergound water and more rock than indicated in the plans and specifications. The defendant argued that the specifications spoke for themselves and that any deficiency should have been obvious to the plaintiff. In this case, in spite of conflicting evidence, the Supreme Court affirmed the lower court's judgment against the contractor.

METROPOLITAN PAVING CO. V. CITY OF AURORA, COLORADO
U. S. Court of Appeals, 10th Cir. (Colo.), 449 F.2d 177 (1971)

The plaintiff (MGT - a joint venture) contracted to install fifty-five miles of water delivery pipeline for two Colorado cities. Bechtel was the manager and engineer on the project.

> The contract price...was roughly $15,000,000, with MGT's bid being $2,500,000 less than the bid of the next lowest bidder and some $5,000,000 less than Bechtel's estimate of the cost.

The dispute arose over the interpretation of the technical specification regarding size limitation of backfill materials:

> When compaction of Zone 3 backfill is called for the material shall be well graded and easily compacted throughout a wide range of moisture content. Alternatively, if flooding, jetting and vibration are to be used for placing and compaction, the material shall meet the additional requirements specified in...for material to be placed and compacted by flooding, jetting and vibration. The maximum size shall pass a 2-inch U. S. Standard Series sieve.

MGT interpreted the provision as to impose the two-inch limitation only if the backfill was compacted by a particular method, whereas the Cities and Bechtel interpreted it to mean a two-inch limitation on all the backfill. MGT complied with the demand, but brought action for extra work because of misrepresentation for a sum of over $3,000,000. MGT also claimed changed conditions in the form of boulders.

The lower court held for the defendant cities. Upon appeal, the interpretation of the contract was affirmed, but the unforeseen conditions count was reversed, because of a procedural points:

> It is the position of MGT that the Cities and Bechtel having denied this claim "on the merits," they have thereby waived the failure of MGT to give prompt written notice of the changed conditions and cannot thereafter assert the matter by way of defense when subsequently sued. We agree.

COMMENTARY

There were significant factors of this case, which were not considered in the decision. The amount of the claim for extra work was within the limits of the difference between plaintiff's bid and the next lowest bid and Bechtel's estimate, indicating that the plaintiffs' interpretation was formed at the onset and could have been determined before work was begun. That interpretation depended on one sentence. The plans and specifications were written by Bechtel, who was a defendant, but who was dismissed before trial.

FRONTIER FEEDLOTS, INC. V. CONKLIN BROS., INC.
Court of Civil Appeals of Texas, 476 S.W.2d 31 (1971)

In a contract for the installation of a pressure water system and a water drain system, Conklin was to be paid by the owner at a special rate per cubic yard of rock excavation. However, the provisions of the contract concerning what means of rock excavation would be considered for determination of the special rate was vague. Thus, the owner argued that he should be liable only for rock loosened by blasting and pick-hammer and not that loosened by a bulldozer. The owner further argued that the contractor's use of inferior pipe caused the system to leak and wanted the entire system replaced.

Upon appeal, the findings of the jury trial were affirmed: the parties had agreed to the substitution of the pipe; the damage to the pipe was instead caused by the use of drainpipe bedding not as specified; these defects had been repaired. More important, from the

interpretation of the contract, the installer was to be paid at a special rate for the rock loosened by both methods.

COMMENTARY

The owner's failure to secure recovery for damage to the pipes was due to an "all or nothing" approach reminiscent of that in an Alaskan case decided in the same year, NORDIN CONST. CO. V. CITY OF NOME, 489 P.2d 455, in which the same approach was used by the contractor, who lost.

WILLIS V. JENKINS
Court of Civil Appeals of Texas, 472 S.W.2d 600 (1971)

Subdivision owners and developers disputed the costs incurred by the contractor who installed a water purification system. After very limited evidence, the trial court found for the contractor. Upon appeal, the decision was reversed and remanded for another trial, because of insufficiency of evidence.

> Appellee's testimony as to how many feet of pipe was used in the construction of the system was based upon a plat which he assumed was to scale.
>
> Appellee does not identify the plat that was being used for his estimate, by whom it was prepared, for what purpose the plat was drawn, nor does he show any indication of the basis for his assumption that it was to scale.
>
> It has been held in this state that such unsupported opinions or conclusions of the witness without any basis of fact to show upon what such conclusions rest, are not competent evidence and will not support a jury finding even when admitted without objection.

## COMMENTARY

This case was included to illustrate an important concept, which, although present in many cases, has not been so clearly defined: opinions, or conclusions, not based on fact, are not competent evidence.

CITY OF CENTRAL V. WESTERN STATES CONSTRUCTION CO.
Colorado Court of Appeals, 496 P.2d 1050 (1972)

The City had entered into separate contracts with the contractor and engineers to construct new water facilities, including a reservoir and filter plant, and to renovate the distribution system. In 1965, a $125,000 bond issue was approved. After several months, when it became apparent that the total project exceeded the amount of the bond, the City refused to pay and stopped all work, which was then 89% complete.

The excess over the bond issue was caused by the amount of gunite, used to waterproof the reservoir, which greatly exceeded the calculated amount. The City contended that this was extra work, for which written orders were required, and the failure of the engineers and contractor to do so caused them to breach the contract.

The contractor brought action against both the City and the engineering firm for breach of contract; in turn, the City brought action against the contractor and engineers.

The trial court's judgment against the City on the claims of the contractor and the engineer was affirmed, since the contract between it and the contractor was not ambiguous, and both the contractor and engineer had performed in accordance with the contract. The claims of the City were dismissed. The contract price was based on a calculated

amount of gunite. The City's claim that its charter did not allow it to pay more than the bond issue was negated by the Court:

> [Provisions of the City Charter] give the city council ample authority to pay the judgments and to obtain the funds therefor...there is nothing in the City's contracts with the Contractor or the Engineers which in any way limits payment to proceeds from the sale of the bonds or specifies in any way what fund or funds are available for payment.

HEINKEL V. CITY OF CORVALLIS
Court of Appeals of Oregon, 510 P.2d 579 (1973)

In this interesting case, the mechanical contractor brought action against the City for the balance due under his contract to expand the City's water treatment plant. The City counterclaimed for liquidated damages for his late completion. The lower court found that the City was entitled to liquidated damages for forty-six days, at $300 per day.

The Court of Appeals, in effect, found for the contractor. To be completed by June of 1969, even the director of public works did not know when the project was completed. Up to July of 1970, completion was prevented by delay of receiving butterfly valves, too high a head pressure on the high service pump, and failure of a supplier to deliver the media for the filter beds and settling tube modules for the sedimentation basins. The Court stated:

> As to the problems with the high service pump, the evidence indicates that the engineers retained by the city were at least partly responsible for the delays, since they do not appear to have made their specifications completely clear to the pump manufacturer at the outset or during subsequent contacts.

Thus, the Court excused the plaintiff for delay up to July 9, 1970. On

July 10, 1970, a relief valve was installed on the high pressure pumps, but the pump was not retested until July 22, 1970.

> The record is clear that the delay during that period of time was due to the inability of the engineers retained by the city to arrange for a test of the modified pump. Therefore, we conclude that that period of delay was also excused under the contract since it was due to causes beyond the control of the plaintiff.

July 22, 1970, was set by the Court as the date of "substantial performance," since on that date the high service pump was found to be adequate. The contractor had argued that substantial performance had been met on April 10, 1970, since on that date the City's engineers concluded that the project was 98.4% complete. The Court discounted this, "since an integral part of the project was incapable of functioning." The City had argued that substantial performance had been met on September 13, 1970, since on that date the City had formerly approved the project.

Thus, the contractor was to recover the balance of the contract price, without paying liquidated damages.

## COMMENTARY

It must be noticed that even though the Court stated that the plaintiff was excused because, among other things, the "inability of the engineers...to arrange for a test," the engineers were not a party to the action.

PUBLIC WATER SUPPLY DISTRICT NO. 8 OF JEFFERSON COUNTY V. MARYLAND CASUALTY CO.
Supreme Court of Missouri, 478 S.W.2d 293 (1972)

The water district brought action against the surety when the contractor breached his contract to complete a project because of lack of funds. The surety and pipe supplier also brought action against the contractor.

After he had installed about 7,000 feet of cast iron pipe and 60,000 to 65,000 feet of plastic pipe of a water distribution system, the contractor began testing the water lines under presssure. "Numerous" leaks were revealed; the contractor repaired some, but only 30 feet of the cast iron pipe passed the required pressure tests. One year after beginning, the contractor "walked off the project."

The water district and pipe manufacturer began testing and making repairs, resulting in 1,450 feet of plastic pipe passing the pressure test by trial time. The major portion of the leaks was an accumulation of small subsurface leaks. The rate of water loss was erratic, as illustrated by 100,000 gallons pumped in one month and 17,000 gallons in another. Further, when the system was closed for repairs, the resultant pressure drop caused cross-connection contamination.

The lower court had found judgment for the district and the surety for a modest sum. The Supreme Court found that the evidence proved that the district had proven the unacceptability of the entire system, without testing the remaining 48,000 feet of pipe. Further:

> The system leaked because the pipe that the contractor chose to install was defective and not because of the quality of the contractor's work. According to testimony at the trial, 99% of the leaks in the plastic pipe was attributable to

> defective manufacture and trial court so found. We note also, that of the 20,200 feet of pipe tested and repaired, less than 2000 feet were found to meet specifications.

The specifications had called for pressure testing:

> According to the engineer and the contractor, such tests were not required or made. Both the engineer and the contractor testified that, in lieu of such tests, they relied upon the manufacturer's quarantee of the pipe....

Testing was actually performed after backfilling, when the joints were no longer exposed.

> In summary, the contractor was well aware that it was obliged to install a system that would meet certain tests. By mutual understanding, preliminary tests were dispensed with and other tests postponed. However, the obligation to meet the tests ultimately required continued and was recognized by the contractor. The waiver and postponement of the tests affords no basis for relieving the contractor of his obligation to provide an operable water distribution system.

The judgment was reversed and remanded in favor of the district against the surety for approximately the amount of the performance bond, and in favor of the surety against the contractor for $122,949,51, the full amount of the performance bond.

## COMMENTARY

The contractor did not meet his obligation, and this was of utmost importance to the Court's decision. However, the manufacturer and supplier of the defective pipe was not a party to the suit. Also, even though the contractual responsibility and authority of the engineer in deciding "any and all questions which may arise as to quality and acceptability of materials furnished, work performed..." was stated by the Court, his obligation was not further considered.

In another case involving defective work, WINDFIELD CORP. V. McCALLUM INSPECTION CO., Court of Appeals of North Carolina, 196 S.E.2d 607 (1973), the contractor claimed he was not laible for water leaks in the poly vinyl chloride (PVC) pipes, because the contract that he himself had written did not specify that the pipe would be installed. The Court found him liable, since by the ambiguous contract, he had contracted both to furnish and install 11,800 feet of pipe.

MUSICK V. EAST CRAWFORD WATER SUPPLY CORP.
Court of Civil Appeals of Texas, 496 S.W.2d. 759 (1973)

Musick, the contractor, installed a water distribution system for the City. Three months after the system was begun in late 1966, it developed some 300 leaks. The contractor filed suit against the pipe and cement supplier. The City intervened, suing the contractor, its surety, the cement supplier, and the cement manufacturer, claiming the system valueless and seeking $126,000 in damages.

The trial court held judgment in approximately that amount against the contractor and its surety. This was affirmed with the following findings: the cement was of good quality, but the cement was improperly used in connecting the joints of the pipe; the joints were improperly installed; and the joint surfaces were not cleaned sufficiently before cementing. These were the negligent proximate causes of the leaks, which reduced the value of the system, if free of defects, from $150,000 to $25,000.

The contract stated that there was a one-year warranty on defects after the engineer's certificate of completion. The leaks had developed

within that time, and the contractor had not remedied all of the defects.

COMMENTARY

The same engineer who certified that the water system had been completed "in accordance with the plans and specifications," testified that the only way to repair the system was to install a new parallel line. This would seem a contradiction. How could he have certified the system which three months later would have 300 leaks?

Coincidentally, the same engineer prepared the plans and supervised a distribution system of five pumping stations and approximately 178 miles of PVC pipe involved in A. F. CONNER & SONS, INC. V. TRI-COUNTY WATER SUPPLY CORP., Court of Civil Appeals of Texas, 541 S.W.2d. 856 (1976). The owner had sought damages against the contractor based on the presence of 1000 leaks by the time of trial. Disregarding the contractor's claims of improper design, hot water, excessive pressure, and improper maintenance as the causes of the leaks, the trial court found that the contract was not "substantially performed" because the contractor "used material and workmanship which were not of good quality...." Upon appeal, the judgment of $465,098.10 in favor of the owner was to be reduced by $119,542.33, because the system did have value, contrary to the jury's finding that it was valueless. The water system was functioning, in spite of approximately 62% loss of water.

E. E. WESLEY CO. V. CITY OF NEW BERLIN
Supreme Court of Wisconsin, 215 N.W.2d. 657 (1974)

The contractor brought action against the City for the amount due on the installation of piping and pumps for a pump station. The lower court found in favor of the contractor, but on appeal this was reversed.

A month after a fire pump had been installed, there was a fire in the well house. The fire pump had overheated and could not be cooled because an elbow joint in the cooling system was disconnected. In another incident, the booster pump leaked.

The contract contained a provision that there was a one-year warranty after the engineer issued his certificate of completion, but he had not done so. The rationale of the Court was that the original cause of the fire, an electrial interruption which caused a torque reversal, was not the liability of the contractor, but of the owner:

> The risk of loss to property generally follows ownership unless the contract provides otherwise. One may own property and have its possession for the purpose of risk of loss without acceptance of the purpose of payment.

However, the Court did find the contractor liable for the leaking seals in the booster pump, damage to the building when replacing the pump, and the misplaced elbows, i.e., defective work.

COMMENTARY

A logical conclusion was reached, but this case lacked the legal explicitness of many of the cases. It is regrettable that another case found documented which involved a pump station, HAYS V. J. J. HOGAN, INC., Court of Civil Appeals of Texas, 474 S.W.2d. 220 (1971), omitted "findings of fact or conclusions of law." The city and project engineer

required a contractor to terminate a subscontractor for defective work, indicated by excessive leaking in pipes and pumps. In effect, the subcontractor was awarded half the contract price, based on the work he had done. How this was determined in the non-jury trial was not stated.

BAYSHORE CONSTRUCTORS, INC. V. SOUTHERN MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT
Court of Civil Appeals of Texas, 543 S.W.2d. 896 91976)

The district brought action against the contractor for his defective work in installing water (and sewer) lines. Some six months after the project was begun, subsidence and deep holes began to appear over the filled trenches.

There was conflicting evidence. The city engineer said the subsidence was caused by poor compaction, not performed as the specified combination of hand-tamping, water-tamping, and mechanical compaction. A soils engineer said that this poor compaction was substantiated by the average 88% compaction of the bore samples and by the presence of void spaces.

The contractor claimed he had water-tamped until he ran out of water. When he could obtain water again, he resumed water-tamping. When he completed the work, in June, he requested the district to wait until the following spring to resurface the streets, but was refused. The contractor claimed that the subsidence was caused by not allowing the water to dry out.

The jury trial's judgment for the district was affirmed, since the contractor failed to backfill the trenches in accordance with the plans and specifications.

COMMENTARY

The Court's reliance on the contractual completion time of 360 days, before the spring when the contractor wanted to resurface the roads, completely ignored the fact that water was not available. This case was one of those which was not appropriate for a jury trial. It should have been judged by a board of engineers. However, that would not be feasible unless the parties agreed to arbitration with a panel composed of engineers. Also, it would have been most informative to the engineer-reader if the compaction required by the specifications and the type of soil had been stated in the decision.

Property Damage

Cases involving property damage have resulted from either foreign matter in the water introduced by construction or operation, or excessive (or inadequate) water caused by operation and maintenance problems or defective design. Regarding the defective design, reference is made to the three property damage cases already discussed under Liability of Engineer.

CAMPBELL CONSTRUCTION ENGINEERS, INC. V. WATER WORKS AND SEWER BOARD, CITY OF PRICHARD, ALABAMA
Court of Civil Appeals of Alabama, 290 S.2d. 194 (1974)

A chicken processing plant, which required large volumes of potable water, brought action against the water company for the presence of sand in the water which contaminated the chickens being processed. Some witnesses testified to the presence of "reddish" water, indicating rust.

The water company, in turn, brought in as a third-party defendant the contractor which had made recent improvements to the water system.

The contractor had installed a mile and half of twelve-inch pipe. During a hydrostatic test of the line, there had been a blow-out. The section was repaired, but the water company argued that the sand had entered the water line before or during repair, and that the contractor had not flushed the line properly. The contractor, on the other hand, contended that the foreign matter in the water was the result of mineral build-up.

The lower court entered a judgment of $7,500 in favor of the chicken processor against the water works, and the identical judgment in favor of the water works against the contractor. This was affirmed on appeal, since the foreign matter came from the new line installed by the contractor.

## COMMENTARY

A rather interesting decision, it placed the blame on the contractor, and he was to blame. If mineral deposits were present, as indicated by some of the testimony, there is a question if its presence could have been completely alleviated by flushing the new line. It would seem that the entire problem of all foreign matter in the water could have been prevented by proper inspection by the water company's engineer.

KAJIYA V. DEPARTMENT OF WATER SUPPLY
Intermediate Court of Appeals of Hawaii, 629 P.2d. 635 (1981)

This recent case was an action brought against both the director of a water district and the agency itself by owners of pet fish allegedly killed by chlorine in the water. Summary judgment was found for the defendants, but this was reversed and remanded [Thus, the final outcome of the case is not known, but there are points of great interest.]

The official of the water company, upon notification of the accident, claimed he had told the owners to freeze the fish for further examination. The plaintiff, on the other hand, claimed that the official told him to destroy the fish. The value of the fish was $4,500.

The Court reasoned that this was in the area of negligence, that there was a possible failure to use due care, and that chlorine was a dangerous substance and should be handled accordingly:

> When one is in control of what he knows or should know is a dangerous agency, which creates a foreseeable peril to persons or property that is not readily apparent to those endangered, to extent that it is reasonably possible, one owes a duty to warn them of such potential danger.

Further, the "Board of Water Supply's duty to humans is primary "but" it has secondary duty to a human's property, which may include his pet fish."

COMMENTARY

This case could have serious ramifications. The official had testified that "chlorination procedure" had been "implemented" due to an unacceptable coliform bacteria count. Would this case imply that each

time chlorination was increased for obvious reasons, that the water district be required to notify all its customers of that increase? It also should have been documented what the "chlorination procedure" was. Also possible could be personal injury actions against water districts if insufficient chlorine (or other disinfectant) were used.

GOODMAN V. BALTHROP CONSTRUCTION CO.
Court of Appeals of Tennessee, 626 S.W.2d. 21 (1982)

Homeowners brought action against the City of Lafayette and Balthrop for "premature activation" of water services to their home. The City had installed a new water system, as constructed by Balthrop. The plaintiffs paid a tap fee, and eventually a city employee installed the water meter. Plaintiff then hooked up his water system to the city's meter and turned on "his end" of the system. Initially, there was no water flow, but three weeks after the water was turned on, the house was filled with "a large amount of water."

Excessive water pressure had built up in the system; that pressure had not been tested by either defendant. No defense witness testified as to who turned on the water.

The trial jury entered judgment for $18,500 in favor of the homeowners against the City, and the contractor was absolved. On appeal, it was held that if the substantial proof could be believed, the City was liable.

> "The Court of Appeals has no right to weigh evidence in jury case, but must indulge every reasonable inference in favor of plaintiff when there is material evidence in support of plaintiff's verdict."

However, the decision was reversed in part and remanded for reconsideration of the amount of damages. Erroneously not admitted at trial was a handwritten damage estimate by the plaintiff and his contractor for $2,181.01. Permission to appeal was denied by the Supreme Court.

COMMENTARY

It is interesting to note that nothing in the decision was mentioned regarding sovereign immunity; thus a city in Tennessee can be liable. Certain facts were not stated. For example, who designed the system? A city employee or a consulting engineer? Was it even a design problem? Or was it an operation problem, and failure of the City to inspect? If these important considerations were brought up as evidence, they were not in the decision. Also, it would seem more appropriate for the City to oversee individual hook-ups to its system.

Personal Injury

Personal injury cases have, as in the property damage cases, involved either operation and maintenance or construction. In general, the duty of the municipality has been recognized.

VEGA V. ST. BERNARD WATER DISTRICT NO. 1
Court of Appeals of Louisiana, 398 So.2d. 1248 (1981)

This was a personal injury action against a water district for allowing the base of a fire hydrant to be left exposed. A minor had been injured by six-inch protrudance on a concrete shoulder of a highway.

An employee of the water district testified that he had been notified of the broken hydrant, but, since no replacements were available, he requested a barricade. However, it was never checked to determine if the barricade was in place.

Affirmed on appeal, the plaintiff was awarded medical expenses of $1,780.29 and damages of $30,000. "Clearly the defendant had a duty to maintain its fire hydrants to protect the public."

LINDER V. DISTRICT OF COLUMBIA
U. S. Court of Appeals, D.C. Cir., 502 F.2d. 495 (1974)

A consolidation of four cases, this was a negligence action brought against the District of Columbia (District) for the injuries of three workmen and the death of a fourth.

The four were employees of a contractor who was installing water mains for the District. A sixty-six inch water main had been sealed for forty-one days, after which time, the cap was removed, and the men entered the water main. A fire started at the rim of the open end, badly burning the men. At trial, it was testified to that water mains, as well as sewers, should be ventilated after being sealed for an extended period of time. The possible gases present were those produced by materials used in the installation. The District was to have an inspector present at all times; one of his responsibilities was to point out unsafe conditions to the contractor.

Although there was conflicting testimony as to the requirement of ventilating a water main and the presence of any dangerous gases, the jury found in favor of the plaintiffs. Thus, the District was found to

be liable, because the installation was an "inherently dangerous activity," which necessitated "special precautions." On appeal, the District contended it was not liable for the contractor's negligence. In affirming the lower court's judgment, the Court summarized, as follows:

> ...where, as here, the District contracts for the performance of inherently dangerous work, the District has a duty to guard against injuries to third persons which may result therefrom; that duty is not delegable and is applicable with equal force to third persons generally and employees of the District's contractor alike.

COMMENTARY

This case further emphasizes the need for proper inspection.

The fact that there are hazardous aspects to the practice of sanitary engineering, most often in the construction and maintenance of collection and distribution lines, has not always been accepted by the courts. For example, in HARE V. FEDERAL COMPRESS & WAREHOUSE CO., U. S. District Court, 359 F.Supp. 214 (1973), a Mississippi court held that a subcontractor's construction of a sewer line was not inherently dangerous. That there can be an inherent danger should be generally recognized by the courts.

TENENBAUM V. CITY OF CHICAGO
Appellate Court of Illinois, 297 N.E.2d. 716 (1973)

In this case, a contractor's foreman brought action against the City and the general contractor for injuries, including brain damage, he sustained in a fall through an opening, used to hoist equipment, in a water treatment plant under construction.

The structures involved were was never defined in this thirty-page decision. There were three underground concrete floors in the "basin." A "so-called maze through which the water would flow" was possibly a chlorine contact chamber. In 1964, planning to inspect the clean-up work, the plaintiff fell some seventeen to eighteen feet through the hole. There were no lights, since the structure would eventually be filled with water. The evidence indicated that he probably tripped over a ladder after he dropped his flashlight. The ladder became the focal point in the case in settling the liability, rather than the lack of barricades around the hole.

There were "various conflicts" in the evidence. In addition, the testimony of the plaintiff changed with time, since he had been in a coma after the accident. Originally, his pleading he been negligence on the part of the City and the contractor, but, for reasons not stated, five years later, negligence was dropped, and the pleading was based on safety obligations as outlined by statutes and ordinances.

The issue of responsibility became lost in a legal argument about the constitutionality of the city ordinance which expanded the state statute. At issue was the statute which affixed liability to those "in charge" and an ordinance which applied to everyone "having control or supervision." Because of this conflict, the Appellate Court reversed and remanded for a new trial the lower court's judgment for the plaintiff.

## COMMENTARY

Thus, nine years after the accident, this unbelievable decision called for a new trial. No other case in this thesis has illustrated such a disparity of opinion among the justices. There were actually three separate opinions. One, a dissenting opinion, thought the statutes especially applied to the facts of the case, and that the defendants violated that statute by not barricading the hole. Further, that justice thought the local ordinance implemented the state statute and was not in conflict with it. This dissenting opinion was in agreement with the principle, stated in several decisions in this thesis, that as long as ordinances and statutes are not in conflict, it is proper for there to be concurrent exercise of police power by the state and municipality.

# IV. DISCUSSION

The variety of the cases included in this thesis is as myriad as the sanitary engineering functions of the profession as a whole. There have been many observations specific to the individual cases, as included in the commentaries. Following are those observations and conclusions which have been reached as a result of reading 160 cases, believed to be a representative sample of this type of litigation during the last twenty years.

The characterization of the cases themselves is interesting in itself. The writer has previously stated that the cases are written by lawyers for lawyers, and that the engineering information given in any case is that which is presented by the lawyers in their briefs to the court. It is thought that this does not always represent all the information which an engineer has given to the lawyer. Rather, it represents what facts the lawyer, not fully aware of the significance of certain facts, thinks are important to the party he represents. There will probably always be a certain conflict between the adversary character of the legal profession and the scientific inquiry inherent in the engineering profession. If a case involves sanitary engineering, the decision should present the engineering facts as fully as the legal issues. This would presuppose more cooperation between the engineering and legal professions. In the highly technical cases which are before the courts today, engineers and lawyers must know more about each other's professions.

In general, the increased sophistication of sanitary engineering has been reflected in more recent cases. Several cases in the 1960's completely ignored the existence of urban runoff. The importance of this subject has not been adequately addressed in a reported case because of the immenseness of the problem and the associated inadequacies of the statutes. The recent interest in groundwater contamination has been reflected in decisions dating from 1981 pertaining to leachate problems from sanitary landfills. However, there are still cases decided as recently as 1981 in which a court considered the site chosen for a sewage treatment plant as inherently contaminated, or a court was given only evidence that lagoons would always produce odors. In cases such as this, the inadequacy of the decision was in part due to the omission of engineering facts. Whether such inadequacies were caused by the unavailability of correct engineering information, or, if available, by its lack of use, is a cause for serious concern. The courts cannot solve problems that the engineering profession has not solved itself.

In the total 160 cases, forty-one states were represented, with ten states having five or more cases. Illinois, with fourteen cases, has been the state with the most litigation, followed by Texas with twelve cases. The frequency of litigation is partially explained by population; for example, South Dakota apparently has not had any appellate decisions concerning sanitary engineering in twenty years. Obviously, those states which have not had any reported cases have not appealed any decisions or have settled them. The proximity to common

bodies of water explains much of the litigation in Illinois and Wisconsin involving Lake Michigan. However, this reason does not explain the fact that this writer has not found any reported cases involving states along the Mississippi River which have directly concerned its pollution by sewage effluent. It would appear that there are those states in which the importance of such litigation is more recognized, or perhaps the citizens better recognize the desirability of well-functioning sanitary facilities.

Just as a general statement cannot be arbitrarily stated in any field of law, since there are usually exceptions, so one state cannot be exactly compared to another state, since there are exceptions within a state. However, there are discrepancies between states. For example, Illinois and Michigan courts have generally recognized the changed condition clause in construction cases. Pennsylvania courts usually have not; they, on the other hand, generally have recognized broad exculpatory clauses in contracts. In cases involving backflow from sewer lines, there has also been a great discrepancy. Some courts, as one in Florida, have stated it is the duty of the city to inspect its sewers; others, as one in North Carolina, have stated the contrary. This inconsistency in the various states concerning the same engineering situation would seem to be an unsolvable problem, but one which must be recognized by the engineering profession.

The increased sophistication of sanitary engineering principles has also been reflected in the increasing litigation in the past twenty years. Of the cases chosen, thirteen percent were dated prior to 1970,

and eighty-six percent were dated from 1970 to 1982. This reflects the increased interest in water pollution in the 1970's as manifested in water pollution control legislation. The years from 1980 to the present are represented by thirty-seven percent of the cases, as compared to forty-nine percent in the 1970's. So far, the litigation is increasing.

The increased recognition of engineering problems and the water pollution control legislation have increased the complexity of legal decisions. However, the results have not always been as beneficial as they were expected to be when federal statutes such as the FWPCA of 1972 and the Clean Water Act of 1977 were passed. The comparison of common law remedies and statutory remedies in the affected decisions has resulted in a very surprising and disappointing conclusion reached after reading many cases.

It must be made very clear at this point in the discussion that the writer is well aware that the statutory approach to water pollution control became necessary due to the failure of the common law approach to alleviate the severity of the problem. This discussion is not at that level; further, it does not negate the enormous accomplishments of water pollution legislation. Instead, this discussion deals only with the results of cases brought before the courts.

Common law dates back to that originating in England. It would seem that old remedies would not be effective for modern problems, but this has not been the case, and it has been illustrated in case after case. In cases involving existing effluent problems, where the evidence of nuisance or negligence are obvious to the senses, common law has been

a very effective remedy. However, where the proof of pollution is not so obvious, statutory remedies would seem to be ideal, but they are not always so. This is in part explained by the familiarity the courts have with the long existence of common law remedies. Concerning the federal statutes to prohibit water pollution, the FWPCA of 1972 has been frequently critized by the courts as a complicated, imprecise statute. As a result, much of the litigation concerning sanitary facilities based on statutory remedies has been largely a matter of interpretation of the statute, at times without a full description of the engineering problem and often without a definite conclusion to that problem.

If effectiveness can be equated with a definite answer to an engineering problem, whether that decision is right or wrong by the writer's standards, the cases involving common law have been generally more effective than statutory cases, particularly in those involving effluent problems. In these latter cases, the statutory remedies have at times been effective, but often the main concern of the court has been one of jurisdiction. In cases involving enforcement of permits to prevent the installation of septic systems and landfills in inappropriate soils and locations, cases decided since 1981 have been very effective. Hopefully, when the statutes have been more fully interpreted, the judgments will be more in keeping with that which was expected when the statutes were enacted.

Specific ordinances and statutes to control water pollution have had a definite affect on those cases which have involved the power and duty of a municipal corporation and which by their very nature have been

mainly a question of jurisdiction. City ordinances have served to strengthen the police powers of a municipal corporation. However, state statutes, by increasing the exercise of the police powers by other governmental bodies, have often subordinated the power of the municipality to the sewer district created by the statute. The authority given by federal statute to the EPA to administer grant money has given that agency power over the municipal grantee.

The combination of common law and statutory remedies would seem the most effective, as discussed in the section bearing that title. The concept of federal common law concerning pollution was formalized by the U.S. Supreme Court in 1972 in its decision in Illinois v. Milwaukee. That concept was particularly applicable to facilitate statutory suits between states or citizens of different states, i.e., diversity cases. The action of the U. S. Supreme Court in 1981 in negating the use of federal common law in connection with FWPCA is thought by this writer to be a large set-back to litigation concerning sanitary facilities. What had been gained in the 1970's was lost in some part in 1981. As seen from the results of the cases decided after that time, there are those cases which require both remedies for the problem to be effectively resolved. The U. S. Supreme Court may well reverse its decision in years to come.

The single most important issue represented by many of the cases which has had the most impact on the sanitary engineering profession is the recognition upon the part of the courts that the engineer has a responsibility to those parties affected by his work. In case after

case, it has been directly or indirectly stated that it is the responsibility of the engineer to exercise "due care." If there is one contribution that this thesis can make, the writer would most want it to be in emphasizing this responsibility. It is not enough to design a properly-functioning system; there must be proper inspection and supervision during the construction and during operation of the facility. This failure to inspect has been the single most frequent cause for litigation. This is something which the engineering profession can correct itself. Engineering students must be taught in school the importance of inspection and supervision as they are learning the design of facilities.

Just as failure to inspect and supervise has been the most frequent cause of litigation, so subsurface conditions have been the object most neglected in the engineer's design of projects. There are an alarming number of cases, hundreds more than those presented in this thesis, in which the engineer did not know what the subsurface conditions were, or, if he knew them, he did not document them fully to the contractor. It should be the engineer's responsibility to give this information to the contractor. This fact is recognized in some states. Engineering students must not only take required courses in soils, but they must be taught the importance of subsurface conditions to the structures they design.

Many courts have recognized the responsibility of the engineer, without always recognizing his liability. However, that is changing. Some states now recognize that the engineer can be found liable, even if

the governmental owner organization has sovereign immunity. Further, some state courts have established that an engineer can be liable to parties with whom he does not have a contractual relationship. This is as it should be. If the courts recognize an engineer's responsibility, it follows that they recognize his liability.

An engineer never completely wins a court case; his good name is questioned, and litigation is expensive and time-consuming. The primary way an engineer can avoid litigation, in addition, of course, to proper care in design, is by performing adequate inspection and supervision during the construction phase. Close attention to small details and daily tasks is a subject often treated by the courts. Engineers have been critized by those courts for such actions as not returning telephone calls, poor handwriting, and omitting a known detail from the specifications.

Greater care should be taken in writing contracts and in insuring that plans and specifications agree. Many cases have illustrated the importance of a word, phrase, or sentence. The engineering profession should make it its duty to see that engineers are taught the importance of contracts, plans, and specifications in college, or in courses sponsored by engineering organizations.

Thus, better recognition of sanitary engineering problems has increased in quantity and complexity the litigation in which sanitary engineers are indirectly or directly involved. Engineers are becoming more directly involved as more states are finding engineers liable for damages caused by their failure to exercise "due care." These facts

must be acknowledged by more of the engineering profession, if unnecessary litigation is to be prevented.

# V. CONCLUSIONS

Concerning the law and the involvement of the sanitary engineer with that law, it is concluded:

(1) Litigation involving sanitary engineering facilities has increased in quantity and complexity in the last twenty years.

(2) There is a diversity in the legal resolution of the same engineering problem in different states.

(3) As a remedy in specific cases, common law has had more definitive results whereas statutory law has often been one of jurisdiction.

(4) More courts recognize the liability of an engineer, having already recongized he has a duty to exercise "due care."

(5) The cause of most litigation is failure of the engineer to inspect and supervise during construction.

(6) The subject most litigated is that of subsurface conditions.

(7) The engineer can avoid much litigation.

Therefore, based on reading the cases discussed in this thesis and others not included in this thesis, the writer recommends to the engineering profession that the following be accomplished:

(1) Practicing engineers must be made aware of the serious consequences of not exercising "due care."

(2) Engineering students must be taught that adequate inspection and supervision, knowledge of subsurface conditions, and the use of correct contract and specification language are of

equal importance as the proper design of the facility. These items are integral parts of the design.

(3) All civil engineering students should be required to take a course in general law such as that contained in Contracts, Specifications, and Law for Engineers, by Durham, Young and Bockrath. This, or an equivalent text, should be supplemented by selected cases involving engineering contracts, construction contracts, and engineering negligence.

(4) All sanitary engineering option students and graduate students in sanitary engineering should be required to take a course in environmental law such as that contained in Environmental Law for Engineers, Scientists, and Managers, by Joseph Bockrath. This, or an equivalent text, should be supplemented by additional cases covering the scope of this thesis.

LEGAL INDEX TOPICS

Index Page No.

LEGAL INDEX

Page No.

Police Power



Right to Justice



CONTRACTS

Contract Formation and Validity



Contract Interpretation

Page No.

Breach of Contract



COUNTIES

Page No.

## DAMAGES

### General Principles



### Compensatory Damages



### Liquidated Damages



### Measure of Damages

Page No.

SOUTH HILL SEWER DISTRICT V. PIERCE COUNTY 24
Court of Appeals of Washington, 591 P.2d 871(1979)

LEGAL BIBLIOGRAPHY

The cases indexed above to the standard legal topics in West's General Digest were selected because they involve one or more functions of sanitary engineering; not because they involved certain legal issues or principles. The cases involve many legal areas which are not treated full in the decisions. For the nonlawyer reader of this thesis who wishes to obtain additional knowledge of the legal areas mentioned, the following publications are recommended:

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# LEGAL ASPECTS OF SANITARY ENGINEERING FACILITIES

by

Betty Beall Beard

(ABSTRACT)

A study of 160 legal cases involving sanitary engineering facilities was made. Each case was read, summarized, and commented upon by the writer. Emphasis was placed on the engineering information contained in each case, with discussion of legal principles which pertain to the particular engineering situation. The case discussions were then categorized as to the predominant engineering topic involved and arranged accordingly. The purpose of this arrangement by engineering topic, rather than the usual legal topic, was to make available to the engineering profession a reference which will enable the engineer to better obtain information regarding a specific situation. Prior to this presentation, references have categorized these cases within over four-hundred legal topics. Litigation directly or indirectly involving sanitary engineering facilities has increased over the last twenty years, partially in response to an increased awareness of water pollution. The cases reflect the regional differences in legal philosophy. More state courts recognize the liability of engineers. Much litigation can be avoided by the engineering profession's recognition that adequate supervision and inspection of construction, knowledge of subsurface conditions, and the use of correct contract and specification language are integral parts of the sanitary engineer's professional responsibilities. Engineering colleges should offer more training in those areas.