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Discovery in Construction Litigation

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Mr. D'Arcy is admitted to practice before all Louisiana state courts, the United States District Courts for the Eastern, Western and Middle Districts of Louisiana and the United States Fifth Circuit Court of Appeals, and the United States Court of Federal Claims.

Mr. D'Arcy is a member of the Louisiana State Bar Association, the Irish American Bar Association of New York, and is the co-chairperson of the New Orleans Bar Association's construction division.

Mr. D'Arcy's primary practice areas include commercial litigation, construction litigation and surety litigation.

Mr. D'Arcy is a LEED Green Associate and has presented numerous lectures on green building.

Mr. D'Arcy has taught Louisiana Civil Procedure at Loyola law school as an assistant adjunct professor

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Admitted to practice before all courts in Louisiana and the United States Court of Federal Claims.

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- Loyola University School of Law (J.D., cum laude)
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Professional Associations and Memberships

- American Bar Association
- Louisiana State Bar Association
- New Orleans Bar Association (Construction Committee Co-Chair)
- Ancient Order of Hibernians
- Irish Business Organization of New York
- Irish Network New Orleans (President)
- Irish Network U.S.A. (Board Member)
- Carrollton Boosters (Board Member / Soccer Coach)
- U.C.D. Alumni Association

Seminars Presented

- Construction Law for Non-Lawyers, Urban League, (Dec 2009)
- Construction Lien Law in Louisiana, Lorman Educational Services (Aug. 2008, Mar. 2009)
- Written Discovery in Construction Litigation, New Orleans Bar Association, (Dec. 2009)
- Current Issues in Lien Law, National Business Institute, (Nov. 2009)
- Resolving Problems and Disputes on Construction Projects, National Business Institute, (Dec 2008)
- Louisiana Lien Law and Bankruptcy: How the Two Interplay When as Owner Enters into Bankruptcy, New Orleans Bar Association, (Jun. 2009)
- Ten Things You Need to Know About Being a Construction Professional in Louisiana, CFMA (Aug. 2010)
- Construction Lien Law, (Mar. 2010)
- Façade Inspections, Energy Conservation and Bedbugs in New York City, Emerald Guild Society, (Nov. 2010)
- Green Building: What's it all About and What Does it Mean for Lawyers?, New Orleans Bar Association, (Dec 2010)
- Green Building: What's Next? A discussion of the International Green Construction Code, New Orleans Bar Association, (Jun. 2011)

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WRITTEN DISCOVERY IN CONSTRUCTION LITIGATION

INTRODUCTION

The special nature of the construction industry

Construction litigation imposes special problems on an attorney seeking information. Unlike other litigation, construction litigation does not normally involve limited numbers of participants or repeat fact patterns.

A construction dispute generally involves the interaction (or lack of interaction) of many entities and individuals that are not so readily apparent. Interrogatories aimed at establishing the fact of the failure or breach must ask the proper question of the proper participant as well as requests for production of documents that request appropriate documents are important.

A construction project involves numerous different parties, such as the owner, contractor, designer, subcontractors, suppliers, equipment vendors, and governmental approval agencies, each with many employees, agents and representatives that may impede the construction process and delay its completion. The difficulty in construction litigation is to sort through the various relationships, find the one that was breached, and then the cause of failure.

Advantages/disadvantages of discovery in construction litigation

Discovery in construction cases, as in any cases, is intended to avoid surprise and promote a "just" decision. Because construction litigation often deals with technical and complex elements, it usually requires a more thorough investigation than other disputes. Because it is of such a complex and technical nature, defense of claims is to some extent easier since the opportunities to promote confusion of the issues with unrelated or immaterial facts are greatly increased. As a result of these characteristics it is very important to perform effective discovery in construction litigation.

The primary disadvantage of discovery in construction litigation is the incredibly large volume of documents an attorney may discover. The amount of documents produced from the design and construction of a project is enormous. Attorneys entering into construction discovery without a method or plan to organize and retrieve the documents will find quickly that they are overwhelmed by the volume of documents. Although any individual documents may be important, the ability of an attorney to evaluate and recall it at an appropriate time is often lost in the volume of material accumulated. Often, discovery is artificially and prematurely limited to avoid this phenomenon.

Another disadvantage of discovery in construction litigation is the difficulty in properly evaluating the information received. Documents from the contractor are often undecipherable to an attorney not familiar with the terms and customs of the construction industry. Even with the ability to understand "construction language", the attorney may have difficulty recognizing the

significance of what is received because construction requires the interaction of many separate and distinct relationships involving different responsibilities and often unique customs. To overcome this, attorneys may often retain the services of a consulting construction expert to act, if nothing else, as an interpreter or an attorney may co-counsel with attorneys who specialize in complex construction litigation cases.

Discovery in complex construction litigation has often a tendency to be abused. The volume of material and people involved can be used to extend the discovery period and increase the costs of the litigation unnecessarily. This can be a particular hardship to a party without access to additional funds to invest in a lawsuit to recover money due and owing. Parties and attorneys wishing to delay a construction lawsuit can add defendants and demand additional time for evaluating the new defendants' records. Discovery may be extended for years.

Costs of extensive discovery are enormous. Included may be travel costs for attorneys to visit out-of-state parties; labor and material to reproduce all sizes of documents (electronically or otherwise); and court reporting costs. The cost of evaluating is even more expensive because the material must be organized for retrieval and often reviewed by three or four different people on the same side: several attorneys, consultants, and the party.

To make standard discovery vehicles effective, an attorney must first gather and study the contract documents, applicable professional standards, and pertinent publications. If this material is not available from the client, the material is obtained through the first discovery requests. Once the relationship and performance standards are understood, the attorney may utilize the discovery procedures to gather more detailed information on the actual performance of all relationships. Given the many participants in a construction project, the different relationships, and the different standards of care and performance, one can see that no "canned" interrogatories or other predrafted discovery will be effective in uncovering much useful information. Discovery in complex construction litigation must be carefully thought out and planned to be effective.

Planning and preparing for discovery

(a) Overview

Discovery in complex construction litigation is generally in extensive undertaking involving an overwhelming amount of information and requiring a large number of attorney/paralegal/expert hours.

It is wrong to start discovery without having thought it through and determined its aims. Discovery should only be started after the available facts have been gathered and the issues analyzed. This preliminary analysis permits understanding of where the real dispute may lie. There is no need conducting discovery on matters that will not be disputed, although initially even the items of dispute may not be clear.

A wide variety of legal disputes may arise out of a construction project. Potential types of legal disputes may include construction contract and subcontract claims, design professional malpractice, product liability, personal injury, surety and bond problems, liens, zoning requirements, environmental requirements, financial commitments and obligations, mortgage foreclosure, bid rigging, false claims, racketeering, antitrust, governmental regulations, labor disputes, ratemaking proceedings, patents, and constitutional issues. All aspects of civil, criminal, and administrative law may come into play on construction projects.

It may be helpful to the attorney before commencing discovery to define or categorize the type of dispute and place it into a legal or conceptual framework. It may promote understanding of the dispute and the identification of potential theories of recovery, and thus help direct the discovery.

For example, assume a contractor was unable to timely perform a construction contract and the contract was terminated by the owner. The contractor may be content to accept the contractual remedy of termination as determined by the owner and be done with the project. Alternatively, the contractor may believe the delay was not the contractor's fault and in a lawsuit attempt to recovery any additional costs that resulted from the delay or were incurred in the termination. The owner may have breached the contract by failure to meet specifically defined obligations contained in the contract, such as failure to provide owner-furnished equipment in a timely fashion, that resulted in the delay. The owner may have breached the contract by failing to abide by implied obligations, like failing to grant time extensions for strikes and unusually severe weather. The contract may allege that the owner acted in bad faith by wrongfully terminating the contract with specific intention to avoid its obligations to the contractor. The contractor may allege that the owner breached a warranty, such as the implied warranty to provide plans and specifications free from defects. Each of these potential breaches requires a different theory of recovery.

In determining the various theories of recovery, the elements of each theory should be ascertained. This the facts needed to establish each element must be determined. The legal theories will provide a discovery checklist.

In many cases, non-party witnesses are essential. In a construction or design dispute, witnesses to the disruption or orders to perform additional work may be the only documentation available. Subcontractors may be required to both support and explain the effects of delays, extras, or suspensions. Material suppliers can support manufacturing standards and integrity of the material used to complete the work. Dealing successfully with non-party witnesses may be a necessity for a successful presentation.

Before undertaking a major discovery effort, the attorney should first perform a preliminary analysis of the matter based upon the client's documents. The preliminary analysis should achieve three things:

(1) Determine the issues in dispute;

(2) An evaluation of the merits of the client's position; and

(3) Identification of documents and information not in the client's possession which must be obtained through discovery.

In performing preliminary analysis, an attorney should perform three tasks:

(1) Inventory available documentation and available sources of information, including witnesses;

(2) Categorize the documentation into files related to the issues that have been defined: and

(3) Evaluate the issues, including damages.

In the event that the client has an overwhelming volume of documents, the tasks associated with the preliminary analysis should first be performed broadly before performing them in a detailed manner. The project schedules would be relevant to the construction delay issues, job cost records may be relevant to damages, but the detailed shop drawings may not be relevant to either.

Certain documents may provide special insight into the project. If the dispute involves delay, the project schedules, updates, and progress reports may indicate reasons for delay. A summary as-built schedule can be developed from these documents and may indicate which activities were delayed or otherwise varied from the as-planned schedule; this would indicate other areas of investigation. Certain financial documents may also provide insight into the dispute. The contractor's bid estimate can be compared to actual expenditures to determine which activities may have been affected by the delay. The number and amount of change orders may indicate inadequate design or an owner interfering with the contractor.

A discovery plan is important to successful discovery. However, it is only after the relevant issues, available documents, and potential issues have been identified that the information required and the potential sources of such information can be established and, thus, the discovery plan developed.

The client should have a major role in the litigation and should be included in identifying the discovery goals. Once litigation goals are clarified, the attorney can then develop a discovery plan suited to achieve both the goals and provide the necessary information.

The most legitimate goal of any discovery plan is to obtain information needed to assist the party in its legal and factual positions. To obtain the needed information, the discovery plan must target the source of the information. In the construction industry, the traditional patterns of relationships and record keeping provide a framework and even a checklist of documentation which can be used to identify information to be obtained in discovery and predict its location.

Do not begin discovery without a good idea of the facts that need to be proved. Informal discovery should be completed before formal discovery begins. Litigators should thoroughly interview their clients at the outset of the case. Clients will know of many important witnesses and documents and often have the good sense of the strengths and weaknesses of their own case. If the dispute requires expert witnesses, determine what information the experts need to be provided through the discovery process in order to formulate their opinions. Engaging experts after discovery only to learn that additional information is required for the experts can significantly limit the expert's success.

The discovery plan should not only identify the information needed and the source of the information, but also the method that should be used to obtain the information:

- Use written interrogatories to find out whose depositions you want to take and where the documents you want are located;

- Use requests for production to obtain the initial group of documents, to refine the list of depositions you will take and to help figure out what questions to ask;

- Use depositions to nail down what you have learned, to determine what other documents or resources might be available, to obtain important admissions and to evaluate the witnesses; and,

- Use requests for admissions to fill in any gap and cull out matters from future discovery needs.

(b) Establishing a Budget for Discovery

It is imperative that the discovery goals and plans be considered in a framework of the reality of time and money.

Attorneys may not initiate budget considerations for fear of dissuading litigation. But, attorneys must apprise their clients of the (often high) cost of the discovery in order to determine whether it is worth achieving the goals of the investment in discovery and litigation. Attorneys must be good stewards of their client's resources. Not only should this be a professional responsibility, but in the long run it is the best way to keep clients and obtain new ones. Once the

discovery goals, needs and techniques have been defined, a basic method to establish a budget is to estimate both the time duration and level of professional effort required for each item on the discovery plan.

As the decisions relating to discovery are made, an overall plan should be formalized. The discovery plan itself can be very simple. In many cases, it will be no more than a memorandum that recites the goals, discusses what information is expected to result from each party, and what discovery device may be used to gather the information. In more complex disputes with strict time restrictions or other limitations, the plan may be formalized with charts and schedules. The individual discovery activities can be itemized on the plan. For instance, activities may include milestone dates for requests for production, general depositions for identifying documents, interrogatories, deposition periods, requests for admission, audits of damages, and expert identification and depositions. The budget can be established and apportioned to the separate tasks. Costs can be estimated and resources assigned to the tasks. Possible obstacles can be anticipated. Discovery plans should not be cast in stone. Any plan should be dynamic – incorporating new opportunities, reacting to unanticipated events, and adjusting to conditions. Even the best thought-out plan may change.

AN OVERVIEW OF A CONSTRUCTION PROJECT

Who are the entities involved in a construction project?

Discovery in construction litigation must focus on the relationship between the entities involved in the dispute in order to define what each entity was supposed to contribute and what failed to perform as expected. But who are these entities? There can be many people involved in a construction project, not all of whom are related to the failure.

Traditionally, the main participants on a construction project include the owner, the contractor, and the architect/design professional. This is a simplification of basic functional responsibilities for (1) payment, management, and administration, (2) construction, and (3) design. Related to and as an outgrowth of these basic functions are entities who provide a measure of security (insurer, surety), parties who agree to perform a portion of the responsibility of a major actor (subcontractors, design consultants, project managers), and parties who provide resources for the main actors (lenders, suppliers). In addition, there may be various combinations of these responsibilities (i.e., designer/builder, builder/developer).

An owner initiates construction by providing the idea, organizing the financing and assembling the other participants. There are different kinds of owners and forms of ownership. Some are public; some are private, and some are a combination of both.

Traditionally, the owner's first step has been to engage the services of a design professional, although owners recently have evidenced a trend toward hiring a "construction manager" simultaneously or before picking a design professional. The owner may also hire an

"owner's representative" to monitor the design professional and the other participants as the project is completed.

The owner may have retained as the lead design professional an architect/engineer who provides design services with in-house capabilities in only some areas of engineering; an architect with no in-house engineering capability who retains specialized engineering assistance; an engineering company with architectural capabilities; or an engineering firm without in-house architectural resources. It can be expected that the lead design professional will hire specialized consultants to assist the designer in certain areas such as in landscape architecture, lighting, acoustics, or any other number of specialized disciplines.

Each of the classifications of designers and the various engineers will have a distinct, different relationship with the owner and contractor because of their capabilities, expertise, and contractual arrangements. The different relationships will have different standards of care and performance and probably different terms and conditions in their contracts.

The owner will select a contractor. The selection may be made by public bid, from a qualified bidder's list, or negotiated with one or more potential contractors depending on each situation. Although the usual scenario involves a single prime contractor, the owner may select more than one contractor by breaking the work into various contracts according to specialized areas of construction, such as mechanical, electrical, general, structural, or foundation. Any contractor who has a contract directly with an owner is known as a prime contractor. Each prime contractor will have a different relationship and responsibility to the owner depending on what has been contracted to perform. The different relationships will have different standards of care and performance.

With the owner's selection of one or many prime contractors, the main participants are identified, unless the owner has additionally engaged the services of a construction manager. A construction manager may have the responsibility of managing all or part of the relationships among the design professional, owner, and/or prime contractors.

Construction managers can be primarily designers and thus emphasize the management of the design. Some construction managers are primarily contractors who focus on the owner/contractor relationship. Still others do no "managing," but rather coordinate the owner/design professional and owner/ contractor relationships through persuasion and control of the timing and amount of progress payments. The key to understanding the responsibility and liability of the construction manager is the specific contractual duties rather than a generalized duty of "management."

Prime contractors will always have a series of subcontractors present to perform the work. Some prime contractors will do no more than "broker" the work by establishing a contractor-subcontractor relationship for all the work required by the prime contract. Other prime contractors will perform the work in its entirety to the extent that the prime contractor's own

personnel, equipment, and material are available, subcontracting only to avoid scheduling conflicts with its other projects or to take advantage of a specialized subcontractor's efficiency in performing complicated work. It can be anticipated that subcontractors may hire their own subcontractors, and these sub-subcontractors, in turn, will hire their own subcontractors. All of the various subcontractors at each tier will likely have different standards of care and performance.

Contractors and subcontractors will usually have suppliers. A supplier can be distinguished from a subcontractor by the absence of labor provided to incorporate material into the completed structure. In other words, a supplier will provide material but not labor for the projects. Sometimes, however, when a supplier performs design work and/or off-site fabrication work differentiating between a supplier and designer/subcontractor becomes more difficult. Suppliers also will have different standards of care and performance, depending largely upon the material provided, and the terms and conditions of their contract and/or purchase order.

To add to the number of participants, the owner (or the law) may require prime contractors to provide performance bonds and/or payment bonds. Prime contractors also may require subcontractors to also provide these types of bonds. Thus, sureties will very likely be involved on a construction project. Also, the owner may have a lender who advances funds for the project, a tenant who has leased the project in advance, or creditors who have an interest in collecting debts from the profits made by the project. All the participants may have professional, general liability as well as builders risk insurers that may be added as parties to the litigation.

The determination of any meaningful information through discovery procedures must first be aimed at the relationship of each entity to the other. To examine the relationship, the attorney must not only know the entities involved in the project but also how the entities were expected to perform. Expected performance is usually expressed in their respective contracts, although unwritten industry standards may also be involved. Comparison of expected performance to actual performance, both of which may be determined primarily through discovery, will indicate the breached relationship.

Where to find the standards of performance required by each entity

All the people and organizations on a project relate to each other in a variety of ways. These different relationships are expected to be performed in a variety of different ways or standards. Expected performance may be determined from four sources: the contract, the profession, the law, and the community. The most straightforward, but perhaps most often overlooked, standard of performance is the contract.

(a) Construction Contract

Construction contracts are usually divided into four parts: the bid information , the contract proper, the general conditions (including special conditions and addenda), and the plans and specifications.

The substance of the contractor/owner relationship is contained in the general and special conditions. Typically prepared by the design professional, they are often standard forms prepared and approved by industry groups such as the American Institute of Architects (AIA) and Associated General Contractors (AGC).

Details of the required performance are expressly set forth both by words in the specifications and graphically in the plans. Specifications are written documents that define the qualitative requirements for the materials, workmanship, and products for the constructions. The plans or drawings are graphic illustrations or representations of the work indicating relationships between the components and materials.

Contracts executed by the design professional with its consultants and by the prime contractors with their subcontractors and suppliers are often similar to the respective owner/design professional and owner/contractor contracts. Contractor/ subcontractor contracts often incorporate the entire contractor/owner contract by reference. However, it is important to examine the contractual arrangements for any different standards of performance among the various tiers of relationships.

(b) Design Professional Contract

The design professional's contract will likely define (and limit) the design professional's responsibility. The prime contractor and owner should also attempt to limit their liability in their respective contracts. The design professional and the prime contractor will want their contract to support their payment demands. These contracts will express the relationship between the entities. Each contract, however, will be different.

Design contracts for traditional professional design services will usually separate the work among schematic design, design development, and preparation of construction documents. Typical design professional contracts will also distinguish between design preparation and implementation of the design by the contractor. The design professional's participation in the contractor's implementation of the design is known as "administration" of the contract.

Most design professional contracts will also contain an extra work clause. This clause will define the additional services that the design professional may perform for a fee in addition to the base contract price. If the design professional performed any additional services, this clause will describe how these additional services will be valued and should have been performed. The additional services provision may also serve to clarify the scope of the design professional's services by stating what will not be performed without additional compensation.

An attorney must study the design professional contract with the owner to determine how the design professional's services in each stage of the project are defined. Was the design professional obligated to "illustrate all details of the work"? Was the design professional to produce a design "sufficient to enable the contractor to perform its work?"

Similarly, the contract will define the design professional's services during the "administration" of the construction contract. Was the design professional obligated to "supervise" the construction? Was the design professional obligated to check the construction to determine "general conformance to the design"? Was on-site representation required? Was any extra work that was performed related to the problem? Once the design professional's expected performance is understood, the discovery effort can be better targeted.

(c) Other Sources for Standards of Performance

All states have statutes that define the professional responsibilities of licensed engineers and architects. In addition, case law, regulations and other aspects of the law may set forth standards which govern the practice of architecture and engineering, as well as construction and the other trades involved in the construction process. This involves legal research which must accompany the factual investigations and discovery. Finally, industry norms for standards of performance may require consultation with an appropriate industry expert.

Types of construction projects

In the construction industry there are various ways projects are procured, contracted and delivered to the owners of the projects. This is known as project delivery methods. Attorneys involved in discovery in construction litigation must be aware and understand the different project delivery methods and how they may relate to their discovery efforts and the legal issues that arise out of the project.

The delivery of construction projects is a process that involves several functions other than the actual construction activities that take place in the field. The process includes assessing the need for the project, raising the funds needed for the project, planning, designing, selecting and preparing the site, obtaining approvals by regulatory agencies, acquiring materials, detailed engineering, mobilizing material, labor forces and equipment at the site, supervising the construction labor crews, installing and erecting the materials and building systems, administrating the contracts, paying the contractors and suppliers, overseeing the details of project close-out, start-up and move-in, and operating the facility.

The construction industry generally recognizes various contracting approaches. These include design bid-build, agency construction management, at-risk construction management, multiple prime contracting, design-build, design-build-operate-maintain, and fast- track or phased construction.

(a) Design-bid-build

A project delivery system commonly used is design-bid-build. It is so widespread that it also referred to as the "traditional" contracting approach. Using design-bid-build, an owner typically selects a design professional (architect or engineering firm). Typically, the design

professional takes on responsibility for such services as planning, designing, preparing detailed plans and specifications, finalizing the contract documents to be bid and performed by the construction contractors, and administrating the project during construction. Using the contract documents prepared by the design professional, the owner may solicit bids for the performance of the construction work by obtaining publicly competitive bids from several construction companies (bidders), or may negotiate a price with only one or a few selected contractors. The selected contractor typically enters into a fixed price contract directly with the owner. The design professional has a contractual arrangement with the owner separate from any agreements that the owner may have with the construction contractors.

The design-bid-build approach separates the project process into two main steps (design, then build) with two key players (the design professional and construction contractor) who have separate contracts with the owner, and are not contractually bound to each other. The design professional is to provide most of the details, drawings, instructions and specifications. A completed design allows the bidders to price the proposed construction work.

Inherent in the design-bid-build process is a system of "checks and balances" in which the design professional and the contractor play off one another in their separate contractual roles. The designer has several "checks" on the construction contractor. For example, standard architect agreements provide that an architect performs many services for an owner that involve the construction contractor: shop drawing approvals, review of the proposed schedule of values for payment purposes, review of progress payment requests, observation of the construction work, review of proposed change orders, preparation of punchlists, and several other activities that the architect traditionally performs as an agent for the owner. Contractors also perform certain "checks" on the design professional. For example, the contractor normally is obligated to review the contract documents before commencing the work and advise the owner of any design errors and/or omissions.

(b) Fast track construction

To shorten the time it takes to complete design and begin construction, the construction industry has developed fast track construction. The goal of fast track is to overlap portions of the construction and design phases, so that some parts of the construction work can begin earlier. In some instances, the design of the entire project need not be complete before certain aspects of the field construction work can begin.

If the project design can be separated into distinct portions of construction work that can be bid and commenced before the entire design is complete, the construction phase can overlap the design phase. For instance, when the foundation design is complete, the foundation work for the project is bid and awarded, and then the foundation construction work begins while other aspects of the project design work are still ongoing.

(c) Multiple prime contracting

Some owners want more control over the various trade contractors. Because of special requirements of some owners, the specialty trades such as process piping, HVAC, acoustics, and electrical may be important to the overall functioning and operation of the project. Even though the owner may engage specialty designers, the owners may not believe that they have enough control over the construction of the specialty trade work or the subcontractors performing their work through a general contractor. Using separate direct contracts with the specialty trades is one way for the owner to achieve its special project requirements. Also, owners may not like paying for the layer of overhead and profit that a general contractor receives on the cost of the work performed by trade contractors when they function as subcontractors.

(d) Construction management

Another approach is for the owner to engage a construction manager during the design phase or prior to the commencement of construction and to have the construction manager responsible for the construction of the project. Many construction managers have the experience and ability to propose alternate building systems, components, material and design approaches that may improve the project in terms of cost savings, construction time reductions, quality of materials, long term maintenance, or operational considerations. This is a variation of the traditional design-bid-build approach, where the design is complete before contractors are given copies of the contract documents during the bidding phase.

Construction management is based upon the premise that construction management professionals take the lead in the development and management of the overall project delivery process. A second premise is that the Construction management professionals are extensively involved during the pre-construction phases as well as the construction phase. In that the end product is a constructed facility, the emphasis and focus is on the construction perspective throughout planning, design, procurement, and construction.

Construction management is a professional practice. It is a service offered by specialized firms to owners, or an expertise developed by the owner's in-house staff. Construction management firms provide services focused upon managing the cost, time and quality aspects of the project on behalf of the owner. There are two types of construction management: agency construction management; and at-risk construction management.

(i) <u>Agency construction management</u>

Agency construction management is a contracting practice where the construction manager provides administration of the project in the name of the owner and in the owner's behalf. The main premise is that the agency construction manager will have a non-adversarial relationship with the owner. The construction manager functions as an independent professional, providing expertise

in the management of project costs, time, quality, and administration. The agency construction management receives its compensation as a fee, rather than through profits and other rewards from the construction contracts.

The agency construction manager coordinates and manages the activities of the designer and the trade contractors on behalf of the owner. The construction manager may not have liability (beyond its fees) for the risks of time, cost, quality, safety or other features of the project. The rationale is that liability and risk would prevent the agency construction manager from exercising independent professional advice on behalf of the owner. Similarly, if the agency construction manager were to take the risks and rewards associated with holding the construction contracts or are paid to perform the trade work directly, the agency construction manager would have a conflict of interest with the owner.

(ii) At-risk construction management

Another type of construction management is at-risk construction management. This form of construction management is similar to general construction contracting, except that the construction manager is involved in the pre-construction phases, and is often selected on a basis other than just the lowest competitive price. During pre-construction, the at-risk construction manager is often paid on a fee basis, providing its expertise and advice on scheduling, design reviews, constructibility, cost estimating, procurement, and management. The at-risk construction manager will then tender prices for the actual construction work on a fixed price, not-to-exceed amount or guaranteed maximum price. The construction manager often takes on many of the risks and rewards of construction, and takes direct responsibility for the means, methods and performance of the construction work. The at-risk construction manager may perform the work with its own forces, subcontractors or trade contractors that have been assigned to the construction manager by the owner. The at-risk construction manager has direct contractual relations with the owner and its own subcontractors, but an indirect or working relationship with the project design professional.

(e) Design-build

In many ways, design-build is a fundamental contrast to a design-bid-build project. The owner enters into a contract with one entity that has the responsibility both to prepare the final design and to build the project. Although the owner may engage a design professional early in the process to develop a design concept and outline the design requirements, the essence of design-build is that one entity provides both design services and construction of the project.

Design-build is different than design-bid-build contracting in terms of allocating risks, contractual relationships, responsibilities, and the nature of financial rewards. One of the most significant differences is the ability to have the construction team, including subcontractors and suppliers provide input into the design and engineering details to make sure it is workable, cost-effective, safe and minimizes the time required for the project. Design-build works best when

many of the members of the field and construction team offer suggestions, reviews, value engineering ideas and feasibility improvements into the design process.

Another outcome of design input from the construction players is a focus on cost reductions. A "bottom-line" perspective is often obtained, because the design-build entity usually has a price limitation, if not a fixed price, with the owner. This cost orientation may also permeate the relationships with the trade subcontractors that perform portions of the construction work on a fixed price basis. Tension may arise when the designer of record has to finalize the construction requirements that conform to engineering standards, safety requirements, codes, aesthetic considerations and other professional considerations. If the constructor plays the lead role in the design-build process it may influence the final outcome toward more bottom-line considerations than engineering or operational considerations.

The risk for the design is another key difference between design-build and the traditional design-bid-build delivery system. Under design-bid-build, there may be clearer demarcation between design responsibilities and construction responsibilities. But the design-builder has increased responsibility for the defects and deficiencies in design, particularly those aspects of design that it prepared. In many instances, not all of the design is performed by the design-builder. However, there may be less design responsibility for the owner under design-build than in more traditional project contracting methods.

One possible design-build arrangement is where the party contracting directly with the facility owner is a contractor or constructor—a firm whose primary experience and background is focused on building and construction. In this arrangement, the constructor may in turn engage a design professional to undertake the design on the contractor's behalf.

When a construction contractor has the direct design-build contract with the owner, the contractor takes on many of the responsibilities, risks and rewards of design. This may be is a major realignment for many contractors who do not price the risks of design errors, omissions and design-related delay in their construction costs. These types of problems have been the source of claims by contractors against owners under the design-bid-build projects. In design-build, once the design-builder is engaged, the owner's involvement in the developmental aspects of the design process may be reduced.

When the contractor holds the prime design-build contract with the owner, the subcontract between the contractor and the design professional may address many issues not dealt with in the typical subcontract with a trade contractor. Of major concern is the design professional's responsibility if any aspect of the design does not comply with building codes, regulations or professional practice standards. The design subcontract may impose liability upon the design professional for the cost of any such failures. Whereas, in traditional design-bid-build the owner may bear the brunt of the design errors and (at least initially) be liable to pay the contractor, this

may not be the case in design-build for the aspects of the design performed by the design- builder. Other issues in the design subcontract between the contractor and the design professional include other indemnifications, licensing, professional liability coverages, conflict of interest, budgets and time of performance.

The owner may also enter into a design-build contract directly with a firm whose past experience has been primarily as a design professional—in either architecture or engineering. The design professional may enter into agreements with one or many construction contractors to obtain their assistance in design, provide cost estimating, and build the project. In this scenario, the design professional takes the lead on the risks, rewards and challenges of the construction process. This approach to design-build contracting is not widespread.

Another approach to design-build is where the owner contracts with a firm whose experience and expertise focuses more on management of the design and construction processes, rather than in hands-on performance of either function. The construction manager in turn enters into subcontracts for design and construction. The design responsibilities may be performed by one design firm or parceled out to many specialty designers. In the same way, the construction work is often divided among several trade contractors and suppliers.

INTERROGATORIES

Effective use of interrogatories in construction litigation is accomplished by asking specific questions aimed at either filling in omissions in the client's records or establishing actual performance of the parties. Before initiating any substantive discovery, including interrogatories, the attorney should study the available documents and material that define the relationships among the parties and the intended performance. In addition to substantive purposes of interrogatories, there are many procedural purposes that interrogatories may satisfy. Interrogatories may eliminate the uncertainties of an opposing party's testimony, narrow the areas of factual disputes, limit an opponent's proof, and improve the chances of settlement. Further, well-drawn questions can effectively preserve admissions for use at trial.

Advantages and disadvantages of interrogatories

(a) Advantages

Interrogatories produce definite, written information that can be used at trial or in settlement talks. Interrogatories can determine how much and what kinds of information opponents possess. Answers to interrogatories may even indicate the opponent's strategy.

With a minimum amount of effort, interrogatories can significantly contribute to the discovery effort while costing far less money and requiring far less time than depositions or other more complicated tools of discovery. Detailed, objective information can best be obtained through interrogatories. Interrogatories may be the best way to obtain extensive information, statistical

data, or the compilation of data from a number of sources with little likelihood of objection. The written reply of an interrogatory in these instances may have more evidentiary weight than an oral reply of a deposition that later could be alleged to have been misunderstood. There is little dispute to an answer to an interrogatory.

As a result, interrogatories are particularly indispensable in construction litigation when compilations or other extensive information is required. Interrogatories are also helpful in construction litigation to obtain technical information. Hours can be spent in depositions trying to understand complicated scientific principles or technical data concerning properties of materials. Answers to interrogatories covering the same data are likely to be more understandable, more helpful in developing the case, and more useful in examining witnesses in depositions.

Another advantage of interrogatories over other discovery techniques is that interrogatories provide the means to obtain an authoritative or collective response from a corporation, partnership, or other entity. This forces a corporation or other collective entity to assume one position instead of permitting several answers from individuals within the entity that may conflict or avoid the question. The designated agent must seek out the knowledge. This advantage can also be used to require multi-entity organizations such as joint ventures to collect information from all available sources in the organization. The ability to ask one question to many people can be particularly useful in construction litigation where large number of people and firms are commonly involved. Interrogatories can be directed to the contractor, subcontractor, or design firms involved in the dispute, but information from all those individuals involved on the project for the firm is required.

Interrogatories save time and effort in later discovery by identifying routine information and revealing further possible discovery directions. Interrogatories can identify the major participants in the opponent's case: individuals with subrogated interests in the claim, expert witnesses, and persons consulting or assisting in preparing answers.

Interrogatories can assist in determining areas for further discovery. For instance, in construction litigation the bid is always a valuable document for confirmation or denial that the contractor has prepared a "reasonable" estimate. To the extent that the bid was in error, overruns or inefficiencies that the contractor claims as due to others' acts may be due to failures in the contractor's own estimating methods. Knowing who prepared what part of the estimate can help focus additional discovery on errors in preparing the estimate.

Further, specific interrogatory questions prepared after an analysis of available documents and information will demonstrate the degree of preparation achieved by the party propounding the interrogatory. This not only reveals how far the opposing party must come to match the party's current preparation, but also demonstrates commitment to the successful conclusion of litigation. Thus, interrogatories are also important tools in the settlement process.

(b) Disadvantages

Interrogatories have a fraction of the firing power of depositions. Interrogatories cannot obtain important spontaneous admissions. Interrogatories rarely make an opponent appreciate the weakness of his case. Interrogatories do not give opportunities, as depositions do, to press a follow-up question, to clarify an answer, or to explore an area opened up by a response. Nor do interrogatories have the muscle of a document request. Document requests can be an inexpensive way to get volumes of relevant evidence. In fact, a document request is probably the most reliable way to get evidence from an opponent that was created for purposes other than the lawsuit.

A common objection made by attorneys regarding using interrogatories is that they force the opposing party to prepare its case properly, when otherwise it might not do so. The fundamental premises of this objection are, alternately, that lawyers are too busy to thoroughly prepare an action or that the odds are great that the case will be settled out-of-court, rendering thorough preparation unnecessary. By forcing it to properly prepare its case, however, an opponent will also be forced to assess its potential liability, which may contribute to an early settlement of the dispute.

Also, since answers to interrogatories are usually drafted by an attorney, it is difficult to obtain a damaging admission from a party (even though Louisiana procedure requires a party to sign the interrogatory answers, the practice is widespread of the attorney alone signing).

Finally, opposing counsel may find many objections to the questions or their form; these objections may result in time-consuming motions.

Drafting interrogatories

Avoid the use of "canned" interrogatories without careful consideration and modification to the case at hand. Thoughtless questions will obtain useless answers. I there anything less read than interrogatory "instructions?"

The best interrogatories avoid jargon and complicated, complex sentences. They state the question simply and plainly, using simple sentences that develop one topic. Well-drafted interrogatories ask specific, limited questions, thereby reducing the possibility of confusion and simplifying the opposing party's answering process. To the extent that the answer is made easy, the chances of obtaining valuable information are increased.

Each additional factual detail should be the subject of a separate question worded as plainly as possible. Brevity and pertinence should be guiding factors. Ask questions which explore who, what, when, where, and how. Avoid argumentative or philosophical questions difficult to answer. Interrogatories that make demands for sweeping information (for example, "describe all facts known about a particular incident") are too broad and are subject to legitimate objection from the responding party.

Two sets of interrogatories

In utilizing interrogatories, it is suggested that two separate sets of interrogatories might be propounded. The first set should be designed to elicit objective and easily obtainable information. Limiting the scope of the first set to such matters will enhance the likelihood of obtaining timely responses. The party upon whom they are served will also be less likely to object to the interrogatories or provide evasive answers. The first set of interrogatories should serve to notify the opposition that you intend to take the discovery process (as well as the case) seriously. This will provide an indication of serious, lengthy litigation unless opponents reevaluate their potential liability.

The second set of interrogatories can delve into the more substantive areas where obfuscation and objection will likely be encountered. Since rules in many courts, including Louisiana, limit the number of interrogatories, it is important to avoid unnecessary questions.

(a) First set of interrogatories

The first set of interrogatories should be designed to obtain objective information. This would include general background information, identification of personnel, identification of potential witnesses, identification of experts, identification of other potential parties, and identification of documents and document handling procedures.

The first set of interrogatories may be successfully utilized to obtain background information concerning the opposition. Questions should concern legal principal place of business, and lines of business conducted by the parties. Such matters may not be crucial to the eventual outcome of the dispute, but will allow investigation to substantiate jurisdictional and status issues.

Another goal to be achieved by the first set of interrogatories is to identify potential witnesses, deponents, and interviewees. Interrogatories should be propounded to identify personnel of the party in general (for example, corporate officers), as well as those involved in the processes and procedures giving rise to the litigation (such as review of shop drawings or on-site supervisors), and potential witnesses.

The use of expert assistance in complex construction litigation has become standard practice. An attorney should devote careful attention to the disclosures and the interrogatories that seek to identify both consulting and testifying experts. Quite often, experts are the only knowledgeable source as to the details of the parties' positions because of the transient nature of construction employees and businesses. Whether the term "expert" applies to any witness is a matter of qualifications. To supplement disclosure requirements, interrogatories may be drafted to determine the education, experience, and other qualifications of the opposition's expert, and whether or not the expert is to be utilized at trial.

The first set of interrogatories should also seek to identify other persons with relationship to the project who may or may not be potential parties. A party may be unaware of the hierarchy of subcontractors, agencies, subconsultants, and others involved in the adversaries' relationships. The entities may appear to be a single unit, whereas closer examination through discovery may expose interrelationships that contributed to the issues in dispute.

Another area of inquiry for the first set of interrogatories is documentation and records relating to the project and the issues in dispute. The documentation generated by the design and construction processes can be enormous. In particular, project cost records are especially valuable. This includes the bid, bid estimate back-up, revised bid estimates, and profit/loss projections. The absence of such cost records and documents may indicate that additional inquiry is necessary. Therefore, as a precursor to requests to produce, it may be helpful to ask questions concerning the identification and existence of various types of documents generally kept during the different phases of the project. The value of an inquiry into the document handling and retention policy of the parties. If there arise any concerns on these matters, a subpoena duces tecum served upon the custodian of records may help to clarify the matter.

Interrogatories can be a valuable source of information concerning an opponent's damages. Because damages usually require several witnesses and a variety of documents to present, the collective response required by an interrogatory is a significant advantage over other discovery devices. Also, the first set of interrogatories should address the existence of insurance polices, a potential source of funding a settlement.

The parties may also inquire as to the identification of all writings or communications that allegedly constitute the agreement of the parties so that after an appropriate request for production of documents is propounded that these should be examined in detail to determine the contractual standards and obligations to which the dispute may be subject.

The past project performance record of a party may indicate a pattern of defective performance or economic loss which may help explain the issues in dispute in the present project. A history of similar legal action may indicate a disposition toward litigiousness rather than meritorious prosecution or defense of issues. An interrogatory inquiring into this area may prove helpful. Finally, any set of interrogatories should request the names of all persons supplying information for the answers to interrogatories. Such persons are potential deponents and may be impeached by the answers they provided.

(b) Second set of interrogatories

The use of second (and subsequent) sets of interrogatories will allow a party to inquire into the more substantive issues of the dispute. A second set of interrogatories can be directed to defining disputed facts, gathering admissions, and limiting an opponent's testimony to information provided in the answers to the interrogatories. Interrogatories that explore opinions and contentions and involve mixed questions of law and fact are also best withheld until the second set

of interrogatories, when much or all of the other discovery has been completed. The second set of interrogatories may also be used to obtain details on vague allegations, ambiguous damage calculations, and to obtain information to prepare for depositions. The second set of interrogatories must be focused. The purpose of additional interrogatories should be to determine what will be the main issues of the litigation.

In drafting questions for the second set of interrogatories, the prime consideration should be relevance. To assure more substantive and technical relevance, counsel should request its client and any retained expert to suggest topics for discovery and specific questions which can be drafted into proper interrogatory format.

Answering interrogatories

(a) General rules

Because of the complex nature of construction disputes, the client will almost always need to provide the information to answer the questions. The client should receive a copy of the interrogatories promptly after the attorney received them. Along with the copy, the attorney may suggest the questions on which the client should focus, which questions should be ignored because objectionable, and the type of information needed to be reviewed in order to answer them. It is often a good idea that the attorney request the client to designate one individual with whom the attorney may liaison to facilitate the assembly and processing of information necessary to answer the interrogatories.

In answering the interrogatories, the client liaison may have to undertake research and contact other employees. In some cases, it may be necessary to contact former employees as well. The attorney should discuss with the client the level of effort and research necessary to answer the interrogatories to ensure the appropriate steps are being taken.

An attorney familiar with the process and techniques of answering interrogatories in civil litigation is more than likely aware of the general rules concerning assisting the client in answering interrogatories: provide accurate and complete answers; provide no more information than requested; determine the reasonable meaning of the question; provide short, direct answers; and characterize the answers in the light most favorable for the client. Moreover, the answer should avoid incorporation by reference unless necessary to prevent long, complex, and repetitious answers.

It is a general rule that the attorney should review, if not prepare, the answers to interrogatories to assure proper form, to avoid unwitting admissions, and to interject appropriate objections. However, in construction disputes the attorney's final answers should be reviewed by someone familiar with the industry to assure conformance with industry practice and terms, as well

as technical considerations, even if the answers were prepared by the client. A retained expert may also be of assistance in answering factual interrogatories, especially if the expert has completed the research and investigation of the issues in dispute.

One common interrogatory frequently encountered asks the identity of "all persons with personal knowledge." The answer should identify all persons upon whose testimony may be relied, but should not include persons with casual knowledge. Identifying people only indirectly involved may result in those individual's depositions, causing unnecessary expense to both parties. A similar response can be made for questions that ask for identification of documents or conversations. Those particular documents or conversations that will be relied on in trial should certainly be included, but peripheral material should be excluded in order to avoid unnecessary additional discovery.

Finally, avoid the use of improper and dilatory objections, and the use of objections to some questions as an excuse for not answering others.

(b) Record production as alternate

The option to produce business records in lieu of providing specific answers where the burden of ascertaining the answer is similar for both the propounding and answering parties. Louisiana Code of Civil Procedure art. 1460 allows such a response. The option is particularly attractive because it reduces the effort required to answer the interrogatories and, at the same time, it provides material that may well be produced by some other discovery device, later. An example of the use of this option would be when a contractor is requested to identify all employees who worked on a large-scale project. As the number may be in the thousands, production of the payroll records may be the best response. On the other hand, when the architect is requested to identify all personnel with any supervisory or inspection responsibility and to state the scope of responsibility, the production of all contract administration-phase documents as a substitute for answering the interrogatory may not be prudent. Contract administration documents may indicate all persons involved and the scope of their responsibility but may also gratuitously provide information otherwise unavailable to the opponent. If the records would provide too much sensitive information, the responding party may wish to provide the answer itself.

In resorting to the option to produce records, the attorney should be familiar with the content of the records, the potentially damaging information likely to be contained in the records, and the relevance of the records to the interrogatory. This requires an understanding of the relationships and the documentation process.

(c) Supplementing answers

The parties are under an affirmative duty to supplement or correct their answers to interrogatories (and requests for production and admissions) when they learn that the answers were in some material respect incomplete or incorrect.

(d) Failure to answer

Failure to substantively answer interrogatories can result in sanctions that may include granting of summary relief, dismissal of actions and the imposition of attorney's fees incurred in seeking sanctions. Failure to respond to interrogatories may also result in prohibition of the testimony. The same penalty may be applied when failing to supplement an interrogatory. However, formal rules and legislative dictates do not limit the courts' power to control misbehaving litigants.

REQUESTS FOR PRODUCTION OF DOCUMENTS

INTRODUCTION

In construction litigation, requests for production of documents have particular significance: the construction process runs on documents. The documents generated during the course of construction often are perceived as historically accurate after the project is complete. Thus, access to the complete project documentation may be perceived as necessary for an accurate record. In reality, the content of construction documents is not as accurate as is generally perceived, because progress or performance on the project usually cannot be recorded in a precise manner. Too many activities occur at the same time both at and away from the project site to permit complete documentation; and document authors may make mistakes, color the record to one's advantage, or simply lie. But one must understand the written record in order to correct or challenge it.

Liability in construction and design disputes is often based on failure to meet a certain standard of performance. The determination of whether the defendant has met this standard of performance for either contractors or design professionals is usually made by experts. Production of documents is significant because it is the only way in which experts are able to "recreate" the project, enabling them to form an opinion. Without a history of the project, no opinion can be formed, no comparison can be made, and thus the action may fail.

In drafting requests for production of documents, an attorney must be as specific as possible in describing the documents. However, description by category is proper if the category or subject matter itself is defined with a reasonable degree of particularity. This is significant in complex construction litigation because categories of documents are often the goal of the production, rather than individual pieces of the record. For example, a copy of all the project daily reports are often needed, instead of only those reports from individual days.

The requests for production of documents should represent the first major discovery effort after the first set of interrogatories are propounded. The documents are produced, reviewed, and reproduced, then organized, studied, evaluated, and most importantly, put into a system which permits rapid retrieval. Study and evaluation are designed to define the cause of the problem. Once the problem has been identified, the remainder of the discovery can be focused there, and unnecessary, additional discovery avoided.

Document production will permit evaluation of the opponent's allegations or defenses, dismissal of certain defendants, and development of strategy. It will provide the attorney with a strong factual basis for future negotiations. Document production, if possible, should be entirely completed before any depositions begin. In fact, in most construction litigation, taking depositions without the use of a fully reviewed and categorized full document production can be a total waste of an attorney's time. Attorneys should make sure that all responsive documents have been produced and throughly reviewed before taking any deposition. Requests for production of documents should not be combined with a deposition except in the simplest cases. Too much time is wasted during the deposition reviewing documents; and the questions to the deponent concerning the production are not effective. Instead the documents should be produced and evaluated well in advance of any depositions.

RECORDKEEPING ON CONSTRUCTION PROJECTS

(a) Construction

What type of records do you ask for in the requests for production of documents to a contractor? To target the request to those documents needed, the attorney must understand what documents are typically maintained by construction and design firms and how the documents are created. To understand how documents are created and which are typically maintained, the attorney must understand how design and construction projects are typically organized.

A general contractor will typically organize the project around a project manager. The project manager is responsible to the home office for scheduling, procurement, and implementation of design in a timely and profitable manner. Working under the project manager can be one or more assistant project managers who are responsible for a particular aspect of the work, and one or more field engineers who work with the design professional's staff in resolving conflicts, preparing and submitting shop drawings, and interpreting the design documents. On particularly large construction projects, the project manager will have an office manager responsible for a clerical staff and recordkeeping for payroll, progress payment requests, and general correspondence.

Many organizations will assign a "project engineer" to a project, instead of "assistant project managers," although assistant project managers may also be present. The project engineer will often report to the project manager. Reporting to the project engineer, depending on the size and requirements of the project, may be scheduling engineers, cost engineers, materials engineers, field engineers, quality control engineers, safety engineers, surveyors, and engineering technicians/drafters. Project owners may specify that a project be supervised by a licensed professional engineer, but often that is not the case.

At least two superintendents are usually present, also responsible to the project manager through either the assistant project manager or engineers. Superintendents coordinate the trade activities, schedule equipment, and maintain discipline. There are usually as many superintendents present on a large construction project as there are trades. For instance, there will be an equipment superintendent for operators, a carpentry superintendent for carpenters, and a masonry superinten-

dent for masons and block layers. Superintendents will in turn have several general foremen responsible to them. The general foremen will coordinate the activities of the foremen, who are usually in charge of five to six tradesmen.

The project's management organization is responsible to the contractor's home office management staff. Large contractors may have several vice presidents that may be responsible for several projects. Smaller contractor's project management may report directly to the firm's owner. Regardless, not all project participants or their records will be located in the field. The interrogatories would be an appropriate first step to identify how a given organization breaks down its project management team.

As in most businesses, as management decisions are passed through the organizational structure, they are written down. As the field staff responds to not only the direction of management but also problems encountered in performance of the work, written information flows back to management. Attorneys can take advantage of this flow of information by targeting not only requests for production, but also interrogatories, requests to admit, and other discovery to either particular documents or classifications of documents.

(i) Time cards/time sheets

Foremen are responsible for recording the time worked by their crews on "time cards" or "time sheets." Time cards are collected by the general foremen and are given to the project manager for use in filling out the "daily work report." The project manager passes the time cards to the office manager (or sends them to the home office) for calculation of the weekly payroll and use in preparation of the periodic cost report. Time cards are usually turned in daily. Time sheets are usually turned in weekly.

(ii) Daily reports

Most projects have a "daily work report" filled out by the project manager. Also known as a daily log or daily report, this standard form report traditionally records the major equipment working, the names of subcontractors working, amount of labor present for both the general contractor and subcontractors, and a description of the work accomplished during the day, usually including measurement of production in cubic yards of concrete poured, tons of asphalt laid, cubic yards of earth removed, feet of pipe placed, etc. The daily work report may also provide project management with a place to record the visitors to the site, problems encountered during the day, additional workers, material, or equipment necessary for near future work, requests to the home office, and weather conditions. Some standard form daily reports provide a place for the project manager to record "force account" or "change order work" (work not under the base contract) labor or equipment worked for separate billing, delays, or problems.

Other people in the management structure may prepare similar reports. The number of such reports depends upon the size of the project. These may include a superintendent's report, general

foreman's report, or foreman's report. There may also be daily diaries kept by various managers, supervisors or inspectors that may contain similar information, personal perceptions, and personal notes. It is often helpful to review these personal diaries and compare them to identify discrepancies with the daily reports concerning key issues such as delays, defective work or structural failures.

Daily reports are an important part of the analysis of most construction disputes. Daily reports are the primary source of data to reconstruct how the project was actually built, and as a result important in preparing schedule analysis in delay claims or production studies in lost productivity claims. When the data used in these analyses come from daily reports that have been obtained from the opposition's files, challenges to the underlying data may be avoided more than if the data came from the client's own files.

(iii) Shop drawings/submittals

Important sources of information are the "shop drawings" and "submittals" sent by the subcontractors and suppliers. Submittals are usually required by the specifications to be prepared to illustrate particular aspects of the construction. The shop drawings are submitted to represent how the field will install or the supplier will manufacture the item. Submittals are usually prepared by subcontractors and suppliers and only reviewed by the contractor before forwarding them to the design professional. In some instances, the contractor may have to coordinate shop drawings of various subcontractors who have input into a particular aspect of the work. The actual assembly or erection of the work illustrated by the shop drawing is not to proceed until reviewed by the design professional.

Since a shop drawing illustrates in great detail one particular aspect of the work, it is invaluable if that particular piece of work fails. If failure occurs and the actual field construction does not match the shop drawing, it can be presumed that the failure was caused by the contractor or subcontractor that installed the work. If the submittal represents how the work was actually installed in the field, but the shop drawing does not meet the design, the designer may not have paid sufficient attention to the contractor's shop drawing by permitting field, installation to vary from design. If the submittal matches the field installation and the design, chances are the design itself was in error. If the design is vague and ambiguous, it may be that the designer attempted to impose an unwarranted degree of design responsibility upon the contractor by the shop drawing requirement.

(iv) Submittal log

To keep track of all the shop drawings as they move from the supplier or subcontractor to designer and back again, all project participants usually keep a "Submittal Log" to record dates that the contractor requested the subcontractor/supplier for shop drawings, the date the subcontractor or supplier responded with shop drawings to be checked by the contractor, the date the contractor sent the drawings to the architect, the date the shop drawings reviewed by the

architect were received, the date the second submittal was made, and the date of final approval of shop drawings. A similar log may be kept by the architect/design professional.

Delay in submittal or approval of shop drawings are often the cause of project delay. The shop drawing log always is handy in checking the duration of the submittal process. The time in which the designer has to review the shop drawings is often defined in the specifications. Many times delayed approval of critical material or equipment has caused an entire project to be delayed.

(v) Progress payment requests

"Progress payment requests" also provide a valuable source of information in discovery. Progress payments are payments for portions of the work completed prior to project completion. Requests for progress payments are usually made monthly in order to permit the contractor to pay for all the material, labor, and equipment consumed as the project is completed. The payment is important to the contractor because it must be high enough to pay its monthly costs and important to the owner because it does not want to pay the contractor too much. The design professional is traditionally charged with the task of reviewing and approving the contractor's progress payment request. By approving the request, the design professional has agreed with the contractor that the progress of the work as indicated in the payment request proceeded satisfactorily and was performed in accordance with the contract documents. Progress payments are, thus, carefully defined in the contract.

A comparison of the change in pay items from month to month can give an excellent idea of progress. However, the payments may not accord exactly with the actual status of construction. There is a tendency for contractors to be optimistic in estimating the value of work in place. Also, payment may be made for material stored or delivered to the date, but not actually installed, and sometimes this is not clearly distinguished. Further, because a contractor often has a certain percentage of the monies "retained" from its payment to ensure satisfactory completion of future work, the contractor is naturally interested in representing that the greatest volume of work possible was actually completed. Since it may indicate a failure of professional duties to pay a contractor for work not actually completed or improperly performed, the design professional is interested in limiting the contractor payment to the greatest extent practicable. This conflict can also affect the accuracy of the progress payment requests to measure progress.

There are also subcontractor payment requests. These requests go from the subcontractor to the general contractor for inclusion in the general contractor's payment request to the owner. Any substantial differences between the contractor's request to the owner and the subcontractor's request to the contractor may be relevant to the contractor's dispute with the owner.

(vi) Progress Schedules and "look ahead" Schedules

Another extremely valuable source of information on a construction project is the various progress "schedules" which the field office may utilize and maintain. Specifications will often

require contractors to prepare and maintain elaborate critical path method (CPM) schedules. Sometimes these scheduling specifications are extremely detailed and complex in describing the schedules required. Failure to meet the scheduling requirements may be a technical breach of contract.

CPM schedules are often depicted in logic network diagrams on large sheets, as well as computer printouts detailing activity numbers, descriptions, duration, dates, and status. Even though the network may be time-scaled, these diagrams are often difficult to understand because of the depiction of activity restraints. Nevertheless, both the logic diagram and the computer printouts are often necessary to understand the schedule.

Although the specifications may require the schedule to be updated monthly, many contractors update them on a less frequent basis. Often accompanying the update will be a narrative on the status of the project schedule. Often the specified schedules, because of their complexity and their difficulty in being understood and maintained, will be ignored in favor of simpler schedules such as bar charts.

In addition to any required CPM schedule, the project manager may prepare one-or two-week "look ahead" schedules for distribution to superintendents and general foremen. A look ahead schedule will graphically display when the work items are to be performed over the following two weeks and when major equipment or materials will be required.

Regardless of the source, schedules and updates present a valuable resource to reconstruct job progress and determine vital completion dates. Schedules may also identify areas in which subcontractors' or separate prime contractors' progress may conflict with one another. Like daily reports and progress payment requests, updates are used to measure the project's progress at any particular point in time. Consequently, updates are an important part of the document production in delay claims.

The notice to proceed, certificate of substantial completion, certificate of final completion, and other similar documents are important to establish the official dates on which these events took place. Such documents are basic in dealing with delay claims. Although these documents do not originate with the contractor, they may be found in its files.

(vii) Meeting minutes

The project manager will regularly sponsor "job meetings" among the superintendents, the architect, engineer, and subcontractors. Sometimes, there will be more than one meeting. For instance, the project manager may have one coordination meeting reserved only for subcontractors, another coordination meeting for the contractor's staff and the designer's staff, and yet another for superintendents and general foremen. Frequently the minutes of the conversations and resolutions of the meetings are prepared and reproduced.

Great weight is placed on published meeting minutes based on the assumption that they are an accurate representation of the status of the job at that particular time. In fact, such meeting minutes may be prepared to represent but one side with little attempt at impartiality or accuracy. The entity drafting the minutes may slant them to favor its position. Even when the minutes are distributed among the participants with the warning that they will become "official" unless a written response is received, individuals objecting to wording or representations may not express their objections in writing due to the busy and often frantic pace of a construction project. Caution should be exercised, however, because of the nature of the preparation of meeting minutes. A careful search may uncover conflicting letters or other documents.

(viii) Cost reports

Every contractor has some sort of "cost report." Cost reports are prepared to keep track of how much the various kinds of work cost that the contractor performs. In theory, contractors will use past cost results to determine the cost of future work, although in reality a contractor's bid unit cost rarely changes. Cost reports that measure unit costs can be the source of the most valuable information because the cost reports should record the cost of units as they rise and fall as various external forces work. Cost reports that lump the work into "labor hours" or "labor dollars" will not be as sensitive, and thus will be less valuable for the attorney in discovery.

Cost reports are particularly interesting not only because they may reflect the effect of unanticipated forces on the project, but they may also show where the contractor's estimate was incorrect or inefficiencies were caused by its own mismanagement. Contractors are extremely reluctant to disclose their cost reports and other financial records primarily for fear they will disclose their own errors or discrepancies.

(ix) Bid estimates

Contractors will "estimate" the costs of performing the work in order to calculate the value of its offer to the owner. The contractor's estimating process is often intricate and complicated. First, a contractor will usually prepare a material takeoff for each item of material. A cost is then determined for each material item. The amount of material and the nature of the work will then permit the contractor to estimate the cost of labor, usually in hours required to install the material. Because different trades and ranks within the trades are paid different wages, hours for each required trade are often included in the labor estimate, along with appropriate hours for foremen, journeymen, and apprentices. Once labor hours are assigned to all types of materials, the total hours required to complete the work can be calculated. Using the appropriate hourly rate for each craft and category, the total labor cost is determined.

Necessary equipment costs are estimated in a similar manner. The cost of necessary taxes are added, along with direct and indirect overhead for superintendence, office expenses (including home office, field office, and regional office), and other similar costs. Finally, subcontractor costs, costs of necessary bonds, and profit are added. Although the resulting figure may be

adjusted by the contractor in order to win the job, the estimated cost will remain the contractor's basic value of the effort necessary to complete the project.

Each step in the estimating process is recorded, checked, and preserved for future use. These future uses may include substantiating the value of additional change order costs and use to guide estimating the costs of future projects. The collective estimate file will generally consist of a summary sheet and many sheets of detailed, back-up calculations.

The bid estimate will indicate how the contractor viewed the project and how it intended to accomplish the work. The contractor's intent may have an important influence on how certain disputes may be resolved. For instance, a contractor may include in the bid a sum for liquidated damages. Since liquidated damages are assessed only when the project is late, this may be an indication that the contractor did not believe it could complete the project within the time permitted. Similarly, a breakdown of fixed job expenses by the number of months the project is anticipated to take will indicate whether a contractor intended to meet the contract completion date.

In addition to delay claims, a copy of the contractor's bid estimate (and the view of the project that the estimate indicated the contractor had) may be important in evaluating lost productivity claims. For example, comparison of the contractor's estimated productivity rates to standard rates from published estimating manuals may indicate whether the contractor's initially anticipated rate was above that which could reasonably be expected. If the contractor's estimated productivity differs from industry standards, the estimated rates may be more appropriate to measure lost productivity claims.

Estimated crew sizes may also be evaluated to determine whether they are within accepted industry averages. Estimates can also show the contractor's performance assumptions for an activity's duration, crew size, and expected productivity for comparison to actual performance.

The "bid estimate" is as sensitive an area to the contractor as the cost report because they may also expose error. Contractors do not have unlimited time and resources for the preparation of the bid. Bid preparation costs are overhead. The longer a contractor spends on the estimate, the greater the overhead. The greater the overhead, the higher the cost of the project. Since a contractor can only expect to win a certain percentage of all jobs bid, it must limit the overhead spent on any particular bid to permit time for bidding other projects. These time restrictions are often manifested in bid errors. The same problems will affect subcontractors and magnify the probability for general contractor error since the contractor in turn may include the subcontractor's estimate in its bid to the owner and thus pass on the bid error. A contractor naturally is not enthusiastic to disclose errors caused by the miscalculations or omissions in the bid. However, because the estimate identifies how the contractor viewed the project and may include errors, the estimate remains a valuable source of information in the discovery process.

A contractor's or subcontractor's bid estimate may be adjusted several times both before and after the bid is submitted. Each time the bid is adjusted, a new bid summary sheet is usually

prepared. Sometimes, the adjustments will increase or reduce the value of the bid. Often, the total dollar amount of the bid may not change but the amount of any category may, as the contractor adds and subtracts money from various bid categories. In the latter cases, each bid summary sheet will reflect a different allocation of the estimated project cost.

Because the bid may have been adjusted, discovery of the bid must include all of the various forms that the bid may take. Thus, any request for production of documents should ask for all bid documents and all financial data associated with estimating. After the bid and all its forms have been discovered, the attorney and its expert can compare each to identify all variances. The reasons for each variance from bid summary sheet to bid summary sheet or the cause of each error, once defined, may be determined to be an important part of the construction litigation.

(x) Requests for change orders/change orders and requests for information and their logs

Most contractors will also maintain a "change order file." This file will contain not only copies of the executed change orders, but also the contractor's backup calculations indicating how the change order was priced. The file may also contain correspondence among the parties reflecting the first cognizance that extra work was required or that progress deviated from the original plans and specifications.

The change orders, backup calculations, and discussion among the parties can be very important documents to be included in requests for production of documents. A review of change orders is particularly important as the change orders may amend the specifications and plans (and thus the owner/contractor relationship) as well as result in additional work and time. To define the performance required by the contractor, a comprehensive study of the change orders is necessary.

Often the parties will maintain a separate file and logs of "pending change orders" and "requests for quotations." The former are proposals by the contractor, changes being negotiated, and contractor's claims. The latter are owner or designer requests for cost proposals for changes contemplated. These items may or may not result in formal changes but will frequently be included in the dispute.

In addition to the change order file, the process of identifying, defining, and negotiating a change order often requires a considerable amount of paperwork. To understand what contractor records may be available that document the change order process, one must understand the process culminating in a change order, and how a change order begins. Often the process begins with a request for information (RFI) from the contractor to the design professional or owner's agent. The RFI can come from the contractor or any of its subcontractors. Most likely the RFI will be numbered. Often, each RFI will have its own file. The information requested on the contractor's RFI may be provided on the RFI form, if the answer is relatively straightforward, or the response may refer to another document, called an architect's supplemental instruction (ASI), bulletin completion (BC), architectural supplemental sketch (ASK), mechanical supplemental sketch

(MSK), or structural supplemental sketch (SSK). Each ASI and all similar responses should have a separate file. If the RFI originated with a subcontract and/or pertains to subcontractor work, a copy of the RFI response is sent to the subcontractor. The RFI file may also include references to plans and specifications, explanations of how the need for the additional information was recognized, and written exchanges among the affected subcontractors. All this material may be helpful in any resulting litigation to determine what was known by whom during the time the change was first recognized.

If either the contractor or subcontractor believes the response required material, equipment, or labor that had not been anticipated in the project's budget, the contractor assigns a new number, which transforms the RFI into another type of document often called a requested change order (RCO), change order request (COR), and starts a new file. The RCO is distributed to all subcontractors that may be affected by the RCO, along with a request that each subcontractor respond with any additional performance costs associated with the perceived extra work. Giving all affected subcontractors a chance to respond is an important administrative function for the general contractor. The general contractor wants all additional performance costs to be paid by the owner and to avoid a situation that may require the general contractor to pay a subcontractor for costs that should have been included in the modification to the general contract but were not. Consequently, the general contractor's RCO response may not be completed until all subcontractors have replied. Often a great deal of time and effort is required before all subcontractor replies have been received. This additional time may extend the administrative process and affect whether the time should be compensable to the contractor.

In processing change orders, many times the owner, or the owner's agent, will not agree to either the contractor's proposed price or requested time extension. If the costs can be agreed upon, the contractor may sign a change order without the time extension, or sign the modification with a reservation of rights for the time and the time-related costs. There are times when an owner will not sign a change order if the contractor has reserved its rights. In these cases, the owner may issue a unilateral change order directing the contractor to perform the work.

A unilateral change may take the form of an owner's directed change (ODC) field change order (FCO), or a construction change directive (CCD). A directed change (DC) may result if the owner's agent recognizes the inevitability of a modification to the contract. An ODC may occur at any time in the process but often happens after the submission of an RCO. This is because an owner may wish to control the duration or scope of the change by expanding the change to include, for example, other related but omitted items. On a large project, there will likely be fewer ODCs, and similar owner change directives, than changes in any other change-related category. ODCs should have their own files.

Many contractors compile logs of the various change-related orders or requests received on the project. For example, a log of RFIs may assist the field staff to track the outstanding information requests. These logs may include the date a change-related document was initiated and the dates that other relevant documents, such as RFPs or ASIs, were received. Other information

such as delay days, initial proposal costs, and final change order costs may also be included in the log. The date of any ODC, or similar direction to perform work in a change order, as well as the dates the work was actually performed, may be included in an appropriate log. Each of the many change-related requests and orders discussed may have its own log.

In addition to the valuable information in each RCO, all the ASI, ODC, and RFI files have information about the change and should be reviewed in the event of a change order claim. These files are also valuable as a reference to understand what field staff members have done, in the event that they are reassigned to other jobs and are no longer available for support or explanation. In addition, the assembly of all RFIs, RCOs, ODCs, and ASIs is valuable. The assembled forms can demonstrate the burden imposed on the contractor to carry out the modifications, whether the owner or its agent was reasonable in administering the changes, and whether the design was good in the first place. The reasonableness of the owner's change administration may be determined by the length of time that RFIs or RCOs are either outstanding or negotiated, and the number of RFIs or RCOs to be resolved at any point in time.

(xi) Equipment time cards

"Equipment time cards" or "equipment logs," are usually maintained at the project site and record the number of hours that the equipment was actually worked. This information is used for depreciation and hourly equipment cost calculations. In addition, the cards may identify the particular items of contract work or "force account/change order work" for requests for extra payments to which the equipment may be charged.

(xii) Punch lists

Before substantial and final completion of the project, either the designer or the contractor will prepare a "punch list." A punch list is a list of the work that must be completed or repaired in order to meet the contract performance requirements. Who prepares the punch list is typically identified in the construction contract, although any party may request a particular item be included on the list.

Most construction projects will require multiple punch lists before the project is finally accepted. Revised punch lists are prepared as items on the list are corrected or completed. The punch lists are used by the contractor and designer to estimate the amount of retainage that will continue to be withheld. Because of the importance of payment to most contractors and the justifiable inclination to perform only the minimum work necessary to meet the contract requirements, punch lists are generally an important part of any construction dispute.

(xiii) Other contractor records

Material invoice and laboratory test report files, often maintained at the project site, identify the date materials were received in the field and tested for compliance with specifications.

Of particular significance is any change in material price due to time delay. Price "escalation" (or lack of escalation) can be determined by comparing the material invoice with the original supplier-contractor agreement. Material cost files may be kept at the home office, but test results are almost always maintained in the field.

The contractor may be required to maintain and submit "as-built" or record drawings that incorporate into the design drawings all changes made during construction. Often the contractor will maintain a set of hand marked-up drawings in color showing all changes. This rough draft may be the source of as-built drawings which are later submitted to the owner.

Not all contractor records are kept at the job site. Similarly, many field managers keep a daily diary which they may consider personal and not part of the project's business records. Home office management may maintain reports, correspondence, projections, and other material that are not part of the field office files. For example, narrative descriptions of the project's financial performance or progress may be part of a monthly home office review. Although home office materials may be part of a request to produce, diaries or other personal records may be obtained by subpoena of the individual.

(xiv) Subcontractor records

Subcontractors and sub-subcontractors also maintain the same kinds of records. These records should be sought out through discovery.

(xv) Summary of contractor records

In summary, the following records usually result from a construction project:

- Contracts between the owner and contractor, and between the contractor and subcontractors.
- Contract drawings, including index and revisions.
- Specifications, including general conditions, special conditions, technical specifications, and revisions and all addenda.
- Purchase orders and invoices for material.
- Bid analysis sheets.
- Itemized bid estimate of successful contractor including take-off quantities.
- Monthly payment requisitions with itemized breakdown of amount.
- Monthly payments to contractors.

- Payments to subcontractors and suppliers.
- Change orders, with back-up computations:
    - Requested
    - In process
    - Approved
    - Disputed
- Change-related material including RFIs, ASIs, BCs, ASKs, MSKs, SSKs, RCOs, CORs, PRs, ODCs, CCDs, DCs, FCOs, FSAs, and PDLs.
- Progress schedules and reports, including bar charts, CPM diagrams, computer printouts, narrative reports, look-ahead schedules, etc. with all updating or revisions.
- Minutes of job meetings.
- Daily reports, logs, and diaries by job superintendents, project manager, clerk of the works.
- Contractor payroll records and time cards.
- Contractor cost reports.
- Construction progress photos.
- Correspondence including e-mails, memos, notes, letters, telegrams, etc. originated by either party between:
    - Contractor and owner
    - Contractor and architect
    - Contractor and construction manager
    - Contractor and subcontractors or supplies
    - Owner and architect
- Architect-certified date of substantial completion, and final completion.
- Notice to proceed.

- Laboratory testing reports.
- Itemized equipment hours charged to project.
- Procurement records for major items or long lead items.
- Shop drawings and logs.
- As-built drawings.
- Punch lists.
- Construction permits and inspections and communications with local building authorities.
- Internal memoranda, reports, projections, or progress reports.

(b) Design

A design project is also typically organized around a project manager. A design project manager is responsible for the development of a project design through the efforts of several design "teams" who limit themselves to separate parts of the design. Each team is usually managed by a project engineer. The project engineers are, in turn, managed by the design professional's project manager. Usually, there is a team for mechanical, electrical, structural, architectural, and interior design systems. Each team is responsible for developing an appropriate system to fit into the overall project design under the direction of the project manager, who coordinates the results to ensure all parts complement rather than conflict with each other.

Generally, the design is completed in phases. Each design team will complete work on one phase before moving onto the next. The traditional design phases are schematic design phase, design development phase, construction documents phase, and bidding or negotiation phase.

In a design project, information is passed among the members of the design team in the form of e-mails, memos, letters, reports, recommendations, electronic information and other written material are created. And as with a construction project, many of the documents that are generated are the same kind from one project to another.

However, unlike a construction project, a design professional's work is usually not centralized at one place. While a contractor may use several connected trailers to prepare and store its records, a design professional, particularly on a large project, may have its records spread among several rooms, spread among several floors, at several buildings and at different locations in different states. Because of these differences, much of a designer's files may be in a variety of individual's offices rather than in one certain file. This dispersal of written material provides significant obstacles to the integrity of any type of central files.

There are other differences between discovery upon contractors and discovery upon designers. Use of the internet, intranet, file transfer protocols, and Web based project management tools are much more commonplace in the design professional industry. A design professional will typically maintain much more of its data on computer than a contractor. Computer aided design (CAD) systems are more and more common in designer firms and require a huge amount of disk space.

The design professional's sharing and transfer of electronic design files may result in special problems that may be relevant to counsel. Ideally, the management of electronic design information results in a coordinated, uniform design. The data management process should require that the electronic files are updated regularly in a certain repository but this may not be the case on every project. Individual designers may retain records on their own computers and not send tem to others or the master file.

(i) Design calculations

Many design decisions are based on technical design calculations. For example, a civil or structural engineer will design the structural components. This is done by computing the magnitude of forces to which the structure's components are subjected, then selecting the proper size, shape, and strength of members to resist those forces. A soils engineer may calculate the ability of the soil to resist the forces applied to it by the structure. The mechanical engineer may calculate heating and cooling load, duct and pipe sizes, and energy use. Electrical engineers may calculate feeder size and lighting intensity. Acoustical engineers determine sound absorption and reflection qualities and quantities.

Each team's design recommendations will usually be based on alternate calculations of alternate systems. Calculations are based on certain "presumptions" and limited by certain "margins" of safety.

Design calculations are generally important to determine whether there were any errors in the design. If it is necessary to review a design decision, the calculations, "presumptions," alternate "calculations," and "margins of safety" need to be determined. All these alternate calculations and considerations should be indicated in the design calculations.

(ii) Design meeting minutes

Often design decisions are made in group meetings similar to the construction project meetings. The various members of the team discuss the alternatives with the project manager and perhaps members of other teams. Minutes may be produced and kept in the job file. However, design meeting minutes normally do not have as much detail as construction progress meeting minutes

(iii) Correspondence with suppliers/job file

Throughout the design process, the design professional will contact various industry suppliers for definition of their product capabilities and availability for use in the project. Letters and e-mails to and from the suppliers, specification sheets, and, most importantly, manufacturer's instructions for installation are usually sent to the design professional for review and consideration prior to inclusion in the design. These may be kept in the job file. The manufacturer's information that the designer has collected may be used to determine whether the design matched the data indicated in the manufacturer's information.

(iv) Design professional files

If the design professional has retained outside specialized engineering consultants, there will be a file to reflect the correspondence and meetings between the designer and consultants. Such documents may be very important in demonstrating whether or not the consultant's design suggestions were incorporated onto the final design drawings, frequently an issue in litigation involving design error.

The design professional's files will also include correspondence and meetings with the owner. These are of particular significance since the architect is required by contract to determine and meet the needs of the owner. Alternately, this file will include documents to show what work, if any, was done "at the direction of the owner" against the architect's recommendation.

The design professional may visit similar installations to gather information on past problems encountered or to get a better idea of how the project may look when completed. In some cases the designer may perform special laboratory tests to determine material strengths or wind resistance. The results of these tests and visits similarly are recorded and maintained.

(v) Time records

All those participating in a design project will also fill out time records. Time record are useful in identifying what classifications or levels of professionals are making design decisions and the amount of time the decision took and when these decisions were made.

(vi) Results of surveys

The design professional's files may also include the evaluation and results of surveys of the metes and bounds, subsoil conditions, or condition of existing structures— all necessary data to complete the project's design.

(vii) Estimated costs

When the design has been nearly completed, the design professional may prepare an estimate of the cost of the project. The designer may also prepare a preliminary schedule for use in determining how long it may take to complete the construction.

(viii) Record of inquiries

The design professional will distribute completed plans and specifications among potential bidders. Generally, a period of some thirty to sixty days will be allowed contractors to review the project, prepare, and submit their bids to perform the work. If the contractors preparing bids have questions, they will call or email the design professional for answers. The design professional will usually make a record of the contractor call/email, the questions, and the design professional's responses. Many times more than one contractor may recognize a potential problem that may result from a discrepancy or conflict in the plans, call, and ask the designer the same question. If the discrepancy or conflict creates an actual problem, the recognition of the conflict by other contractors may help establish that the plans, rather than the contractor's performance, may have caused the problem. Recognition by other contractors may be identified in the designer's record of notes or memos of contractor calls.

(ix) Bid evaluations

The design professional may evaluate all contractor bids and record the results. The design professional's evaluation and the methodology of the evaluation may need to be reviewed if the contractor is subsequently unable to complete the work.

(x) Site visit reports

During construction, the design professional will regularly visit the site and check contractor progress. "Site visit" reports will be maintained to document the condition of the project, the status of the work, and the quality of construction. Often the site visits will coincide with the need to review the contractor's payment requisitions or resolution of a design or construction problem.

(xi) Quality control procedures

The design professional may have adopted company-wide procedures for quality control in an attempt to avoid errors or omissions of the plans and specifications. These procedures are usually written, detailed, and imposed by the designer's professional liability insurer. These procedures may be compared to the designer's actual performance on the project.

(xii) Design professional payment requests to owner

As with a general contractor, the design professional will submit periodic payment requests to the owner. Payment may be requested on a percentage of the design or construction completion. In addition, the payment requests may be broken down by hours for particular categories by levels of employees such as draftsperson, clerical, and engineer.

(xiii) Other files the design professional may possess

- Copies of all contracts between the design professional and the client.
- Memoranda of informal conferences and telephone conversations.
- Documentation of the owner's authorization to enter into the contract with the design professional.
- Copies of the owner-furnished data, such as the program, surveys and reports, and legal material.
- Documentation of the design recommendations and the owner's decisions in response. Major decisions include those of the owner and design professional on the advantages and disadvantages and estimated comparative costs of the alternatives.
- Documentation of the owner's written approval to proceed from one phase of professional service to the next, and the owner's written acceptance of the work as substantially completed.
- The minutes of construction site meetings and reports of site observations, if construction phase services are authorized by the professional service contract. Observations include opinions expressed to the contractor concerning the performance or nonperformance of work; work that is not in compliance with the contractor's contract; and the communication of those opinions to the owner.
- Representations, guarantees, and warranties of any manufacturer of untried materials or innovative methods.
- Notification to the owner of increases in cost estimates and the reasons therefor, and documentation of acceptance or acquiescence. Communication with the owner and the contractor of any rejection of work or material; the withdrawal of any approval previously given of work or materials later rejected; and communication with the owner, any consultants, and the contractor of any newly discovered fact that might call for a change in plans, specifications, and cost.
- Lessons learned memoranda.

CONCLUSION

The foregoing is just a brief review of the issues involved in written discovery in complex construction litigation. The written material does not touch on requests for admissions, other inspections and/or tests that may be conducted at various project sites, the role of an expert in discovery, the particularities of delay claims, disruption claims, design-defect claims, construction defect claims, and design professional malpractice claims. The New Orleans Bar Association construction division intends on presenting other seminars and/or workshops on these issues in the future.

The main point of this presentation is to recommend that any attorney entering into a complex construction litigation case have a full understanding of the type of project at issue, the relationships between all the entities on the project, the precise claims that are being made, and the documents that may need to be produced in the case and the specific interrogatories that may need to be asked from the parties before embarking on discovery. Thoroughly organizing and preparing for discovery in advance of complex construction litigation case should pay off in the long run, narrow the issues and lead to a more expeditious resolution of the case. Finally, the presenters would like to acknowledge the sources below.*

* Sources for this material include:

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