THE SUCCESSFUL CONSULTING PRACTICE

A PRIMER FOR ARCHITECTS AND ENGINEERS

by

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2006

Notice

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INTRODUCTION

Axiom 1: A few, large design firms make most of the money.

1.1 OVERVIEW OF ARCHITECTURE AND ENGINEERING

Mark Twain said that there were three kinds of lies: (1) lies, (2) *damned* lies, and (3) statistics. But, to understand architectural and engineering consulting firms, it helps to review the statistics relative to current firms and professional practitioners.

Architects: Three types of companies provide architectural services: engineer/architect (E/A) firms; architect/engineer (A/E) companies; and architect-only firms.

Architect-only firms provide building design services, but they do not have engineers on staff, typically utilizing engineering consultants as needed. In addition to architecture, these firms often provide planning and interior design services. Architect-only firms provide about 40% of all architectural design services in the U.S.

A/E firms, while still emphasizing architectural skills, have engineers on staff with expertise related to architectural building design, typically, structural, mechanical, and/or electrical engineering. Firms in this category typically account for 5 percent of all industry billings, as they service only a small percentage of the entire U.S. market for architectural services.

E/A firms maintain architects on staff but emphasize engineering design services that are related to construction work. These firms capture slightly more than half (approximately 54%) of all industry billings and furnish the highest percentage of all architectural services rendered by U.S. firms, primarily to the industrial and commercial building markets.

The American Institute of Architects (AIA) estimates that there are about 91,000 architects licensed in the U.S. And, in 2005, there were approximately 20,000 architecture firms

Generally, architect-only firms are small, while A/E and E/A firms are large. As shown by the following figure, sole practitioners make up almost a third of firms; about two thirds of firms have 2 to 49 employees; firms with 50 to 99 employees make up about 2% of firms; and an additional 2% of firms have 100 or more employees

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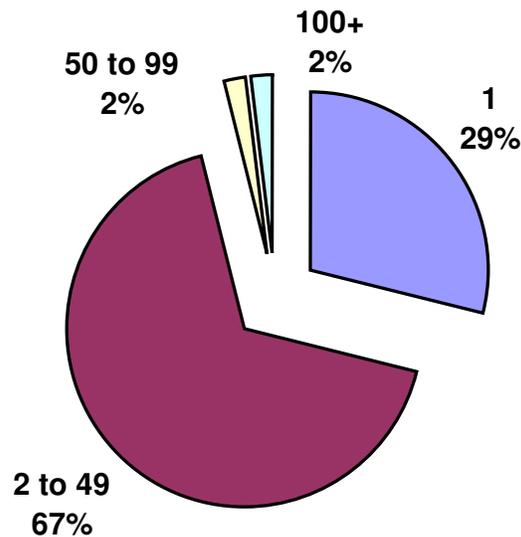
But, in terms on income, firms with 100 or more employees account for almost half of the profession's total billings, while the sole practitioners account for only 2% of total billings.

Engineers: Consulting engineering related to construction is less well defined than architecture, since engineering encompasses a wide variety of services. Engineers apply their design, analysis, and consulting skills to a broad range of projects that can be categorized as "building related services":

- Residential Housing: single unit and multi-unit housing
- Commercial Buildings: office buildings, shopping centers, lodging facilities, warehouses, restaurants, service stations, and other commercial buildings
- Public and Institutional Facilities: hospitals, educational institutions, churches, banks, prisons, convention centers, sport facilities (e.g., stadiums and auditoriums), government buildings, libraries, museums, parking garages, and other public and institutional facilities.
- Industrial- Manufacturing Facilities: plant, mill, factory building design and configuration.

Engineering firms serve two major classes of clients: government (representing 41.6 percent of fees charged) and industrial, commercial, and other firms (representing 35.4 percent). The remainder of engineering firm clients included architect-only firms, construction companies, individuals, other engineering firms, and private institutions.

Overall breakdown in engineering practice income shows that about 30% derives from building-related services, while the remaining 70% derives from infrastructure (roads, water and wastewater treatment, etc.) and industry (refineries, power plants, etc.) in which architecture plays little or no role.

Data from 2001 (the most recent data available) identified 44,523 engineering practices in the design and construction industry. These practices range from very large, with over 1000 employees to extremely small, with 1-4 employees, as illustrated by the following figure:
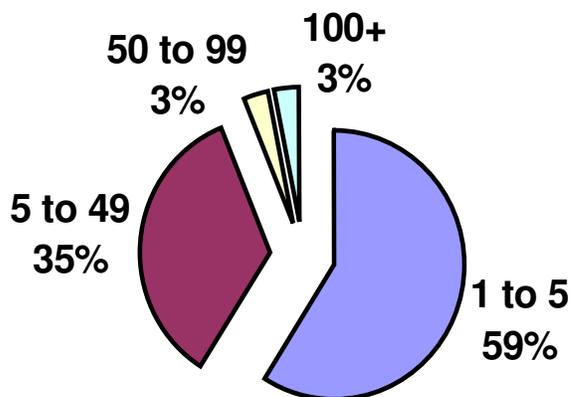
The overall breakdown of firm size is summarized as follows:

Number of employees	Number of firms
less than 5	26,221
5 to 9	6,784
10 to 19	5,114
20 to 49	3,831
50 to 99	1,328
100 to 249	823
250 to 499	239
500 to 999	100
1000 or more	83
Total	**44,523**

Approximate total employment by these firms is 750,000, about half of whom are licensed engineers.

1.2 DEFINING "SUCCESS"

"Success" can be measured any number of ways. For many architects and engineers, simply being in business for themselves, doing what they want to do and making enough money to have a comfortable life, represents success. Undoubtedly, this is the goal of most small (2-4 people) firms. But, these small firms, and the professionals who own them, will always have limited financial and professional success simply by being limited by what and how much they can do.

Many architects (but, not surprisingly, few engineers) think that "creativity" is lost in the larger firm. This is simply not true. For example, Frank O. Gehry, recognized as one of the world's most creative living architects is a senior partner in Gehry Partners, LLP (Los Angles).   Frank

Gehry established his practice in Los Angeles, California in 1962 and, today, Gehry Partners, LLP, which was formed in 2002, currently supports a staff of over 135 people. The firm is a full service firm with broad international experience in academic, commercial, museum, performance, and residential projects. Gehry Partners employs a large number of senior architects who have extensive experience in the technical development of building systems and construction documents, and who are highly qualified in the management of complex projects.

Experience and research shows that s*uccessful* architects and engineers, and their firms, generally have the following profile:

1. Successful architects and engineers have a keen sense for money and costs...they are good business people. That may sound absurdly simple, but it's not. Many designers resent even the idea of such focus...they see themselves as part of a "professional practice," not a business. Unfortunately, today's market makes ignoring the business aspects of professional practice a perilous (and typically fatal) strategy.

People's sense for money varies, but the most successful firms are just plain "street smart". Their leaders think in quantitative terms and translate issues of practice management into costs. They may not think of cost control as their primary marketing strategy, but they are good at it. More importantly, they have instilled it in their culture and trained others to be good at it. A basic sense for money is a cultural phenomenon. If it's part of the culture, you can bet that the firm will succeed.

It is axiomatic that, if you do not understand "the numbers", you do not understand the business. Granted, some in the design profession regard this as distasteful. However, the most successful firms are those with a strong understanding of finance and accounting.

Some people will argue that the profession is about design, production, engineering, building, etc. That's true. Design is about those things, but the design *business* is about margins. Without them, you do not last, period. Anyone who signs a legally binding contract to produce a physical work product in variable conditions for a specific net margin needs to understand numbers.

Successful professionals have a common profile: they collect money and watch cash. They recognize the real value of better cash flow. Most "best-of-class" firms will have an average age of receivables of less than 45 days (or less). These firms recognize the truism that you can make all the mistakes in business except one: *you can't run out of cash...they take you out of the game for that one*.

2. Successful design professionals create a special culture within their firms. The specific cultures may vary, but the sense of some culture that is created from strong leadership is a consistent trait. These professionals lead in a way that reflects a consistent commitment to something...it may be visionary and dynamic or it may be Attila-the-Hun style aggression, but it's *real*. Through consistently hammering on the same messages, these firms have done what the textbooks say you're supposed to do: *they have created a special culture that drives behavior consistently and with positive results*.

3. Successful professional firms are permeated with a sense of urgency. Design is a tough and often reactive business. It's demanding and it demands people who

understand action and how to get things done. In best-of-class firms, that sense of urgency transcends just designing projects. *It translates into a high level of competency in implementation of new ideas and organizational changes.*

The head of one environmental firm says, "Doing is not the hard part here. We sometimes struggle with ideas, but doing comes easy." If you think about it, many design firms have an unfortunate propensity toward the reverse of this statement.

With this sense of urgency comes a level of project management intensity. The most successful firms don't just design a project; they go after it. Their orientation is not toward protecting their estimated margins, but toward what can be called "margin aggression". Margin aggression involves a cohesive set of project management principles and practices designed to improve upon established project objectives. It's part culture and part mind-set, but also part practice. Most importantly, it means that project managers exercise a level of urgency and intensity in managing their projects and embracing the profit and loss accountability that goes with their work.

4. Successful firms create a sense of ownership with their people. That doesn't necessarily mean a partnership, but rather some mechanism to impart a *sense* of ownership and feeling of accountability and responsibility (known these days as "empowerment"). Those mechanisms might include the use of "hard" vehicles, like stock appreciation rights or stock options for key people. They might consist of "soft" vehicles, like participative planning, quality initiatives, or recognition systems. Typically, this kind of climate is established through a combination of these measures. However, successful design professionals recognize two essential principles that compel a sense of ownership.

The first principle can be most clearly shown by considering the following analogy: a person passes out during a Sunday church service. Immediately, someone comes to his or her aid, while another individual quietly moves to the choir to inform the spouse. Someone else checks on their children in the nursery. If it's serious enough, a member of the congregation calls for medical attention. In all of this, the church hierarchy, clergy, vestry, and structure really do nothing. Rather, "roving leaders" step forward to act. *This first principle is simple: companies don't do anything; people do things.*

The second principle is a corollary, and equally simple. *People don't do things for any reason other than their own.* To develop a sense of ownership, successful firms have established systems that encourage people to go after the right results, but to do it for their own reasons.

5. Successful firms have great people. That sounds pretty fundamental, but too often a firm's principals settle for mediocre talent in their staff and then wonder why they have production problems or why they are consistently beat at getting the "good projects". *No organization rises far above the level of its people.* If you want to build an enduring, great design firm, it will have to be built on great people.

Occasionally, an executive says, "I'm really the best engineer (or architect) in our firm." Or, "I've got some guys that can get out there and get things going, but if you really want to run work the right way, then I'd better be there!" The only thing you can think is: how sad…*the real secret to any professional's success is finding and keeping people a whole lot better than he or she is.*

That sounds simple, but many design professionals fall easily into the trap of fearing internal competition from subordinates or simply are ego-driven to beat their own people at the firm's activities. At the most successful firms, top officers normally hire with the objective of turning around one day and realizing that if they had a job opening, they wouldn't hire themselves to fill it!

Most of a firm's real money is locked up in people costs. Professionals worry diligently about other types of overhead, but it's seldom the real issue in many firms. The relentless competition normally doesn't allow for too much bloat, just as you don't see too many fat marathoners. With that in mind, great design professionals avoid worrying about what the new hire "will cost" as opposed to what he or she can produce. In other words, it's well worth paying marginal cost for the right talent. For example, if you're considering one candidate for a project manager position for a $40,000 salary and another for $50,000, the $10,000 differential is an absolute non-issue. In most cases, if the right talent can even minutely affect the project margins more positively, the marginal salary investment will be paid back to the firm many times over. *Pay for the right talent.* It's well worth it.

6. Successful firms focus their resources for firm growth. That means that they must move beyond "pure entrepreneurship" required early in the firm's life cycle (see Chapter 2). They develop an understanding that all firms have limited resources and that the key to effective growth and penetration comes from harnessing and focusing those resources.

The most common business life cycle curve is shown in the following figure:
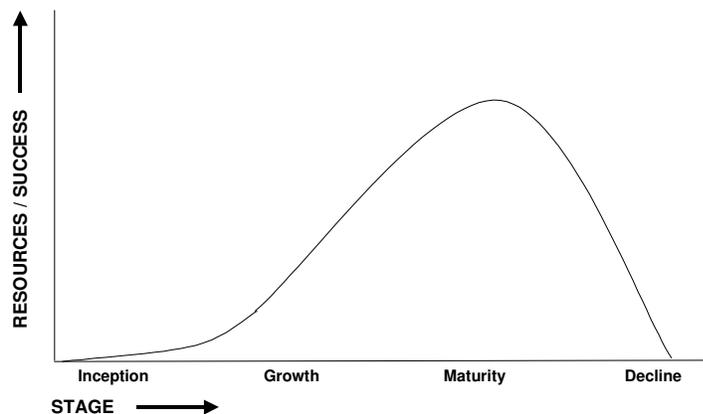
Without the entrepreneurial spirit, no architect or engineer will go into business and, this, this is the first key in creating a successful practice. To entrepreneurs, everything looks like an opportunity. Almost like the proverbial kid in a candy store, they grab frantically in an attempt to capture everything they can. This can (and typically does) work well in the firm's inception and even into the early stages of growth.

However, in the later stages of growth, this entrepreneurial strength can become an Achilles'

heel unless the firm's leadership begins to develop *focus*. That translates into not only market selectivity, but client and project selectivity as well. At some point, the secret to success requires an ability to identify all of the opportunities of which you do *not* want to take advantage.

The goal of the successful firm is planned, sustainable, and profitable growth that will yield a business life curve like this:
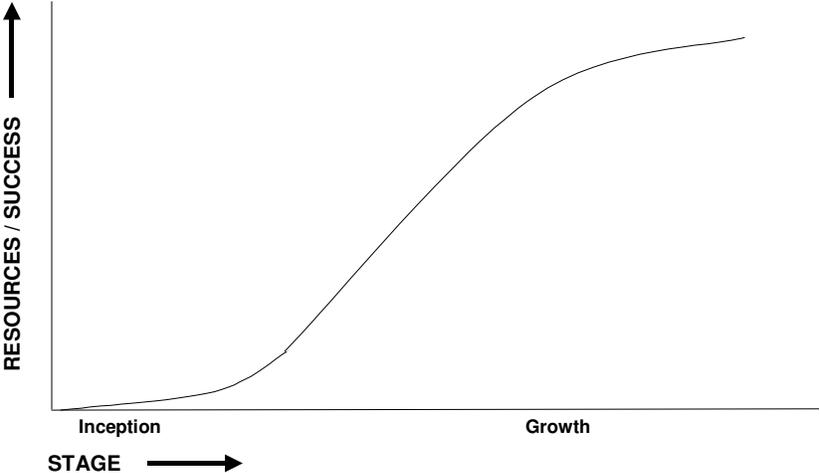
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SO...YOU'RE THINKING ABOUT YOUR OWN PRACTICE

Axiom 2: There would be more successful design firms if there were simply fewer unsuccessful design firms started.

2.1 ARE YOU QUALIFIED?

Only you can make the important decision whether to own your own business. The following four factors are essential for the success of any business. Before you commit to an entrepreneurial undertaking, consider how you and your business idea stack up relative to each factor and assess your likelihood of success:

1. *Viable Business Opportunity*: There must be a potential customer need for the services you will offer. You must be able to convince clients that there is a reason to retain you instead of your competitors. Then, you must provide the level of expertise require and deliver your services at a cost that will yield a profit.

2. *Realistic, Detailed Business Plan*: There must be a detailed plan that describes what services the company will offer, to whom and how it will sell these services, and realistic projections of the likely financial requirements and outcome.

3. *Sufficient Capital*: The company must have sufficient capital resources to start and then maintain operations, especially during the initial period in which commissions and income may be minimal. Some of this capital *must* be provided by the company's owners.

4. *Personal Qualifications*: The owners/managers must have competence in all of the following areas. It should be noted that inability to perform in one or more of the foregoing three areas will greatly reduce your likelihood of success.

- *Marketing Strategies*: Knowing what product/service to sell, what prices to set, which customers to target, how to reach them and motivate them to buy.

- *Technical Ability*: Knowing how to cost-effectively produce and deliver products/services with the features, quality and timeliness that will satisfy customers and earn a profit for the company.

- *Financial Knowledge*: Knowing how to plan and control invoicing, collections, expenses, financing arrangements, cash flow and management information.

Of these four, your personal qualifications are most important…no matter how good the market, how strong your plan is for attacking that market, and how well-heeled you are, if you don't have the skills and personality to start and run a business, you will go broke! The failure rate of new consulting practices is about 75% in the first two years. You must be more business person than architect or engineer to succeed.

Starting a new business of any variety requires an e*ntrepreneurial personality and mindset*. To determine if you have this, there are a number of personal factors that need to be carefully weighed and the *Myers-Briggs Type Indicator* (MBTI) is one of the most widely used personality/functionality type indicators around. The Myers-Briggs can be a useful instrument in determining your mental and emotional preferences for handling common situations, for understanding the mental and emotional preferences of others, and for helping you determine the best "fit" between you and various work situations or careers, especially starting and growing a new business.

The Myers-Briggs is a multiple-choice test that takes about 30-40 minutes to complete and *should be taken by anyone planning to start a new design practice*. The questions are non-academic and focus more on your preferred ways of handling things than on "content," or what you intellectually or academically know.

The MBTI is made up of four basic categories, each of which has two opposite poles. People generally "prefer" or "lean towards" one pole or the other either moderately or, in some cases, quite strongly. From this fundamental division there result eight psychological "preferences" and sixteen personality "types."

The MBTI indicates the differences in people that result from where they prefer to focus their attention (*E*xtroversion vs. Introversion), the way they prefer to take in information (*S*ensing vs. i*N*tuition), the way they prefer to make decisions (*T*hinking vs. *F*eeling), and how they orient themselves to the external world, whether they primarily use a judging process or perceiving process (*J*udging vs. *P*erceiving).

These preferences are defined as follows:

Extroversion (E)

Prefers to draw energy from the outer world of activity, people, and things

vs. **Introversion (I)**

Prefers to draw energy from the inner world of reflections, feelings, and ideas

Sensing (S)

Prefers to focus on information gained from the five senses and on practical applications

vs. **Intuition (N)**

Prefers to focus on patterns, connections, and possible meanings

Thinking (T)

Prefers to base decisions on logic and objective analysis of cause and effect

vs. **Feeling (F)**

Prefers to base decisions on a valuing process, considering what is important to people

Judging (J)	vs.	**Perceiving (P)**
Likes a planned, organized approach to life, and prefers to have things decided		Likes a flexible, spontaneous approach and prefers to keep options open

The MBTI concludes that every individual functions in a personality context described by E or I, S or N, T or F, and J or P. Therefore, there are 16 possible personality "types." Each of the 16 types come from a different place and move toward a different end, often taking different approaches and *these differences are critical to the success of a new business*.

There are three sets of personality "preference combinations" that can describe the way an individual's personality will cause him to function. The first "preference combination" set is judgment (Thinking vs. Feeling) and external orientation (Judging vs. Perceiving):

- TJ's are logical decision makers. They tend to be tough-minded, analytical, and instrumental leaders. They make decisions based on principles and systems, overall impacts, and rational analysis of outcomes.

- TP's are adaptable thinkers. They tend to be objective, skeptical, and curious, especially about materials or possibilities. They create consistent and orderly frameworks for understanding and leading.

- FP's are gentle types. They tend to be adaptable, seek harmony and affiliation, and are concerned with the human aspects of problems. They lead by encouragement and coaching.

- FJ's are benevolent administrators. They tend to be observant about people and their needs and bring harmony into relationships. They make decisions based on personal values and identification with others. They are expressive leaders who inspire and teach others.

The second "preference combination" set concerns perception (Sensing vs. Intuition) and judgment (Thinking vs. Feeling):

- ST's focus on facts, handle these with applying facts and experience, thus tend to become practical and analytical and find scope for their abilities in technical skills with facts and objectives.

- SF's focus on facts, handle these with meeting the daily concerns of people, thus tend to become sympathetic and friendly and find scope for their abilities in practical help and services for people.

- NF's focus on possibilities, handle these with understanding the aspirations of people, thus tend to become enthusiastic and insightful and find scope for their abilities in understanding and communicating.

- NT's focus on possibilities, handle these with developing theoretical concepts, thus tend to become logical and analytical and find scope for their abilities in theoretical and technical developments.

The third "preference combination" set addresses direction of energy (Extravert vs. Introvert) and orientation to the external world (Judging vs. Perceiving):

- IJ's are the Decisive Introverts. They tend to be introspective and persevering; changing requires evidence, which fits with their internal receptors.

- IP's are the Adaptable Introverts. They tend to be introspective, adaptable in little things, and firm on issues important to them.

- EP's are the Adaptable Extroverts. They tend to be active, energetic, and sociable; they deal with change readily and seek new experiences.

- EJ's are the Decisive Extroverts. They tend to be fast moving, confident looking, and decisive; they enjoy making things happen.

Individuals with an ES/TJ set of indicators are considered to have an entrepreneurial mindset and are most likely to be successful at starting and developing a new business. Good managers and stewards of a business that is mature tend to "split the difference" between the ES/FP and ES/FJ profiles. Strongly ES/JT personalities are sometimes referred to as "hunter" personalities who have the following characteristics:

1. Hunters can be divided into at least two distinct groups. One group displays a desire, or actual need for excitement and the other group has an intense love for creativity. Many bungee and parachute jumpers, motorcycle and race car drivers, daredevils and stunt men fall into the first group, while artists and composers, creative scientists and engineers, inventors, innovators, and (very importantly) entrepreneurs populate the second.

2. Hunters have a unique way of concentrating that one author calls "global concentration." While concentrating, every sense is turned on and is rapidly processing information (e.g. sight, sound, smell, feel, intuition, etc.). They are usually extraordinarily observant of their environment. However, this characteristic becomes a liability when minor distractions constantly tug at their consciousness and competes with the task at hand for attention.

3. In addition to global concentration, hunters can invoke a unique level of attention and ability known as "hyper-focusing." This state of extraordinary mental activity is usually entered when trying to solve a particularly interesting or difficult problem or situation. While hyper-focusing, the hunter can bring powerful mental energy to bear on the problem at hand. For the duration of this unique experience, she/he has little sense of time, hunger, or the needs of others. Being able to enter this state at will is usually not totally under the hunter's control and often requires an intense interest or curiosity about the subject of their focus. Once started, hyper-focus can last for minutes, days or even years. The intensity of focus is such that if interrupted, it is often difficult for them to pick up where they left off once the interruption has past.

4. Hunters have the impressive ability to instantly change direction either physically or mentally with no sense of discontinuity or loss of concentration.

5. Hunters often can successfully work at several projects at the same time. They often

have many unfinished projects in their lives. This in no way is distressing to them and given the required time and priorities, every project will eventually reach closure even if years intervene between start and finish.

6. Most hunters have an excess of energy and "go power." Hunters are the sprinters of society and can turn in very fast times over the short to medium haul.

7. Hunters tend to intuitively drift towards a filing system of "stacks" in which items are logically located by an image-based, relational position system. This seems more functional and natural than the usual filing system based on key words.

8. Hunters have a vibrant creative power that they use to overcome or circumvent obstacles that stand in the way of solving their problems. Their brains are continuously bubbling with myriad of ideas that, for the most part, are ideas that are uncalled for and never made use of. Some believe that it is from this sea of ideas that new connections spawn the hunter's special brand of creativity. There is no doubt that this bubbling of ideas is distracting. One of the common laments of strong hunter personality is that if they leave their work to get something from an adjoining room they have totally forgotten what they went there to get once arriving. It seems that on the way between the rooms, their minds, momentarily distracted from problem solving mode, produced dozens of interesting ideas that totally obscured the thought of the item that they were after.

9. Hunters possess a strong sense of their own capabilities and how to use them right up to the breaking point, but never exceeding that point.

10. Many hunters live in a forty-eight hour window that moves with them through time. The past and future emerge and fade, somewhat as does a driver's view when traveling through dense fog. Hunters have a powerful sense of living in and working with the present, while feeling little encumbrance from the past or motivation by the future. Important knowledge that they will need in the future, which is presented to them in the present, seems to have little relevance and often is described as boring. On the other hand, they rejoice in and receive great satisfaction while acquiring knowledge needed to solve immediate problems encountered in their immediate project. The student that was assigned a theme three weeks ago, but seems incapable of writing it until the day before it is due, is probably a hunter.

11. Hunters are *process* oriented and live for the "right now" thrill of outwitting their prey and overcoming obstacles as the hunt proceeds. The end "Product" (the kill) is an anti-climax, which represents the end of the joy of the hunt. This characteristic is clearly seen in modern day hunters who are hunting for solutions to problems or new concepts to explain physical behavior. These special people derive great satisfaction from using their creativity in overcoming the problems encountered in finding solutions. The tangible results (end product) of their efforts might be described as simply a by-product of their pleasure while building and learning. This trait is so strong that in many cases the hunter only has to come close enough to be able to visualize a solution before they set off on another project, leaving the actual implementation to someone else.

12. Hunters often have very practical minds and develop projects that will work perfectly, but will usually lack a finished or aesthetic appearance. Once the major problems are solved, they are ready for a new challenge and usually leave it up to someone else to make things pretty.

13. Hunters usually do not do well with repetitious non-challenging work. Three years seems to be about the longest time a modern hunter can stand such jobs, no matter how good the pay or how strong the incentive.

Hunters make the best entrepreneurs. *If you don't see hunter traits in yourself, you may want to reconsider starting you own consulting practice.*

2.2 DON'T SCREW YOUR EMPLOYER OR YOURSELF

Some architects and engineers will try to "ease" their way into private practice by taking on design commissions while still working for someone else. *This should not be done*:

> 1. It is a disservice to the employer and can saddle him or her with an unanticipated legal burden since the activities of a "moonlighting" employee may be subject to claims under the employer's professional liability insurance, it represents potential lost revenue for the employer, and it can be represent a conflict of interest.

> 2. It is a disservice to the client of the moonlighting employee since the employee typically cannot devote the time and effort required to adequately service the client because of prior commitments to the employer.

> 3. It can be dishonest…the moonlighting employee typically "steals" time and resources from his or her employer to service the outside client.

Under the National Society of Professional Engineers Code of Ethics, it is unethical for engineers to take on design commissions for their own account while in the employ of another without informing the employer and obtaining approval. Under this same code, it is unethical to utilize the resources of the employer without express permission. It may be unethical because moonlighters typically charge lower fees and this amounts to unfair competition with established design firms. Failure on any of these points can result in loss of your professional license and any chance of ever going into business for yourself.

Canon III of the 2004 AIA Code of Ethics and Professional Conduct imposes requirements on architects essentially equivalent to those imposed on engineers.

An even more important consideration for the start-up designer is that moonlighting automatically places him or her at the "sleazy" end of the business. Clients who are attempting to minimize design costs typically hire moonlighters. Since the moonlighter does not have a high overhead, he or she can charge lower fees than the established design firm; therefore, this is their primary marketing advantage…they work cheap. But when the designer does make the break and establishes his or her own firm, the level of overhead will increase to more or less the same level as the previous employer. It then becomes very difficult to increase the fees charged to moonlight clients in order to meet the increased costs. You may lock yourself into a low fee "market" from which it is very difficult to escape and can ultimately force you into bankruptcy.

2.3 MORE THAN ONE OWNER

No matter what the legal structure of a new design practice (see Chapter 3), any business with multiple owners functions as a "partnership," accurately defined by one wag as a "marriage without sex." *Aside from all other aspects of succeeding in the business, each partner must deal, every day, with his or her relationship with each of the other partners.*

The allure of a partnership is simple: an individual entrepreneur wanting to start a new design practice sees advantages in forming a partnership with one or more other people who have complementary and mutual supportive skills that would enhance the potential for success of the business.

But a partnership can be the worst way to start a business if you don't know what you're doing. Because entrepreneurs are likely to be optimistic and action oriented, they're often impetuous and unthinking when they decide to form a business partnership. To protect yourself, you must be careful to do your homework before entering into a business partnership of any kind. By understanding the nature of partnerships and by thinking them through in advance, it's possible to form and develop successful partnerships over the course of your entrepreneurial career.

There are two important rules to consider when it comes to partnerships:

1. A partnership is always easier to get into than it is to get out of.

2. The time to think about a business partnership is before you get into it in the first place.

Partnerships often start like romances or marriages, with high hopes and good intentions on the parts of all the people involved. But, just like a marriage, they can end with bitterness, anger, bankruptcy, lawsuits and ruined relationships.

The purpose of a partnership is to help the partners achieve greater financial results together than would be possible if each of the partners worked individually. For this reason, each partner must have skills that the other partner lacks. Together, the partners should form a powerful combination that's capable of generating economic results. Keeping that in mind, understand that the starting point of a successful partnership is achieving absolute clarity before you begin. You must be clear about the values, mission, purpose, and goals of the business and all partners must agree on those things. You must be clear about the performance requirements and responsibilities of each partner and all partners must both agree on those things.

The biggest problem in partnerships generally has to do with the individual responsibilities and work requirements of the partners. It's almost always the case that one or more partners make greater economic contributions to the business and works harder than others. But, the partner who works less and contributes less wants the same rewards as the more valuable partners.

Understandings prevent misunderstandings. Agree on the job responsibilities and standards of performance for each partner. Set up the partnership so all parties know exactly on what terms they can leave should things not work out as planned. And decide upon a formula now to determine the value of the business should one partner decide to leave.

Disagreeing over money and control is one of the major problems in partnerships. How will the profits of the partnership be divided? Agree in writing about how the money is to be accounted

for, divided, and distributed. *Give one person 51 percent or more of the ownership and control of the partnership so there's never a 50/50 impasse that can't be settled.* Be sure to discuss each partner's legal liability for the actions of the partnership. And continually review and discuss, at least once a week, the partnership's financial status.

Your partnership agreement or corporate charter should be carefully drawn up and all elements should be agreed upon in advance. Always write a contract as if the business is going to break up sometime in the future. It may sound crazy now, but when you write the agreement, you should imagine that your partner is going to become your enemy in the future. This is one of the best ways to protect yourself from the very beginning. And be sure to have your partnership agreement reviewed by a lawyer who can advise you about the dangers inherent in this business structure.

Sometimes the very best partnership arrangements are the ones that you don't get into in the first place. So think any partnership through carefully before you act.

Even if the initial partnership works, as the firm grows and changes, and as the individual partners mature (or not!), there are apt to be problems that must be resolved. There are six "danger signs" that a business partnership is in trouble, trouble that lead to the demise of the practice:

> 1. The danger signs start with the most important aspect of the partnership, *communication* between the partners. Miscommunication is one thing…it happens all the time, but is easily identified and corrected. However, a breakdown in communication can be a serious problem that can result in breakup of the partnership. To avoid this problem, a commitment to "open listening" must be made by each partner. Even if there is serious disagreement on issue, listening to each point of view is critical. A partner who feels that he is being ignored may cease to communicate and then work actively to thwart the activities of the other partners.

> 2. When partners compete, failure is the end result. The activities of the partners must be complimentary to ensure success of the business.

> 3. In business, conflict is the norm. The successful firms, however, do not allow conflicts between partners to escalate to the point where emotions take over. Conflicts must be resolved by rational discussion and confrontation and not allowed to go on unresolved, breeding frustration, anger, and even more conflict.

> 4. *Conflicts over money are the cause of about two-thirds of all partnership failures*. These conflicts routinely occur because each of us have different attitudes about money and, therefore, handle it in different ways. Issues such as financial risk-taking, how to deal with collections, borrowing money, contributing capital to the business, and, most important, each partner's compensation relative to his or her perceived valued to the firm are common conflict elements. Over time, the money issues may become cumulative, finally reaching the point of partnership failure. First, the partnership agreement should spell out how money decisions are to be made and each partner must be required to adhere to the agreement. But over time, it is really impossible to address all of the potential money issues or how the individual partners will respond to these issues. Keeping the lines of communication open and arriving at consensus based on the more important goal of keeping the company successful are critical to resolving money conflicts.

5. Controlling behavior by one partner can ultimately wreck the partnership. When someone attempts to control, they expend enormous mental and emotional energy to hold things within boundaries they establish. Controlling behavior is constrictive and confining and it takes a toll on the individual's ability to function in a healthy creative manner. On top of the damage to the controlling individual, those who are being controlled are unhappy and stressed, leading to increased turnover, loss of clients, project or design errors, and general demoralization.

6. If a partner develops a different *vision* for the business or for his or her personal life than was in place with the partnership was created, conflict with the other partners is inevitable. The personal vision of each partner must be in sync with the vision for the business and enhance it. To ensure that this is so, the business vision and mission must be periodically revisited by the partners and either reinforced or adjusted by mutual consent.

2.4 BECOMING A PARTNER IN YOUR CURRENT FIRM

An alternative to leaving your employer and starting a new firm is to move into a partnership position in an existing successful firm. Assuming that the issues raised in the previous section do not scare you, achieving ownership through partnership in an existing firm can be as rewarding as starting your own firm.

Why do owners expand a firm's ownership? There is no one reason, although some reasons are more common than others.

1. Growth: As firms grow, most find that they cannot add staff only at the bottom. They need to add principals at the top as well, to secure and manage client relationships and to provide necessary project management, expertise, and internal leadership.

2. Expansion: Firms that wish to expand geographically or into new markets within their geographic range do so more effectively if those expansions are led by entrepreneurial professionals who can do what principals do.

3. Retirement: Ownership expansion becomes important when the firm's principals begin to think about their own retirement or, equally important, about how to realize the value of the capital investment they have made in their firms. Retiring owners need other capable principals in place to lead and manage the firm and to whom they can transfer (i.e., sell) their ownership interests. Another is continuity, which is fostered by ownership transition. Many design professionals develop viable practices over the course of their careers and hope to have their firms continue beyond their own tenure. Transferring ownership to the next generation ensures continued service to valued clients, a continued workplace for valued employees, and a firm that continues into the future. Finally, there is the marketplace. The marketplace is a huge determinant of success. Whether or not design professionals choose to retire (and many don't), their clients generally retire at the conventional retirement age, and their clients' successors frequently choose to hire and work with their own peers, not their bosses'. A firm that loses touch with the marketplace loses its raison d'etre and can no longer sustain itself. Ownership transition allows the next generation of professionals in a firm to move into leadership roles, with increased visibility and responsibility for marketing. Bringing new

members into the ownership circle often allows the firm to maintain its understanding of and connection to the marketplace.

Internal transfer has proven to be the most effective way for owners to assure the firm's continuity, recover their investment in the firm, and eventually retire. The advantages of internal transfer include: the opportunity to continue the firm as an ongoing entity; access to a pool of buyers who have become integrated into the firm's way of working; potential of a reasonable financial return for the owner, usually in the range of 1.00 to 1.50 times accrual basis net worth; maintenance of control of the firm until owners' ownership percentage is reduced to less than 50 percent; and maintenance of the selling owners' personal compensation and perks, subject to the establishment of a compensation and benefit arrangement that includes and is acceptable to the new owners. There may be disadvantages, or perceived disadvantages, including the lack of suitable candidates, the need to begin sharing information and control, and the need to involve, foster the success of, and ultimately rely upon the contributions of others for the success of the firm, particularly with respect to the ability to secure new work.

Selection criteria are the personal and professional qualities that the current owners seek in their potential successors. They relate to the essential elements that owners provide to their firms-the aforementioned needs and responsibilities. The selection criteria are the "why" a person is selected for ownership. The responsibilities of owners are "what" owners do after they have been selected. Owners who contemplate transferring ownership in the firm to others must identify successors who will make the firm successful. Owners must believe that if candidates meet the "why"-the selection criteria-they will become successful owners and will fulfill the "what"-the responsibilities. The following criteria are frequently considered when evaluating candidates for ownership:

1. Professional maturity: The candidate demonstrates high professional standards and actively works to help others develop similar attitudes, with the overall result that matters are handled appropriately throughout the firm. Professional maturity refers to the attitudes, behaviors, and expressions that demonstrate the professional wisdom that comes from maturity and not to specific professional/technical skills. Questions that might be asked include: Does the candidate address issues directly and professionally? Is the candidate's manner confident and assured? Does he/she convey appropriate information and opinions? Does his/her demeanor and behavior reflect well on the firm?

2. Professional/technical competence: The candidate consistently demonstrates high skill levels in one or several professional/technical areas by doing, by guiding, and by establishing performance standards and motivating others to achieve them. The candidate should conform to the basic professional/technical, business, and other tenets by which the firm practices. Candidates who seek design, technical, or managerial excellence have to set the standards, put appropriately skilled people in place, and guide them to assure that the established standards are followed.

3. Values compatibility: The candidate possesses, demonstrates, and reinforces strong professional and business values that are compatible with those of the firm's current principals. It is essential that the firm's principals and the candidates have compatible values. If the current principals are practice-centered, they are likely to practice their professions as a way of life, and are likely to value success qualitatively, asking, "Did we achieve the level of quality we sought?" If, on the other hand, the principals are business-centered then they are likely to do what they do less as a lifestyle manifestation and more as a means to earn a living; they are likely to value success in

quantitative terms, asking, "Did we achieve our financial goals?" Design professionals with strong practice-centered values are more likely to make critical decisions, especially project decisions, with the achievement of quality (as they define it) as the primary objective. Design professionals with strong business values are likely to make the achievement of financial goals their primary objective. Candidates whose values are inconsistent with those of the ownership group are likely to be continually uncomfortable with the principals' key decisions and, if elevated to principal, are likely to make their partners uncomfortable if they insist upon their point of view.

If candidates for ownership do not share the basic values of the current owners, then the new owner or owners will have different personal objectives with respect to organization, leadership, decision-making and, especially, financial return, leading to future conflict.

4. Business understanding: The candidate understands the importance of a sound business foundation and business practices, makes decisions with the objective of achieving the proper balance of professional and business objectives, and guides others accordingly. Regardless of the dominant value set of the principals, the firm will always be both a practice and a business. Decisions made by the principals, and by others down the line, will reflect aspects of both value sets. On each project the principals will not only have professional objectives, such as achieving quality in design, they will also have business objectives, such as adhering to schedule and budget. In exercising their daily business responsibilities, candidates for ownership must demonstrate not only that they understand the need for balance, but also that they understand and agree with the balance that the current principals desire.

5. Risk attitude and understanding: The candidate understands the concept of risk-taking and the role it plays in moving the firm forward. He/she is able to balance short-term and long-term priorities. The candidate must recognize that the firm's need to explore new opportunities may expose it (and him/her) to risks that are personally discomforting, and commit to the best decision for the overall well-being of the firm. Opportunities will be available to the firm continually. Capitalizing on opportunities will require making choices, and those choices will have attendant risks. Every firm decision involves choice and every choice involves risk, some minor, some major. The candidate must understand this concept and always act in the interest of the firm when analyzing choices.

6. Marketing and selling skills: A principal's most important contribution to the firm is likely to be getting and satisfying clients. This is especially true in smaller firms with a limited number of principals. The "getting" part involves marketing and selling. Candidates must develop skills and refine personal styles so that they inspire confidence and are successful in bringing in work-through developing relationships with prospective clients, maintaining and nurturing relationships with existing clients, and appropriately representing the firm in marketing and selling situations. In the final analysis, the principal must be a "closer." Prospective clients for design professional services will want to buy from professionals that can commit their firms' resources, i.e. from the owners. The principals must be able to close-to get the prospective client to say, in effect, "I want you and your firm." Because new work is the lifeblood of the firm, the current owners must have confidence that some or all of the new owners can sell.

7. Client and project management skills: After the job is sold, the principal must be able to lead projects to achieve the client's and the firm's goals. If the firm intends to grow,

the principals must not be overly protective of their own role in client relations, but must work to help others to develop such skills. It is typical for principals who sold the project to become the principals-in-charge (PIC) of the project, especially in small to medium-sized firms and frequently in large firms, as well. Usually, PICs sell the project, negotiate the contract for services, assemble the project team, and establish the project objectives. Frequently, they will establish the initial concept for the project and assume responsibility for client interface and communication at the front end of the project. Their role is one of leadership to ensure that the client's and the firm's goals are achieved. Satisfied clients enhance the firm's reputation and bring repeat and referral work. In addition, successful projects build individual and collective knowledge, experience, and confidence within the firm, and provide the money necessary to reward the contributors and build the firm.

8. Strategic thinking: Typically, professional, technical, and clerical/ administrative staff focus their efforts on achieving the relatively short-term (tactical) objectives to which they are assigned, particularly related to projects. Principals, however, must focus on long-range (strategic) and short-term (tactical) objectives. This focus is vital to the firm's interest. If principals don't do it, it won't get done. Candidates for ownership must recognize that some component of principals' time must be devoted to strategic issues and strategic planning-the determination of where the firm is going and how it will get there. Since principals must determine the course of the firm, they must be able to think strategically. While a candidate's strategic thinking skills may not have been fully engaged prior to being selected for ownership, each candidate must have the capacity for and the willingness to engage in strategic planning.

9. Leadership skills: The candidate must be a leader. One useful definition of leadership that is particularly appropriate in design firms is that a leader is one who conceives a vision for a desired future, communicates it to others, and motivates them to help achieve it. Candidates must demonstrate that they have leadership skills and consistently perform as leaders. Their leadership in the firm should be apparent to staff, clients, the profession, the firm's constituency, and the community at large.

10. Management and relationship skills: Firms are governed by their owners. Candidates for ownership must understand, support and be willing to assume, without reservation, a role in the firm's management. This means understanding the nature of management in the firm. Who will be involved in management matters? What subjects and issues fall into this realm? When and how are they addressed? What is the dynamic of the management discussions? How will decisions be made? Since it is likely that management will be a team effort by the owners, candidates must be willing to improve team-working skills so that they can be effective in executing their management responsibilities.

11. Team-working skills: Effective teamwork is achieved by having clear goals, encouraging broad participation in discussions, having the ability to express feelings, addressing causes of problems rather than symptoms, seeking consensus and appreciating deviations, trusting other team members, and exercising creativity by seeking better ways to do things. In the best of worlds, candidates for ownership will have demonstrated an understanding of these elements and will have used them in other situations involving teamwork. At the very least, they should demonstrate an understanding of the need for and an interest in developing personal team-working skills, prior to selection for ownership.

12. Personal style and interpersonal skills: Principals must work effectively with others, inside and outside the firm, with partners, staff, consultants and clients. Therefore, candidates for ownership should be aware of their personal styles to ensure successful interaction with those constituencies. Regardless of firm size, firm success is achieved through interaction with others. People have different personalities and different personal styles. Because people operate from their essential preferred styles, they behave differently. They play out their roles and responsibilities in the workplace in accordance with their personalities. It is extremely helpful to understand not only one's own style, but also the personal styles of those with whom one interacts. By doing so, we influence those with whom we interact to make decisions in our favor. The potential for success in interpersonal interaction is significantly enhanced when differences in personal style are understood and skills are developed to enhance interpersonal relationships and exchanges. For these reasons, candidates should have personal styles that foster successful relationships and must be willing to improve their interpersonal skills for the benefit of the firm.

13. Commitment to the professional development of others: It is a long-recognized premise of effective management, proven in practice, that the further down in the hierarchy one can delegate decisions and actions and have them executed effectively, the more effective the organization will be. This premise not only suggests the advocacy of delegation, but it also implies the need to develop the skills of those to whom responsibilities will be delegated. Candidates must be willing to delegate responsibility and must be committed to promoting the professional development of those to whom they delegate.

14. Ethics: Candidates should demonstrate ethical behavior, and they should take appropriate action when the performance of others in the firm suggests less than adequate compliance with the norms of personal and professional ethics. Although personal ethical norms are likely to be unstated, professional norms are frequently explicit.

15. Contribution to the profession and the community: If the current owners are actively involved in their profession and community, they will want their successors to demonstrate similar interests. Therefore, candidates should understand the importance to the firm's success of such personal contributions, and should commit significant energy to professional and community activities. There are multiple reasons for becoming involved in these arenas. Professional involvement can nurture relationships with other professionals, which may lead to team ventures. It can improve technical knowledge that enhances one's expertise and provide an opportunity to participate in advancing professionals' role in society. Community involvement by professionals offers arenas in which to develop personal presence and presentation skills and creates opportunities to gain information and develop relationships, which may lead to new work. And, like professional involvement, community involvement can allow professionals to play a significant role in the betterment of the community itself.

16. Investment in the firm: The candidate must understand the fundamental investment needs of the firm, recognize and respect the financial return such investment receives and, above all, be prepared to make the necessary investment as an equity principal. Such commitment is made manifest through contributing personal funds, assigning a portion of future personal compensation, and accepting the financial risk inherent in

signing personal guarantees for bank loans, leases, or other debt instruments. Owners capitalize the firm by investing personal funds when the firm is initiated, deferring compensation as required to meet current cash needs, making additional capital contributions, and personally assuming the risk of repaying funds borrowed to meet short-term cash needs. Candidates must be willing to assume these financial obligations of ownership.

17. Role model for others: Since principals set the example for others in the firm, candidates should exhibit behavior they expect others to emulate. They should demonstrate the behaviors and performance that contribute to the firm's success so that their employees will follow their lead, modeling their own actions accordingly.

18. Trust: Although it appears last in this list, in the final analysis it is frequently the most important criterion for owners considering candidates for ownership. In executing their daily responsibilities inside and outside the firm, the owners affect the well-being of the firm, and their fellow owners, regardless of the legal form of organization. Owners make decisions every day that affect the firm's welfare. They seek and attempt to establish relationships with prospective clients whose projects can substantially affect the nature, direction, and reputation of the firm. They negotiate contracts involving the amounts of fees and the scope of services required to earn them. They make project decisions that can put the firm at risk with respect to professional liability. They hire and fire people who have the capability to support or detract from the firm's efforts. They make capital and operational decisions causing the outlay of vast sums. By virtue of their ownership, they have the ability to expose the firm and their fellow owners to serious economic and professional liability. The owners must trust each other, and have confidence that they will be able to trust each new owner to "do the right thing" even without supervision.

All of these are the skills required to run your own firm, which, in essence, is what you do as a partner in an existing firm. The big difference is the focus on "entrepreneurship." The entrepreneurial traits are absolutely required to start a new firm, but these same traits are not as important when taking an ownership role in an existing practice unless (1) you are taking over sole ownership in a practice that is stagnant and needs to be motivated or (2) there is such a lack of entrepreneurial traits in the existing partners that a new "hunter" is required to move the practice forward. This is normally not the case in a successful practice, so other skills become more important.

2.5 WHY MOST PRACTICES FAIL

From Chapter 1, growth was identified as a key part of any firm's success. But, *if growth is a prerequisite for success, why is it that most architectural and engineering firms become dysfunctional as they grow and 70% don't survive their first generation ownership and management?* Ninety-nine times out of one hundred, it is because the principals have a "project mentality" and cannot transition from managing projects to managing the firm.

Typically, ten "excesses" dominate firm management decisions (or indecision) that result in failure:

1. Principals become consumed only with doing the work, to a lesser degree, with getting the work (but, only so they can do it). Consequently, smaller firms have no systematic way of generating information or determining what is not working.

2. Principals view their business as an end in itself; rather than, more properly, a means to an end. They lack vision, purpose and focus.

3. Solutions to all problems are seen as project design and/or technical challenges, rather than as business problems requiring business solutions.

4. Principals of smaller firms delegate to others only what they do not like or want to do, rather than that which can be better done by someone else. Over-dependence is then created on certain individuals.

5. Principals do not even define firm goals to themselves, let alone communicate them to others in the firm.

6. Principals do not know where their markets are or should be, or what their competition is doing or how it can be done better.

7. Principals are all too consumed with the daily task of keeping the wolf from the door, and financial planning and review inevitably then take a backseat.

8. Firms are under-capitalized and under-funded from day one.

9. Firms do not establish and evaluate processes by which they can attain better results and better really serve their clients' needs rather than their own needs. Quality must be perceived existent by the clients in order to actually be existent.

10. Principals become consumed with working on, rather than in, their business.

Each of these ten points serve as "warning signs" to alert designers the potential for failure even as the firm grows and matures.

3

BASIC BUSINESS REQUIREMENTS

Axiom 3: The design business is, first and foremost, a business!

Business legal requirements vary somewhat from state to state. For today's purposes, we will consider North Carolina's requirements…most states are similar.

3.1 LEGAL STRUCTURES: PRO'S AND CON'S

The legal requirements for establishing or changing the business structure of a professional practice are defined in the *North Carolina General Statutes* (NCGS). Chapter 83A defines the requirements for architects, while Chapter 89C applies to engineers. Each individual licensing board had additional rules, defined in the *North Carolina Administrative Code* (NCAC) that must also be met.

Basically, there are three forms of legal structure for a professional practice: sole proprietorship, partnership, and corporation.

The *sole proprietorship* is a form of business in which one individual owns the business and operates it essentially as an extension of his or her personal life. With the advantage of single ownership comes the significant disadvantage that the owner is 100% liable for all of the business activities. Thus, *the practitioner is placing all of his or her business and personal assets at risk as sole proprietor*.

Taxes for the sole proprietorship are simple: the net income of the business is reported as individual income on the owner's personal income tax return (typically via Schedule C, IRS Form 1040).

A *partnership* (or *company*) is a business form that has two or more owners. There are several legal variations in the structure of a partnership allowed:

> 1. In a *professional partnership,* each of the partners, jointly and severably (together and individually), are fully liable for the practice. Thus, the actions of one partner are the responsibility of all of the partners, with each partner having 100% responsibility.

2. A *professional limited liability partnership* (PLLP) is frequently used by design firms to reduce each individual partner's liability. In a PLLP, a general partner is NOT subject to personal liability for the malpractice of another partner unless he or she participates with or is responsible for supervising the partner committing the malpractice. A general partnership becomes a PLLP by filing an application for registration with the Secretary of State.

3. A *professional limited liability company* (PLLC) has some of the characteristics of partnerships and some of the characteristics of corporations. The owners of a PLLC are called *members* and are equivalent to partners in a PLLP, enjoying the same limited liability. PLLC's are managed by the members or by managers who are not members. Filing articles of organization with the Secretary of State creates a PLLC.

All partners of a PLLP or members of a PLLC must be licensed professionals. Thus, these two structures do not allow ownership by unlicensed individuals, either employees or spouses.

Partnerships and PLLC's are not directly taxed at either the federal or state level. Partnerships and PLLC's are required to distribute their net income to the partners or members at the end of each year and this distribution is then taxed as part of each individual's income. Thus, the "double taxation" associated with corporations is avoided.

Only *professional corporations* may be formed for the practice of engineering or architecture in North Carolina, pursuant to the provisions of Chapter 55B of the North Carolina General Statutes, with the following limitations:

1. At least one incorporator must be a "licensee" of the architecture or engineering licensing board.

2. Non-licensed employees of the corporation may own not more than one-third of the total issued and outstanding shares of the corporation.

3. At least one director and one officer must be a "licensee."

4. The articles of incorporation must designate the types of professional services to be rendered by the professional corporation and must be accompanied by a certification by the appropriate licensing board that the ownership of the shares of stock is in compliance with the requirements of NCGS Chapter 55B. A firm may deliver more than one type of professional service (e.g. architecture and engineering), but at least one person must be licensed in each profession and have administrative control over that service.

A *professional corporation (PC),* which may called a *professional association (PA)*, is a legal entity created upon filing Articles of Incorporation with the Department of the Secretary of State.

A corporation has a legal status or existence that is separate both from the individual(s) who form it and its owners.

To establish a professional corporation in North Carolina, you must file Articles of Incorporation with the Secretary of State's office, including the following:

1. The name of your corporation. The name may be one that you have "reserved" with the Secretary of State or be something you just created. But, the Secretary's office will return you application if your selected name is the same or very similar to an existing registered corporate name.

2. The number of shares of stock your corporation is authorized to issue. You should consult with your attorney to determine how many shares of stock your company is authorized to issue. Remember that authorized capital is the number of shares your corporation can issue, not necessarily the amount you have already issued or plan to issue in the future.

3. The classes of stock issued by your corporation. You should consult with your attorney to determine whether you should separate your corporate stock into different classes. Most corporations issue only one class of stock.

4. The street address and county of your *registered office* and the name of your *registered agent.* Your registered office must be located in North Carolina. If the mailing address of your registered office differs from its geographic address, both are required. A registered agent can be one of three things:

-   An individual who lives in North Carolina and whose business office is identical with the registered office.

-   A domestic corporation or non-profit domestic corporation whose business office is identical with the registered office.

-   A foreign corporation or non-profit foreign corporation authorized to transact business in North Carolina and whose business office is identical with the registered office.

The registered agent need not be the incorporator of the corporation. The only duty of the registered agent is to forward any notice, process or demand that is served on the registered agent, often by a deputy sheriff, to your corporation at its last known address. The registered office may - but need not - have the same address as any of the corporation's places of business. Under North Carolina law, the registered agent and the registered office must be continuously maintained in North Carolina.

5. The names and addresses of your company's incorporators. State law requires that your filing list at least one incorporator. You may list more than one. Make sure that you submit the signature of at least one of the incorporators listed in your filing. You do not have to have those signatures notarized.

Then, there are several more steps you'll need to take before you can actually begin operating as a corporation. You'll need to:

1. Hold an organizational meeting. If they have not already been specifically named in your Articles of Incorporation, you should elect directors for your corporation. You should then elect officers for your corporation and set their compensation. Next, you should adopt a set of corporate by-laws and issue shares of stock. Then, adopt banking resolutions for your corporation and fix dates for the start and end of each corporate fiscal year (usually limited by federal tax rules to the calendar year).

2. Approve any other agreements or contracts deemed desirable for your corporation.

3. Obtain your corporation's tax identification numbers from the North Carolina Department of Revenue and the IRS.

4. Determine which tax or privilege licenses are required and purchase them.

5. Purchase a company seal (you can order one from most stationary and office supply stores in your area).

6. Contact county and local agencies to see what regulations and restrictions may apply to your business…your attorney will usually be able to guide you through this process.

7. Set up an accurate bookkeeping system (see Section 3.2)

If you are establishing a branch office for a company that is already incorporated in another state or nation, you will need to file an Application for Certificate of Authority with the Corporations Division of the Department of the Secretary of State in order to conduct business in North Carolina. The following information is required in your application:

1. The name of your corporation. You should provide the name of your corporation exactly as it appears on file in the state or country where your company was originally incorporated. If that name is not available in North Carolina, you should also include the corporate name under which your company will conduct business in this state. If your corporation chooses to use a fictitious name, you will need to file a copy of the resolution adopting the name passed by your company's board of directors. You will also have to have that resolution certified by the Secretary of your corporation.

2. The name of the state or country in which your company was originally incorporated.

3. The date of incorporation and the period of duration for your corporation.

4. The street address of your principal office. This must be an actual geographic location, not a Post Office Box number.

5. The mailing address of your principal office if it is different from the street address.

6. The name of your company's registered agent and the street address and county of your registered office. Your registered office must be located somewhere in the state of North Carolina. The address provided must be the actual physical location of your registered office. Provide, also, the mailing address of your registered office if it is different from the street address. This must be a North Carolina address.

7. The names, titles and business addresses of your company's current corporate officers.

8. An original Certificate of Existence or similar document. This document will have to be authenticated by the Department of the Secretary of State or by the official who has custody of the corporate records in the state or country in which your company was

originally incorporated. In either event, the certification date must be no more than six months old.

Each stockholder becomes an employee of the corporation of which he or she is part owner and is often called a *principal* in the firm.

There is no specific requirement that there be any relationship between ownership percentage and compensation paid to any employee-stockholder. In fact, a valuable employee who is not a principal may be paid more than a principal and one principal may be paid more than another who has a greater ownership percentage. The Board of Directors of the corporation resolves all of these questions.

Since corporations are separate under the law, they are taxed as separate entities. First, at the end of each fiscal year, the net income of the corporation is taxed directly. Then, after-tax distributions made by the corporation to the stockholders in the form of "dividends" are taxed as part of each individual's income. Thus, there is a "double taxation" of the corporation's profit. To minimize this negative taxation position, most professional corporations (which have few stockholders, i.e., are "closely held") distribute most or all of their end-of-year profits to the stockholders, who are also employees, in the form of "bonuses," which are "expensed" by the corporation and treated as part of each individual's salary rather than as a stock dividend.

Incorporation has several advantages for a larger practice (more than 2-3 owners) or for practice that is in a growth mode:

> 1. Ownership percentage is easily defined and easily adjusted as the number of owners increase.

> 2. There is limited liability to each individual owner.

However, with incorporation, the requirements for accounting, filing tax and financial statements, and other reports increases significantly. An annual report must be filed with the Secretary of State and the IRS and the State Treasurer's office require numerous quarterly reports. Generally, *since there are few ways in which incorporation improves the liability picture for professional owners over the PLLP or PLLC structure, most elect not to incorporate until the size of the firm increases to the point where the flexibility of ownership in a corporate structure becomes important.*

As your company evolves, so may your ownership structure. It is important to keep in mind where your company may be in five years and what are some of the issues that it may face, because the selection of your ownership structure should be the one that best fits the future of your firm.

3.2 ACCOUNTING

Most designers have no knowledge or interest in bookkeeping and accounting until the first time they brush up against going broke! Architects and engineers receive no education in accounting in school and their early professional development limits their accounting exposure to time sheets and expense reports. *But, for the successful consulting practice, it is critical that an adequate accounting system be put into place on day one and that each principal has a good understanding of the accounting reports he or she receives each month!*

3.2.1 Accounting Basics

The purpose of the accounting system is to communicate. It produces useful information (not raw data) that tells specific things about the company. Suddenly, information that you need to run the company is at your fingertips. Of course, this information is couched in financial terms. That's the language your accounting system uses. But it's not complicated and it's not foreign.

The kind of information you want from your accounting system must be accurate, fulfill management's requirements, and be easy to use. And, every accounting system ought to be set up in such a way that it does not require an inordinate amount of time to maintain. *Remember, you aren't an accountant and you don't want to spend your time trying to do accounting.*

Your accounting system should not require a CPA to operate it or to interpret the output. Some of the popular automated accounting systems require specific knowledge not only about computers but about the field of accounting as well. Make sure that those running the system have the background needed to install and operate it. If they don't, get a package that is more in tune with your firm's capabilities.

The accounting system must represent the design *business cycle*, which is the flow of transactions and expense/income elements needed in your business to complete a project and collect the proceeds, hopefully making a profit. It's important to setting up your accounting system that you understand your business first and the timeliness of information you will need from your accounting system to help run it.

The *chart of accounts* defines the organization of the accounting system and should also define the specifics of your business operations…where does money come from? Where does it go? In the following section, representative accounts are discussed.

Basic Accounting Terms and Concepts: Debits and credits are the backbone of any accounting system. Every accounting transaction contains both a debit and a credit. Further, all debits must equal all credits. If they don't, the entry is "out of balance" and that's not good.

Therefore, the accounting system must have a mechanism to ensure that all entries balance. Indeed, most automated accounting systems won't let you enter an out-of-balance entry…they'll just beep at you until you fix your error.

Depending on what type of account you are dealing with, a debit or credit will either increase or decrease the account balance. The following table illustrates how entries increase or decrease each type of account.

Account Type	Debit	Credit
Assets	Increases	Decreases
Liabilities	Decreases	Increases
Income	Decreases	Increases
Expenses	Increases	Decreases

Notice that for every increase in one account, there is an opposite (and equal) decrease in another.

Assets are those things of value that your company owns. The cash in your bank account is an asset. So is the company car you drive. Assets are the objects, rights and claims owned by and having value for the firm. Since your company has a right to the future collection of money, accounts receivable are an asset (probably a major asset, at that).

There may also be "intangible" assets owned by your company. Patents, the exclusive right to use a trademark, and goodwill from the acquisition of another company are such intangible assets. Their value can be somewhat hazy. Generally, the value of intangible assets is whatever both parties agree to when the assets are created. In the case of a patent, the value is often linked to its development costs. Goodwill is often the difference between the purchase price of a company and the value of the assets acquired (net of accumulated depreciation).

Liabilities are the opposite of assets. These are the obligations of one company to another. Accounts payable are liabilities, since they represent your company's future duty to pay a vendor. So is the loan you took from your bank.

We segregate liabilities into short-term and long-term categories on the balance sheet. This division is nothing more than separating those liabilities scheduled for payment within the next accounting period (usually the next twelve months) from those not to be paid until later to provide clearer picture of how much the company owes and when.

Owners' equity is the difference between assets and liabilities. Hopefully, it's positive, your assets exceed liabilities and you have a positive owners' equity.

Income accounts represent exactly that, the money that you collect. There may be different income accounts, such as fees, reimbursable expense payments, interest income, and income from the sale of assets. Adding them together yields *total revenue*.

Most companies have a separate account for each type of *expense* they incur. Your company probably incurs pretty much the same expenses month after month, so once they are established, the expense accounts won't vary much from month to month. Typical expense accounts include, along with many others, salaries and wages, telephone, utilities, insurance, etc.

Depreciation is an annual expense that takes into account the loss in value of equipment used in your business. Examples of equipment that may be subject to depreciation includes vehicles, buildings, copiers, computers, printers, fax machines, etc. The concept of depreciation is really pretty simple. For example, let's say you purchase a truck for your business. The truck loses value the minute you drive it out of the dealership. The truck is considered an operational asset in running your business. Each year that you own the truck, it loses some value, until the truck finally stops running and has no value to the business. Measuring the loss in value of an asset is known as depreciation.

Land cannot be depreciated, since land does not wear out like vehicles or equipment.

General Ledger: The general ledger is the core of your practice's financial records. These constitute the central "books" of your system, and every transaction flows through the general ledger. These records remain as a permanent track of the history of all financial transactions since day one of the life of your company.

There are two main issues to understand when setting up the general ledger. One is their linkage to your financial reports and the other is the establishment of opening balances for each account.

The two primary financial documents of any company are their balance sheet and the profit and loss statement, and both of these are drawn directly from the company's general ledger. The chart of accounts determines the order of how the numerical balances appear, but all entries that are entered will appear. The general ledger accrues the balances that make up the line items on these reports, and the changes are reflected in the profit and loss statement as well.

The opening balances that are established on your general ledgers may not always be zero as you might assume. On the asset side, you will have all tangible assets (the value of all machinery, equipment, and inventory) that are available as well as any cash that has been invested as working capital. On the liability side, you will have any bank (or stockholder) loans that were used, as well as trade credit or lease payments that you may have secured in order to start the company. You will also increase your stockholder equity in the amount you have invested, but not loaned to, the business.

The general ledger also creates an *audit trail*. You will need an internal trail of transactions so that you can trace any discrepancy (such as double billing or an unrecorded payment) through your own system. You must be able to find the origin of any transaction in order to verify its accuracy, and the general ledger is where you will do this.

An *income statement*, otherwise known as a *profit and loss statement*, is a summary of a company's profit or loss during any one given period of time, such as a month, three months (a quarter), or one year. The income statement records all revenues for a business during this given period, as well as the operating expenses for the business.

You use an income statement to track *revenues* and *expenses* so that you can determine the operating performance of your business over a period of time. Small business owners use these statements to find out what areas of their business are over budget or under budget. Specific items that are causing unexpected expenditures can be pinpointed, such as phone, reproduction, or labor expenses. Income statements can also track dramatic increases in production costs versus fess. They also can be used to determine income tax liability.

The *balance sheet* is a snapshot of a business' financial condition at a specific moment in time, usually at the close of an accounting period, typically each month. A balance sheet comprises assets, liabilities, and owners' equity. Assets and liabilities are divided into short- and long-term obligations including cash accounts such as checking, money market, or government securities. At any given time, assets must equal liabilities plus owners' equity.

A balance sheet helps any business owner to quickly get a handle on the financial strength and capabilities of the business. Is the business in a position to expand? Can the business easily handle the normal financial ebbs and flows of revenues and expenses? Or should the business take immediate steps to bolster cash reserves?

Balance sheets can identify and analyze trends, particularly in the area of receivables and payables. Is the receivables cycle lengthening? Can receivables be collected more aggressively? Is some debt uncollectable? Has the business been slowing down payables to forestall an inevitable cash shortage?

Balance sheets, along with income statements, are the most basic elements in providing financial reporting to potential lenders*, such as banks, who are considering how much credit to grant the firm.*

Cash v. Accrual Accounting: Accounting is also time based. When you complete a design phase for a project and invoice the owner, you create two time-based transactions. First, you have invoiced for at least a portion of your fee and the invoice amount can be counted as "accounts receivable." In the meantime, you have to make payroll and pay other overhead expenses related to the project. Therefore, when do you "book" the invoiced fees as revenue? It can get more complicated. Say that you purchase supplies for this project, but you have 45 days to pay for them. The amount you owe is entered into your "accounts payable" when you make the purchase, but you really don't pay until later. So how do you compute profit?

There are two basic approaches. Under the *cash accounting* scheme, income is not entered until payment is received and payments aren't entered until the check is written. This is the simplest method of accounting and, for most small businesses, the most realistic method of determining revenue and expenses.

The *accrual accounting* scheme, however, shifts the time line. Income is entered when the invoice is sent and expenses are entered when the invoice is received. While dollars have not yet changed hands in either case, the income and expense entries represent the anticipated or accrued transaction.

For large firms with significant cash flow, the difference between cash and accrual accounting is trivial. But, for the smaller firm, accrual accounting can present an unrealistic picture of the firm's financial health, particularly if the time between invoicing and payment for accounts receivable begins to lengthen. At 30-45 days average receivables, there is rarely a problem, but at 90-120 days, the firm can go broke while thinking it is very profitable based on accrual accounting. *Thus, cash accounting for most consulting practices is highly recommended.*

3.2.2 Project Cost Accounting

Every project has a budget (if nothing else, the budget for each project is equal to the fee you are charging, less the anticipated profit). Hopefully, the fee was determined on an evaluation of the project scope, anticipated manhours for design and production, general overhead costs, etc., all elements of the project budget.

Once you have a budget, you need to track costs on a project basis for two reasons:

> 1. First, it is important to know if the project profitable and if not, why? Is one aspect (or even one person) spending far more time on the project than was originally anticipated? Is there a scope problem or simply bad time management in play?
>
> 2. For the future, what fees should be charge for this type of project? Historical cost data, by project type, will make future fee estimates far more accurate.

Project cost accounting has three simple elements. First, there is the project number. While we routinely utilize project names or descriptions in day-to-day activities, there is too much room for potential confusion if each project is not assigned a unique identifying number.

The number can be simply 1, 2…50…98…201. Many firms like to use a number like "0601", where the 06 represents the year the project started and the 01 represents the first project in that year. In the filing system, then, all projects will be grouped by the year in which they began since that is the first part of the project number. Another approach that is useful when you anticipate doing several projects for a client is to use a number like "099-01", where 099 is the client number and 01 is the first project for that client. In the filing system, then, all projects for an individual client will be grouped together, filed in chronological order.

Other number schemes can be used to differentiate between project types, the type of services provided, etc. But any numbering scheme that you like will work as long as each project has a unique identifier.

The next part of project cost accounting is the time sheet. In most offices today, the time sheet is automated…each employee, from president to receptionist, enters his or her daily time record on a project-by-project basis. For example, if you work on three projects that day, your time spent on each must be recorded. Most offices use a half hour minimum time increment, while others use tenths of an hour…whatever works for you.

In addition to charging time to the project, the nature of the time expended often defined, usually by using "codes" to define each activity. In one office, the following activity codes are used:

Activity Code	Activity
A	Administrative/General Overhead
B	Cost Estimating/Budgeting/Bid Analysis
C	Conference (w/Owner, Contractor, etc.)
E	Design/Analysis/Research/Study
I	Inspection/Investigation Field Trip
P	Document Production
Q	QC/Checking
R	Report Writing
S	Specification Writing
U	Submittals Review/Construction Admin
X	Special (Provide Description)

These codes have two purposes: one is to help document time spent for a client, while the second is to help in evaluation how project costs occur.

In some offices, document production is categorized into the standard production phases: schematic or preliminary design, design development, and construction documents. In architectural practices, "programming" is often defined as separate activity, though equally typically this work can be considered an additional service and is assigned a separate project or phase number.

Most design contracts establish specific *reimbursable expenses* that are billed to the client on top of the base fee or manhour charges that are established. Thus, each of these expenses must be accounted for on a project-by-project basis. Clients typically accept the following categories of reimbursable expenses:

1. Travel expenses (It may be necessary to define "travel" as being beyond some fixed distance, 25 miles or more from the designer's office, to avoid conflicts with an owner unwilling to pay for local travel.)

2. Reproduction expenses

3. Expenses for renderings, models, mock-ups, etc. requested by the owner.

4. Premiums for professional liability insurance in excess of the coverage normally provided by the designer. (See Section 3.4.1)

5. Direct project expenses such as permit fees, etc.

Most owners do not understand why a designer wants reimbursement for telephone expenses, postage, and other normal "business overhead" expenses, so these are most often deleted from the list of reimbursables.

3.2.3 Are You Getting Rich or Going Broke?

Having an accounting system and *utilizing* your accounting system are two entirely different things. Utilized properly, business accounting will serve as the most important management tool a business owner has. Aside from simply telling you whether or not you are making a profit, the accounting system can help define the reasons behind your financial performance. *Remember, the number one requirement is that the business makes a profit!* Without profits, the lifespan of the business will be very short indeed.

There are several "key" financial indicators that will help you diagnose your business operations:

1. Is the firm profitable? If the firm is not profitable, or not as profitable as you would like, the next step is to look at the various elements that define profit. Each month, carefully evaluate your profit/loss statement and balance sheet.

2. Is your indirect (basic office) overhead expense too high? Are you paying high rent for a prestigious office location that you really don't need? Is that fancy furniture really required? Why are your coffee expenses each month so high? Look at the details and adjust them as necessary to keep your costs under control.

3. Is direct (project cost) overhead expense too high? Here's where time sheets are useful. Overall firm profitability starts with project profitability and a string of no-profit projects will quickly put you in a financial hole. Look at the budgeted hours vs. actual hours. If there is a big difference on a project, find out why (it helps if you start this process early in the project life cycle before losses mount up). There may be a management problem, or a client that keeps changing the scope, or a young designer who is spending far too many hours "re-inventing the wheel." Often, the contract administration phase will consume far more fee hours than budgeted, driven by unforseen design problems, owner problems, and/or contractor problems during construction.

4. What about income? How old are your receivables? Anything over 45 days should generate a follow-up contact with the client (see Section 3.3). After all, if you can't collect your fees, there is no income to offset expenses and profit goes out the window.

5. What about invoicing? If a project is already into the construction documents phase and you are just getting around to invoicing for schematic design, you can rapidly get into "cash flow" hell unless you have very deep pockets. Keep your invoicing current…the invoice should follow each client submittal by no more than 10 days.

6. What about fees? When you look at your unprofitable projects, check to see if your fee was adequate in the first place. Nothing is more demoralizing for a project manager to be financially "in the hole" before the project even starts. Look at your project expenses…fees should be a minimum of 2.5 times the anticipated expenses to ensure a moderate (10-15%) profit.

7. What about productivity? Income should be about 2.5 times employee expense (salaries, benefits, and other direct compensation). If this is not the case, the problem may be fees that are too low, employee productivity is too low, or a combination of these two factors. In any event, a management adjustment is required. (Note: check this ratio for both each individual project and the overall firm.)

8. What is your *backlog*? Backlog the sum of fees on current projects that have not been invoiced, fees on projects that have been "sold" but not yet been booked, and, finally, fees from new work that you may have in the pipeline several months in the future. Each outstanding proposal can be assigned a potential fee and a probability factor, the product of which is the "anticipated" fee. These numbers won't be dead accurate, but, overall, they can provide a reasonable idea of what to expect.

Backlog defines whether your firm will be here next year and *the sum of all three of these numbers should equal at least one year of the firm's required income.* If the sum is less than 3 months income, the firm is in serious trouble...cut costs and sell like hell! If the sum is less than 6 months income, a serious marketing effort is required to make-up the short fall, along with some overhead reduction. If the sum is between 6 and 12 months income, the marketing programming needs to be ratcheted up a notch to bring the backlog up to 12 months minimum.

3.3 FEES AND COLLECTIONS

For time and material agreements, the time basis for billing is usually monthly. For fixed fee projects, the basis of billing is typically (1) a percentage of the fee becomes due at the completion of each phase of the design portion of the work and (2) monthly during the construction period (if construction administration is included).

For fixed fee projects, the basis of billing can be defined as follows:

	Typical Fee Percentage Due Designer	
Project Phase	**With Separate Project Definition**	**Without Separate Project Definition**
Scope Definition/Schematic Design	T & M	15%
Design Development	25%	20%
Construction Documents	35%	40%
Bidding or Negotiation	10%	5%
Construction Administration	25%	20%
Project Closeout	5%	5%

Money issues are at the root of many designer/owner disputes. To help avoid these disputes, the design contract should set forth when payments are due, what the penalties are for late payment, and what rights the designer has in the event of non-payment. Well-managed businesses, including probably the owner's, develop and use these methods to collect what is rightfully owed them.

While the client may be billed for services rendered, the next problem is collecting. *A goal of no more than 45 days between billing and receiving payment should be established*. First, don't be bashful about imposing the contractual penalties for late payment. Once payments due exceed 45 days, begin a routine calling and "dunning" operation to force payment…squeaking wheels tend to get greased! If the contract calls for interest for late payment, make sure you impose the interest charges and collect them. Maybe the late-paying client will think twice about delaying payment in the future.

In severe cases it may be necessary to suspend services in order to force payment. Be very careful to ensure that the contract allows this and that all contractual elements are addressed. With some clients, the old saying "no ticket, no laundry" can be applied…you essentially put the client on a COD payment basis, where each design phase must be paid for upon delivery before proceeding to the next phase. (This is a lot more difficult to do than it sounds.)

It almost never pays to sue to collect fees owed. The standard client defense in these cases is to raise questions about the design services rendered and to make claims based upon the *professional standard of care* (see Chapter 6). Thus, a simple dispute over payment can turn into major litigation involving your professional liability insurance carrier.

Finally, if a client "stiffs" you once, never do business with that client again! Sounds simple, but a lot of designers will still work for a client who owes them money… particularly engineers that work as subconsultants to architects. *If you do this, you may as well write "sucker" on your face and go out of business!*

3.4 INSURANCE

3.4.1 Professional Liability

The frequency and severity of architect and engineer professional liability claims vary by the type of operation and operating characteristics of the individual design firm. *The classic*

designer claim is a situation where a design does not function as anticipated. The most dramatic example, but extremely rare, is a building collapse.

Other claims situations are much more complex. For example, disputes can occur if the professional services provided do not meet a client's expectations. Sometimes these disputes can result in a client seeking compensation from all parties involved. Often there are many design professionals involved in the delivery of a complex structure or system, including the insured architect or engineer, and any litigation will involve most or all parties. The resulting dispute will undoubtedly lead to costly litigation, diversion from the business, and damage to reputation.

The typical claim involves a physical or financial loss by a client due to an alleged negligent error or omission by the design professional. An example is a building that is designed with a flaw. The cost to the client might be the cost of removing the flawed component and replacing it with a correct design.

Often, a claim or lawsuit may not involve a clear error or omission. For example, a client is not happy with the result and brings a claim to obtain a different result or avoid paying a fee. These types of claims are often just as difficult and expensive to defend as a clear-cut error. Insurance typically pays for the cost of defending this type of claim as if it were a clear-cut error on the part of the insured.

Designer professional liability insurance (sometimes called "errors and omissions" insurance) is available from a wide range of specialty lines insurers. Coverage and pricing varies greatly depending upon the type of professional operation, the specific services provided and its size and location.

An architect or engineer normally requires a policy that provides protection for property damage claims, which most policies cover. However, some design firms, such as specialty engineering consultants, operate as specialty consultants and might not purchase a design professional policy form. Since many non-design professional liability policies exclude property damage claims, it is important to match the coverage with the specialty services provided by the architect or specialty engineer.

Specific coverage provisions are important for this coverage. Some professionals require coverage with special provisions to protect themselves from unique claims arising from their specialized services. For example, an engineer specializing in pollution control or clean up systems might require a modified pollution exclusion.

Coverage is sometimes provided on a project basis rather than a firm or practice basis. Project coverage typically provides professional liability coverage to all professionals working on a particular project for claims arising from that project. Note that some practice policies have an exclusion for claims that are covered under a project policy.

Professional liability coverage is always provided on a *claims-made* basis. A claims-made policy protects an insured against claims or incidents that are reported while the policy is in force. Normally, a claims-made policy provides no coverage for acts occurring prior to the claims-made policy period. Coverage for acts occurring prior to the policy period is called "prior acts coverage," and the period prior to the policy period for which claims are covered is called the prior acts period. Prior acts coverage is usually only provided when a claims-made policy has been in force immediately prior to the current claims-made policy on a basis consistent with

the prior policy. Prior acts coverage is defined as "full prior acts," covering acts occurring at any time prior to the current policy period, or is defined by a "retroactive date." When a retroactive date is used, prior acts coverage is provided from the retroactive date to the current policy period.

"Tail coverage," also called an "extended reporting period," provides protection for claims that are filed after a claims-made policy has been non-renewed or canceled. This coverage is optional, and the need can arise if the professional organization is acquired or goes out of business, or a decision is made not to purchase insurance. The terms and pricing for tail coverage vary greatly and are usually defined in the policy.

Typically, professional liability insurance policies include the cost of defense of a claim against the insured. For designers, this puts them in the position of being defended by an attorney who does not work for them…he or she works for the insurance carrier. While this is normally not a major problem, it is best for the designer to retain his own attorney to at least monitor to the process and provide advice as needed…a good second opinion.

Limits and deductibles vary with the size and type of insured. *Standard limits for most small organizations start at $1.0 million, but should never be less than $2.0 million per claim, with a $3.0 million aggregate*.

3.4.2 General Liability and Other Firm Insurance

Risk is inherent in running any small business and business insurance is required to manage that risk. Normally, three types of business insurance are needed:

1. **Business Liability Insurance Package Policy**: Often referred to as a *Business Owners Policy* (BOP), a general liability package policy protects your company in the event that a client is injured on your premises or if you or one of your employees injures someone or damages property at a client's location. The general liability coverage on a business liability insurance policy also meets a landlord's requirement that you carry business premises liability insurance. Property insurance protects business property and inventory against physical loss or damage by theft, accident or other means, even if that property is removed from your place of business when it is lost or damaged. Property coverage is usually very straightforward and may be packaged with general liability insurance in a BOP at very reasonable rates.

2. **Umbrella Liability Insurance**: An umbrella liability (more accurately excess liability) policy provides coverage for claims that exceed the amount of coverage on your general liability policy and may also add coverage to your commercial auto coverage, as well as the employers' liability coverage on your workers' compensation policy. Coverage is triggered when claims are in excess (thus the name) of the underlying insurance.

3. **Workers' Compensation Insurance**: Workers' compensation insurance is a type of business insurance that employers carry to provide medical and disability coverage for employees who suffer job-related injuries or illnesses. Most states require businesses to carry workers' compensation. Workers' compensation insurance premiums are based on your company's services and payroll. In many states, owners, officers, and partners of a company can exclude themselves from workers' compensation insurance, thereby saving on premiums. Employer's liability insurance, (typically offered as part of a

worker's compensation policy) protects companies against workers' claims that an illness or accident was caused by unsafe working conditions.

Employers are legally responsible for the actions of their employees. An employer can be held liable if an employee, driving a company car, his or her personal vehicle, or a rental vehicle on company business, causes an accident. Insurance is required to protect the firm and its owners under these circumstances.

If you own company vehicles, a commercial auto policy will insure company vehicles and you and your employees when driving a company-owned vehicle. However, the policy should also include "non-owned auto" liability to protect the firm in the event of an accident involving you or an employee when driving a personal or rental vehicle while on company business.

If employees must drive for business purposes and you do not have company-owned vehicles, the firm still should obtain "non-owned and hired" coverage. This protects the company in the event of an accident involving a personal or rental car being used for company business. Note that this coverage does not cover the driver's liability or any damage done to his or her car…that would be handled by the driver's personal car insurance or, in the case of a rental care, the rental agreement coverage. Require liability coverage levels that are adequate…at least $100,000 per person/$300,000 per accident for bodily injury and $50,000 for property damage. Also, require that collision insurance be carried to avoid an employee trying to get the company to pay for damage a personal vehicle inflicted by its owner.

To help control auto insurance costs, make sure that prospective employees have a good driving record before they are hired, set up an incentive program for employees that have a safe driving record and establish specific rules that prohibit the use of cell phones and other electronic devices while driving.

3.4.3 Key Person Insurance

The loss of an owner or key employee in a design firm due sudden death or disability can have serious negative management and financial impacts on the firm. There are basically four ways of dealing with these potential negative impacts:

1. Wait-and-see, hoping nothing ever happens.

2. Plan to borrow funds if you can without that employee.

3. Set-up a savings account.

4. Buy "key person" insurance.

The insurance option is typically the best and least costly option.

The finances available from a key person insurance policy would provide funds to find, recruit and train a replacement; help replace any profits the company may have earned had the employee not died; and strengthen the company's working capital and balance sheet to help assure creditors and suppliers about the continuity of the business.

What if the key person is the owner? Funds from key person insurance can be used to resolve the issues of settling the ownership value with the owner's estate or, in the event of disability (a more common occurrence), directly with the owner.

There is no easy formula for determining the value of a key employee. If you're considering taking out key person insurance, here are a few questions to ask yourself:

1. How much debt would the company have to pay back if it was forced to cease or temporarily halt activities due to the death of one of the key members?

2. Would the business have to be liquidated or sold in order to settle the estates of any members?

3. Will lenders require insurance?

4. Would any additional financial obligations fall upon the venture or partnership after the death of a member?

With key person insurance, the company is the owner of the policy, pays the premiums and is the beneficiary upon death or disability of the key employee. Premiums are not tax-deductible, but the death benefits are received tax-free.

Many lenders (banks and venture capital groups) insist on key-person insurance for specific members of the management team when lending to a business. The amount the lender is concerned with is the principal that they have lent to the business. As a result, lenders will want a policy that covers this amount, with itself as beneficiary. Any insurance taken out for the benefit of the surviving members of the company will be in addition to the insurance taken by the lenders. Who makes payment of the monthly or quarterly premiums when a lender insists on insurance? It's negotiable, but quite often it's the company or individual members, not the lender.

3.4.4 Disability Insurance

In the age bracket of 30 to 60, the likelihood of a lengthy or even permanent disability occurring during the remaining years of career is much greater than the likelihood of death:

Your Age	Likelihood of long term disability	Average Duration	Ratio of Likelihood of Disability to Likelihood of Death
30	33%	32 months	2.31:1
40	30%	42 months	1.95:1
50	23%	50 months	1.53:1
60	10%	54 months	1.10:1

Source: 1985 Commissioners' Disability Individual Table A

There are great differences among the types of disability plans available for income protection. The following are key points to focus on when looking for a disability income insurance policy:

1. Own-occupation definition of disability for income protection: There are two very different definitions of disability used in disability policies. The first, and more desirable, definition defines a disability as a condition that prevents you from performing the major duties of your occupation. One disability insurance company summarizes their definition of disability as: "Pays benefits if you are unable to perform the material and substantial duties of your own occupation due to sickness or injury…even if you are able to do some other kind of work."

The other, and less favorable, definition of disability states that you are disabled if you can't work at any gainful occupation. This kind of policy may also have a residual benefit that says if your income goes down the insurance company will pay a partial benefit. One of the most important features for a professional or executive is the own-occupation definition.

2. A policy with the right definition of residual (partial) benefits and return to work benefits: Say an architect or engineer principal is disabled, then recovers and returns to work after three years of disability. There is not much of a practice left and there is no cash flow, but there are clients starting to come back. There are personal and business expenses to fund. Over the next six months the business picks up but there is still low cash flow. After one year the cash flow returns to 60%. During all this time the designer is working full time. Let's see how two different insurance companies could handle this claim.

Company A says that if you're back at work full time after three months (no matter your income), you will no longer receive benefits. This is called the "time and duties" definition of recovery and residual benefit.

Company B says you're not back to full cash flow and pays the proportionate amount of your loss. Both of these companies might have "own occupation" definitions for total disability but one is much less favorable for you after recovery. This is called "income" definition of recovery and residual benefit.

3. Financial strength of the insurance company: This could have been listed as the first point since the stability and financial strength of the insurance company are primary factors to consider. Without the company there to pay the claim, it doesn't matter what the definitions are.

There are two approaches to implementing disability insurance. First, a company policy, covering all employees can be purchased. But, since disability insurance is relatively expensive, the purchased benefits may not be sufficient to meet the needs of the firm's principals. The second approach is to purchase personally owned disability insurance that is more likely to provide the benefit levels you require.

3.5 THE DESIGN OFFICE

The very first decision that designers must make is where to locate. The selection factors, in order of importance, are as follows:

1. Population: More populous areas will have more museums, more hospitals, more municipal buildings, more offices, more restaurants, or more of other types of facilities that fit your market profile. As an architect, a population area of less than 100,000 will make getting work very difficult, simply because the level of new projects will be low. For engineers, the minimum population in your service area is about 300,000…less for civil engineers, more for mechanical and electrical types. Thus, a small town practice will not make it!

2. Travel time: *It is exceedingly difficult to provide the service level typically required of any design firm if the travel time between the office and the client's location exceeds about 2-3 hours.* This means, for the design staff, leaving early in the morning and arriving home in the early evening in order to have 4-6 hours of "face time" at the client's. Overnight stays are, of course, and option, but the time out of the office and costs increase significantly.

For auto travel, this means that the maximum travel distance will be 100-150 miles, depending on highway conditions and speed limits. With air travel, the home office location must also include a good airport with a fairly large number of potential destinations. Even so, the maximum time in the air can only be about an hour, allowing for ground travel time on both ends of the trip.

Some larger design firms charter general aviation aircraft for travel to clients in areas that do not have commercial service. Very large design firms may even operate their own plane. But, general aviation is both more expensive and more dangerous than commercial aviation and its use must be weighted against the client's requirements and the fees you can charge.

3. Support services: This need is more acute for architects than for engineers. Since a much lower population base can support a small architectural practice than will support an engineering practice, the architect may find that hiring the subconsultants he or she needs more difficult simply because there aren't any available locally. The distance between the architect and the subconsultants will increase design expenses and will reduce the frequency and depth of coordination between the design team members, increasing the possibility of design error or omission and designers' liability.

4. Staffing: Technical staff may simply not be available in an area. Locating in a town that has a significant manufacturing base, no colleges or universities, and no nightlife will pretty well ensure that a design firm will not be able to grow. The younger architects and engineers will simply not be there to staff the firm and the location will not be attractive from a recruitment perspective.

It is no accident that most successful design firms are found in larger cities, cities that have colleges or universities, excellent transportation systems, and a good quality of life that is attractive to quality staff.

Once you've picked the location, the next step to acquire and equip the design office.

There is a major difference between architectural design practices and engineering design practices…architects must expect that their clients will routinely visit the design office, while a client visit to an engineer's office is fairly rare. Architects, then, are typically burdened with

having an office that is, perhaps, "nicer" than needed by engineers, effectively increasing both their start-up costs and general overhead.

All design offices must have space for the firm's activities and be sited in a safe, convenient location. Thus, there are certain basic considerations that must be evaluated:

1. Office area: Typically, design offices require about 150-250 gross square feet (gsf) for each staff member. This area includes an allowance for a reception area, refreshments area, conference room(s), storage, and circulation.

Every firm has a different perspective on space utilization. Most engineering firms provide private offices for professional staff, though CAD operators may be grouped in cubicles. Architects, however, seem to still cling to the "drafting room" concept, with professionals working in an open office plan, perhaps with low cubicle walls. The choice, and any variation thereto, is yours.

A good "rule of thumb" for helping to control overhead is that the office rental cost should not exceed 10% of the firm's gross income.

2. Office "grade:" Generally, office space is graded…Class A, Class B, and Class C. Class A space is prestigious space, both in location and design…desirable for large law firms, but not really needed for architects and engineers. Class B space is very acceptable for most architectural and engineering firms, and, with creative upfit, some less expensive Class C space may prove adequate. Again, architects may need to spend more on an office to get the location and look that is right for the firm's "image." Engineers, however, typically only need an office that is clean, comfortable, convenient, and safe.

3. Access and convenience: The office location should allow relatively easy access for you, you staff, and clients. Find a location near major highways to reduce travel time and make commuting less of a problem.

4. Equipping the office: Office equipment and furnishings are not investments, but are expenses and, therefore, the goal is to, again, minimize your overhead by purchasing or leasing what you need, but no more. Avoid the "earlier adaptor" role for new technology…while utilizing current technology is important, having the "latest and greatest" technology will may not improve the quality of your design work nor reduce production costs, but it will certainly add to the overhead, reducing profit.

There is always the issue of leasing versus purchase. The advantage to leasing is that it impacts your cash flow, but probable won't negatively impact your capital. But, with leasing, someone else bought the equipment and is making a profit leasing it to you. Therefore, you invariably pay more under leasing than if you purchase. For larger ticket items, carefully evaluate the cost of leasing against the cost of purchase, even if you have to borrow the money.

Certain types of engineering firms must invest in very expensive specialized equipment and vehicles. Firms offering soils and materials testing, power monitoring and utilization, etc. will have higher overhead costs than more design-based firms. These firms will find that equipment costs are a much higher percentage of their operating costs and, therefore, must be even more careful to keep these costs under control.

5. Support services: With an office comes the need for cleaning, office equipment maintenance, minor modifications and improvements, etc. In leased space, cleaning and repairs to building systems is typically in the lease rate. However, this doesn't have to be and taking on these responsibilities, especially in smaller buildings, can save money. The landlord and others can aid in developing a list of contacts that can provide required support services.

6. Expansion planning: The biggest mistakes that are made by firms in determining office needs are over-estimating growth and under-estimating growth. In the first case, too much office space is acquired in expectation of staffing increases. If these increases do not take place, the firm ends up carrying excess overhead expense for the entire period of the lease. In the second case, the office becomes over-crowded and both productivity and staff moral falls.

The key to leasing an office is "flexibility."

First, never lease an office for a term longer than five years, and less if the landlord will accept the deal. This represents your "stop loss"…if you grow, you will have to put up with crowded conditions for only a year or two and if you don't grow, overhead costs remain manageable.

Second, if the office location is desirable, take an option for both lease renewal and for additional space at the end of the current lease. But, it usually is more cost-effective to search for a new office, even if only to use that as a bargaining chip with the current landlord during lease renewal negotiation.

4

MARKETING AND SELLING

Axiom 4: Without a sale, there is no project. Without a project, there is no fee. Without a fee, there is no profit. Without a profit, there is no firm.

Marketing and *selling* are two distinct processes. Marketing represents the general, long term efforts taken to promote the firm in its overall markets, while selling involves the targeted efforts taken to acquire a specific new project or client. Most design firms, though, do not particularly differentiate between these two efforts and generally call the entire process "marketing."

4.1 THE ROLE OF MARKETING

The design services you offer can be stated in terms of key features of the design process:

1. The ultimate goal of the design process is the creation or production of something tangible and functional, such as a building or a system.

2. There is no single correct answer to a design problem; there is a range of solutions, each having both advantages and disadvantages.

3. Design is a creative process in which an individual or group of individuals with special technical and analytical knowledge consider a wide range of factors, including functional, aesthetic, economic, technological, social, environmental, and legal requirements.

4. Design involves the integration and coordination of multiple disciplines and requires management, marketing, and communications skills.

By this general definition, architectural and engineering design are essentially the same, despite the obvious differences between the two professions.

Many potential clients, particularly industrial owners, the majority of developers, and too many first-time owners, see the need for design services as nothing more than an expensive burden necessary only for acquiring a set of plans needed to get the building permit. Design services, to these folks, are a *commodity* to be purchased at the lowest possible cost. *While there are*

many architects and engineers who provide their services on a commodity basis, the truly successful professional does not!

The primary focus of any design firm's marketing efforts hinges on two basic elements: understanding the client's needs and convincing the client that your design efforts add value to the project. *Marketing must address the client's concerns…start to finish…to be successful!*

Every design business must make a profit to be successful. The first step in achieving this goal is to implement marketing efforts to "get the work in the door." Thus, most consulting firms spend a substantial portion of their income, and an even greater percentage of their time, on marketing activities such as:

- Researching potential projects and market directions

- Maintaining the appropriate quality of work

- Becoming known to potential customers and maintaining current relationships

- Understanding the appropriate levels of quality that the market demands

- Understanding the skills of competitors

- Building the image of the organization

- Networking

- Responding to requests for proposals

- Potential project investigations

- Project presentations

Many firms, even small ones, have a marketing staff or even departments, and marketing is often the principal activity of the senior manager(s) of the firm…the person(s) who must consistently provide the firm with quality, profitable assignments. *Never forget that the marketing staff never makes a sale. They can identify opportunities, but a firm principal is <u>always</u> required to make the sale.*

A marketing program starts with identification of the services offered by the firm and the type of clients/projects desired.

4.2 CLIENT IDENTIFICATION

Who are your clients? Or, more importantly, what types of clients do you want?

Client types are defined by the types of projects you desire. If you want to design high-end houses, your clients will be individuals or married couples with high net worth. If you want to design religious buildings, your clients will be church/synagogue/mosque building committees. If you want to do educational buildings, your clients may be school boards or colleges and

universities. Universities, medical centers, government, pharmaceutical companies, etc. need laboratories, and thus there is a long list of potential clients to consider. Wastewater and water treatment facilities are owned and operated by municipalities and county governments. State and federal governments require design services for a large range of buildings from offices to prisons to energy centers to vehicle repair facilities. And, then there is the military, with often unique design needs.

In Chapter 6, we discuss risk management and note that some clients are more "risky" than others in terms of fees and profits, collections, and potential liability claims. The most risky client is the "amateur:" the client who has never been involved in a construction project before and has no understanding of the pitfalls that can exist with even the best design. Since they have no experience in the construction process, they may have unrealistic expectations in terms of time, cost, and/or quality. They often expect the designer to provide a level of service far beyond what is reasonable.

The risk factor is ratcheted up a notch when the "client" is itself poorly defined… condominium associations, groups of professionals banding together to build a new office building, church building committees, some school boards, etc. are all bodies that may have difficulty defining the project scope, agreeing on a fee, or even making up their minds on project issues as they appear. There is always one "expert" on every building committee who knows more than the design team. There do often exist relationships that must be considered, such as one committee member's brother-in-law who is a contractor. Personalities, and even changes in make-up, can dramatically affect the relationship these bodies have with their designers and the fate of the project. *Too often, due to lack of knowledge and even frustration, these bodies more readily turn to litigation as a method of resolving their problems*.

Another risky client type is often the developer. This type of client is not an amateur…he or she has been down the road before and has a good understanding of construction and many of the risks associated with design and construction. However, in addition to wanting a marketable final product, developers may have additional goals:

1. Minimize design fees: The designer must work hard to ensure to anticipate a reasonable profit from the project at hand.

2. Minimize downside risk: To the developer, the financial aspects of the project are typically more important than the project itself. Most developers are not "keepers;" they must sell the project within a relatively short period of time to extract their capital for the next project. Therefore, at any point where the financial aspects turn sour, the project scope, timing, or even existence may change quickly. This may leave the design firm hanging out on a limb.

A second part of this element is that the developer may attempt to recover part of any financial losses from the designer through liability claims for lost profits, the designer's cost estimates that later turned out to be low, or even "conjured up" design errors. Too often, the designer may be sued simply in hopes that there will be a settlement "profit" for the client-plaintiff to help reduce his costs.

3. Maximize cash on hand by paying late (or not at all). This business truism can often result in the developer taking a long time to pay his or her designers…payment delays of 90 to 120 days are not uncommon. Sometimes, the designer is not paid at all. When this happens, the designer is at a disadvantage…it is rarely possible to deliver design

services on a COD basis. If a supplier or contractor on a construction project is not paid, that supplier or contractor can first stop delivering, slowing the project or bringing it to a halt. If that doesn't work, there are numerous legal measures that available based on favorable law that is designed to ensure that suppliers and contractor can collect. Unfortunately, most of these remedies are not available to designers (see Chapter 6 for further discussion).

So, pick your clients carefully. Then, if necessary, implement "client management" procedures to ensure that your financial risk from every project is minimized.

4.3 CLIENT MARKETING

Design firm marketing programs usually consist of four components:

1. Brochures, websites, etc. that the describe the firm's capabilities, areas of practice, staff qualifications, and past and current projects in order to demonstrate to the potential client that the firm is qualified for consideration.

2. General firm publications, such as newsletters, articles about recent projects in magazines and journals, etc. When publishing, make sure the media is one your clients read…publishing in professional journals is tantamount to useless for promoting your firm since other architects or engineers will never be your clients. Second, make your publications "useful." "Glory pieces", publications that talk about how great you are, are promptly rejected by reputable publishers and, if published (by you or anyone else), are promptly trashed and forgotten by potential clients. What you would like to see is your newsletter on half the desks of people you visit…they read it, found it useful, and kept it. And, they will certainly remember the source of this good information.

3. "Prospecting" activities designed to inform the design firm of potential new work. While rarely a formal intelligence gathering activity, prospecting usually includes reading local and regional newspapers and business publications, following legislation for funding new public facilities, etc. It usually includes an ongoing effort to stay in touch with past clients and to identify and contact potential future clients.

4. Producing presentation materials used to help the firm make the client's list of firms to be considered for a new project. These materials focus on a specific project and the firm's detailed experience and expertise relative to that project.

Most marketing efforts, particularly for architects, are "project based." But, all firms attempt to develop long term relationships with clients so that every time that client has a new project, the current designer heads the list for consideration.

A potential problem with all this marketing effort is that in the designer's enthusiasm about his or her capabilities, desire to be selected for a new project, and excitement over the potential fee income, he or she will overstep and hold out the firm as being "better" than other design firms. Promoting your experience and expertise is one thing, but promoting your firm as "unique" or "better" can be a liability risk. In a later dispute with the client over a design error or omission, the client can use these marketing claims of "superiority" to make the case that the designer should be held to a standard of care higher than the common law standard (see Chapter 6). After all, the designer made the claim that he or she was better, so he or she should do

better…while other designers may be imperfect, he or she should not be. Great care must be taken to avoid this trap. All marketing materials should be carefully reviewed before release to ensure that they do not instill expectations of a higher standard of care than the firm is capable of providing.

Successful client marketing efforts often include the following elements:

1. Attend professional meetings and exhibitions that will also be attended by the upper management of your potential clients. If you want to design hospitals, attend the American Hospital Association meetings and the meetings of your state hospital association. Man a booth at the associated exhibitions to introduce your firm. If possible, be a speaker…but make sure your topic is designed to benefit the attendees and is not a "commercial" on how good you are.

2. Get to know the regulatory agencies and their senior staff members within your interest areas. Make them aware of your interest, expertise, and experience. While they may not directly recommend you to a potential client, your name may be included as a referral with others when new projects are being discussed.

3. Put on workshops, seminars, and short courses. Topics must be of interest to your clients and anything lasting longer than 6 hours should be avoided. *It is important to charge a fee (even if a small one) for these presentations*…clients perceive most "freebies" as being worth what they cost, nothing.

4. Principals must be involved in the market sectors in which they want to work. Joining and contributing time and money to societies and associations that promote your market sector can achieve this goal. Join the art guild if you have an interest in designing museums, join the hospital association if you want to do hospitals, etc. Joining professional architectural and engineering societies counts towards professional needs, but is worthless for marketing.

The *"out of town expert" syndrome* is still alive and well! How often have potential local clients picked designers from out of town, even way out of town? Part of the reason for this is that local clients may not know or appreciate local designers and look to larger cities to provide them the design skills needed, even when the locals may be just as qualified. But, there are a lot more clients out of town than at home, so marketing efforts must include an enlarged geographic area.

The larger the geographic area you serve, the greater the requirements that will be imposed on your marketing program. But, the larger number of potential clients offsets this if your geographic area is carefully selected.

Many engineers, landscape architects, and interior designers see their role both in design services and marketing only as *subconsultants*. Their client is not the project owner, but the prime consultant, typically an architect. These subconsultants, then, have a much reduced marketing program geared only to getting work from architects… their marketing effort is usually reduced to calling on architects and proposing the use of their services. In many cases, these subconsultants may find themselves competing with similar firms, offering similar services on the basis of their fee. If all design firms have the same standard of care and must have the same minimum level of service quality, what differentiates between subconsultants expect what they charge?

Successful engineering, landscape architecture, and interior design firms do work primarily as subconsultants for architects. *But, they pick their architectural clients very carefully and refuse to compete on a fee basis* (which, by the way, violates most professional ethical standards). These successful subconsultants strive to bring their experience and expertise to each project, not just to do a design, but to work with the prime consultant and other subconsultants as a team to produce a superior product. This makes for a successful project that, in turn, makes everyone on the design team look good!

Other subconsultants do both: they work directly for owners on some projects and for architects on other projects. This type of firm has a marketing program and has developed clients for whom they work directly. For architects looking for a subconsultant, these firms can be very valuable assets…they understand marketing and participate in the process, they have existing client relationships that may be advantageous, and they may have experience with a client that significantly reduces the learning curve for a new architect. On the down side, these firms rarely see themselves as dependent on architects and the relationship with a specific project architect can be rocky…particularly if the subconsultant feels the architect is damaging his or her existing relationship with the owner.

These firms do, however, bring marketing skills to the table to help the architect with the project selling. Additionally, since they must manage their own projects, they manage their role as subconsultant equally as well, often reducing the coordination and management requirements on the architect. Finally, since these firms compete for projects against the better competition, they have developed office standards, quality control systems, etc. that tends to improve the quality of design and reduce the potential for liability claims.

4.4 PROJECT SELLING

You hear about a project and call on the perspective client. If your marketing program has been effective, you already know the client and, hopefully, the client is at least aware of your firm's existence. If not, the first step is present your firm's credentials… its expertise, experience, and references. *The goal for this initial contact is to get on the list of designer firms to be considered for this project*.

This "potential designer" list will be based on the client's understanding of your credentials, talking with your references (maybe), talking with regulatory staffers (hospitals, schools, etc.), and even talking with contractors in the area about their experience on your past projects. The list will also be based on the personal prejudices of the various client elements…senior staff, board members, other consultants, etc.

These meetings are also critical for learning as much as you can about the upcoming project, the client's needs and expectations, and the project timing. A project that is 3 years off becomes an element of your marketing program, but a project that the clients wants to have under construction next year is a "selling" opportunity.

The selling process begins by really getting to know the client and as many of the people that make-up the "client" as possible. The client is rarely an individual. Even most houses are designed for a couple, where the client consists of two people, each with different ideas and expectations. Consider the typical school project, where the client consists of both the school

district staff members and the district board of education. Most corporate clients will have a board subcommittee, if not the whole board, involved in the decision making process.

The goal during this phase of selling is to gather as much information about the goals, expectations, limitations, and other details about the project as possible. This information will form the basis for your presentation at the *interview*.

Most clients will interview several firms in order to select one to design their project. *Conducting a successful interview is the single most important selling activity!*

The designer obtains the interview based on his marketing of the firm's expertise and experience. There is no need to reiterate these during the interview…*if the client didn't think you were qualified, you would never have gotten to the interview step*. Rather, now is the time to present how your firm would help the owner achieve his or her goals and expectations for the project at hand. The interview should be all about the client and the project and how you will make sure that the project will be successful.

There are numerous books and other publications on successful interview techniques. Often, designers, and architects especially, are warned that it can be a mistake presenting a design "solution" at the interview…it's too early, there is too much unknown, you run the risk of locking yourself into a solution that later will prove to be wrong, etc. A client may already have a notion as a desired design solution and you can "blow" the interview by presenting that solution in a negative light. All of this true, but *in the interview every client wants to know how you are going to satisfy his or her project requirements. So some potential design solutions are required!*

You can offer alternative solutions. For example, a hospital wants to expand its laboratory to support an increasing outpatient surgery load. There are obviously alternatives that require evaluation…expanding the existing lab by reallocating existing space in the hospital, expanding the existing lab by an addition, and/or building a new lab addition or stand-along building. A discussion of these alternatives and how you would go about evaluating them to find the best solution for the owner would be a very focused interview presentation that might get you the job.

Things successful firms do not do at the interview include:

> 1. Be late. Arrive early to examine the interview space and determine exactly how to arrange the presentation. Do your best to control the interview environment.
>
> 2. Apologize. Some times things go wrong in an interview. Work around them and continue on.
>
> 3. Try to take more time than allocated. Typically, owners will allocate each firm a specific time window. Tailor the presentation to fit within that time window, allowing for a reasonable questions and answer period. (Note: If the client keeps you longer than your allotted time, asking questions and discussing the project…good for you!)
>
> 4. Fail to engage the client in dialog. Every presentation should be designed to engage the client in the interview process. A client that simply "sits through" the interview will neither connect with you nor select you.
>
> 5. Fail to thank the client for the interview and ask for the commission. Being asked to interview is an important opportunity, so thanking the client for that opportunity may be

one thing others don't do that makes him or her appreciate you more. <u>Always</u> ask for the job…show you really want to work for the client!

4.5 WHO ARE THE MARKETERS IN A SUCCESSFUL FIRM?

Successful firms have successful marketers. These are some of the characteristics of those who are the most successful selling their firm's services:

1. Optimism. Selling takes an optimistic attitude to overcome the inevitable obstacles that will come your way. And clients can smell someone who doesn't completely believe in what they are selling. It's a "sixth sense" kind of thing— and they won't buy your services if they think YOU have doubts about your ability to perform.

2. Energy. Selling design services will probably involve travel at some point and, if not, will certainly require late-night, early-morning, or weekend meetings. This requires a high energy level if you are going to be able to do what you need to sell the job plus take care of everything else that needs taking care of at the office and home. I just don't see any way around having a high energy level if you want to succeed at selling!

3. Creative team builder. The best sellers understand, particularly in any kind of government projects, how critical it is to put the right team together. This takes a thorough understanding of the client and the political factors involved in the selection process and the willingness to team with companies that you may not have prior experience with.

4. Good problem-solving skills. Most selling involves some type of problem-solving: how to work within the fee constraints, how to meet the schedule, how to minimize risks, besides the problems associated with the project itself, like a bad site, keeping an existing facility open during renovation, and more. Successful sellers realize the extent to which they can solve every problem that arises during project development will determine whether they ultimately land the job.

5. Persistence. Good sellers keep calling back. They follow up. They show interest. They don't give up. Often, a successful seller simply wears down their prospect over time.

6. Comfortable interacting with others who are more successful. You can't be effective as a seller in this business if you are afraid of others who have a higher position than your own or who make more money than you do. Nor can you be successful by being too deferential…you don't want to look desperate or unsuccessful yourself.

7. Look/seem/act/appear honest and trustworthy.

8. Always responsive. *This one is paramount!* The best sellers return their phone calls promptly, answer letters, respond to RFPs (even if the response is, "We won't be submitting a proposal on this one"), and return e-mails quickly.

9. Caring about their clients. The best sellers of A/E services show their clients that they care about them as individuals. This means that they take time to get to know the clients they want to do business with and convey to them that they are important. They

learn about their hobbies, families, and careers, and help their clients achieve their own goals through the services their firms provide. The best sellers know that, once a client feels that they have a personal relationship with someone who cares about them, they can become a trusted service provider who does little or no fee negotiating.

10. Protective of reputation. A good seller would never do anything that would hurt their firm's reputation. Likewise, they would be very concerned if anyone else in their company or on their project team was doing anything that could be harmful to their reputation. A good seller thinks long-term and is always looking to the next client and project.

4.6 SETTING FEES

No matter what methods are used for project delivery or to establish fees, each firm must maintain good records of project description, fees charged, final construction cost, and percentage profit (or loss) for every project designed. *Over time, this data will be invaluable for defining profitable fee levels for every new project.*

To stay in business, every firm must charge fees sufficient to cover its cost of doing business…income must exceed expenses in order to create profit. This, in turn, requires that the fees charged reflect all of the design costs associated with a project.

4.6.1 Simplistic Approach to Design Fees

The following table provides a typical fee guideline that is used by many design firms to establish "percentage of construction cost" fees or as the starting point for determining a "lump sum" fee. This table defines a sliding percentage fee schedule, separating buildings into categories based upon their complexity and anticipated demand of time, skill, and professional knowledge of the designer. A small building ordinarily will require more time per unit of volume than will a larger building of the same type. Restorations, rehabilitations, alterations, and additions invariably require more work and warrant an increase in the designer's compensation above that for new buildings of comparable construction cost.

Basic services *are provided under these fees. For architects, basic services are generally those outlined in AIA B141. For engineers, landscape architects, interior designers, and specialty consultants, a clear description of basic services must be presented to the client with the fee proposal.*

The table is subdivided into construction categories where N represents *New Construction,* N/R represents primarily *New Construction*, with limited *Renovations,* R/N represents primarily *Renovations*, with limited *New Construction,* and R represents *Renovations.*

Anticipated Construction Cost	Percentage Fee for Complex Facilities				Percentage Fee for Less Complex Facilities			
	% Fee Type N	% Fee Type N/R	% Fee Type R/N	% Fee Type R	% Fee Type N	% Fee Type N/R	% Fee Type R/N	% Fee Type R
$200,000	8.2%	8.8%	9.2%	9.8%	6.6%	7.0%	7.4%	7.8%
$300,000	7.8%	8.4%	9.0%	9.4%	6.0%	6.7%	7.2%	7.5%
$400,000	7.6%	8.2%	8.8%	9.2%	6.0%	6.6%	7.0%	7.4%
$500,000	7.4%	8.0%	8.6%	9.0%	6.0%	6.0%	6.9%	7.2%
$1,000,000	6.6%	7.2%	7.8%	8.2%	6.0%	6.0%	6.2%	6.6%
$2,000,000	6.2%	6.8%	7.4%	7.8%	6.0%	6.0%	6.0%	6.2%
$3,000,000	6.0%	6.4%	7.0%	7.4%	6.0%	6.0%	6.0%	6.0%
$4,000,000	6.0%	6.2%	6.8%	7.2%	6.0%	6.0%	6.0%	6.0%
$5,000,000	6.0%	6.0%	6.4%	6.8%	6.0%	6.0%	6.0%	6.0%
$7,500,000	6.0%	6.0%	6.2%	6.8%	6.0%	6.0%	6.0%	6.0%
$10,000,000+	6.0%	6.0%	6.0%	6.2%	6.0%	6.0%	6.0%	6.0%

Reimbursable expenses, discussed in Chapter 3, would be in addition to these fees.

Complex facilities encompass a broad range of building types including hospitals, laboratories, health centers or outpatient clinics, libraries, museums, auditoria, music and art centers, aquatic centers/natatoriums, data centers, communication or command centers, central energy plants for campuses, prisons, courthouses, etc. Other types of facilities such as office buildings, schools, restaurants or other dining facilities, residential buildings, etc. can be considered less complex.

The dividing line between complex and less complex is not always obvious nor is it always very sharp and when the project combines facilities in more than one category, the designer's compensation must be determined by a proportionate combination of the appropriate categories. For example, a classroom building would normally be considered less complex. But, if the classroom building is the training center for a high technology company, it will probably need to be considered complex in nature. Parts of buildings may be less complex, while other parts may be complex. A lab/office facility is a prime example. Applying new engineering solutions… structural, HVAC, electrical, etc…requires higher design fees. And, the "green design" certainly imposes more of a design cost and, subsequently, a higher design fee is required.

Additional fees are justified for additional services. For architects, typical additional services, as delineated in AIA B141, could include any of the following:

- Programming

- Land surveying services
- Geotechnical services
- Space schematics/flow diagrams
- Existing facilities surveys
- Economic feasibility studies
- Site analysis and selection
- Environmental studies and reports
- Owner-supplied data coordination
- Civil engineering design
- Landscape design
- Interior design
- Special bidding or negotiation
- Value analysis or engineering
- Detailed cost estimating (though this is difficult to define)
- On-site project representation
- Construction management
- Start-up assistance (commissioning)
- Record drawings (though most designers to provide these)
- Post-construction evaluation
- Tenant-related services or design

4.6.2 Alternative Approach to Design Fees

Design fees should accurately reflect the project scope. Project scope is defined as the work that must be done to meet a client's program goals for space, function, features, and level of quality. In many ways, scope management is the foundation on which the other project elements are built. From project inception, project scope defines the boundaries within which the delivery team and the external stakeholders work. Effective scope management requires accurate definition of a client's requirements in the "scope definition phase" and a systematic process for monitoring and managing all the factors that may impact or change the client's program requirements throughout the project delivery process.

The basic parameters that make scope definition easy are (1) a fairly simple project for (2) an experienced owner. With inexperienced owners, the scope of almost any project will require significant effort by the design professional to accurately define. And, even with experienced owners, the true scope of a large, complex project may be time-consuming to define.

First, what goes into a scope definition? For architectural projects, the following is but a partial list of the scope components:

- The site and its constraints.
- Owner's expected project budget.
- Functional requirements.
- Staffing/building population/tenant considerations.
- Public access requirements.
- Expected level of quality and finishes.
- Owner's project delivery (schedule) requirements.
- Does the owner want to building make an architectural statement?
- Does the owner want to avoid having the building stand out?

- What is the terrorism risk?
- What building sub-systems are required?
- Does the project involve an addition to or renovation of an existing structure?
- Will the owner provide equipment that must be integrated into the design?
- Are there specific production requirements imposed by the owner?
- Are there specific environmental conditions imposed by the owner?
- Is future expansion or modification envisioned?
- How long will the client actually retain ownership?

For all but the simplest projects, a process of information gathering, preliminary design, and cost estimating is required to establish a complete project scope. *A detailed project scope is required in order for the designer to accurately define required designer services and their associated fees.* Thus, the designer is faced with a catch-22 situation…he or she can't define services and fees without a scope, and a real scope definition process will require services and fees. How is problem best addressed?

A workable approach to this dilemma, used by many successful design firms, is to execute two design agreements. The first agreement covers the *scope definition phase* of the project. This phase is an interactive process in which the designer (who can envision the facility) and the owner (users of the facility) establish goals for the facility, collect and analyze facts about each of the owner's requirements, identify and test design and layout concepts, and determine owner needs.

Needs analysis will result in required building areas. The architect can use quality, schedule, and area requirements to validate the proposed budget or to develop preliminary budget estimates for approval. If the budget and the needs are not in line, adjustments must then be made.

The process would normally include some or all of the following:

1. Workshops: "Project Intent Workshops" are designed for all stakeholders of a building project. It may be for the CEO, maintenance staff, operations personnel, administration, or perhaps even a few customers. The goal is to facilitate a thorough investigation of the building needs to be fulfilled for any upcoming building project.

2. Existing Conditions Survey: For renovation projects, this survey gathers information about the current facility and documents its conditions for the purpose of conducting feasibility studies. It is a tool that can assist an organization in determining project scope and budget before hiring your building design professional. This survey usually takes the form of simple floor plan diagrams supplemented with a description of existing building systems, and may also identify areas of concern for renovation that may impact the budget for the project.

3. Space Programming: If a project is to be successful, the owner must first know how their spaces are currently being used, identify space deficiencies, and project growth (or reduction) in spatial needs. This information is documented in a *program*. If an addition to a building is needed for administration functions, then should it be for 1,500 gsf or 15,000 gsf? Square footage of construction can always be tied to a cost per square foot range helping you determine a reasonable budget for your project. This is valuable information for a building design team to have.

4. Feasibility Studies: For instance, does additional land need to be considered? What is the best approach for providing the required space, renovate the old or tear down and build new? If there are many departments involved within the organization, do they need to be moved to create more efficiency? What are the critical dates to which the project must be sensitive? What is the cost of construction for the various alternatives?

This study can outline several project solutions, associated costs, and a schedule for work. With this information available, the organization can agree to the proper project scope. It can be put in a booklet format for distribution, review, comments, and may also serve as a tool when discussing the project with stockholders, lenders, and potential development partners.

Other studies may also be required, such as life-cycle cost analysis to define energy sources, the types of HVAC systems, lighting systems, etc. to be utilized.

5. Preliminary or Conceptual Design: This preliminary or "schematic" design phase requires the following elements to be evaluated and developed to an extent sufficient to illustrate the information accumulated in the previous steps and to provide enough detail for a realistic cost estimate and project budget to be developed:

  a. The Designer must consult with the owner to review the program and establish or verify the project scope and budget requirements. The program should include the owner's goal for energy conservation and energy use; sustainable design and construction, including life cycle cost evaluations; and the application and suitability of these goals for the particular project. If the program does not address these requirements, they must be incorporated into the schematic design phase.

  b. The Designer and his or her consultants must confer with each other and with the owner on the most economical and appropriate location and orientation of the facility on the proposed site(s). This effort should consider the feasibility of the site and the implications for the various building systems. Life-cycle cost considerations related to civil/structural aspects, general construction, and engineered systems must be used as well as the space requirements, functionality, and any special conditions of the program as part of this evaluation.

  c. A building code analysis should be initiated to determine requirements and constraints imposed on the proposed facility.

  d. When the scope of the project involves site modifications, a current site survey is necessary. The Designer must define the scope of the survey as appropriate to the project requirements and contract with the surveyor for these services (unless the owner elects to contract these services directly).

  e. When the scope of the project requires a structural and foundation design, the Designer must initiate a basic soils investigation program and, after consultation with the owner, select a geotechnical engineering consultant for this service.

  f. The Designer must prepare schematic design drawings and other data illustrating the recommended implementation of the program and project

requirements. It is essential that consultants for site work, structural, mechanical, electrical, etc. be involved in the early planning process.

g. The schematic design elements submitted to the owner for review and approval must include, at a <u>minimum</u>, the following:

(1). A written narrative and general description of the project based on the designer's studies and program describing the proposed construction materials; framing systems; HVAC, electrical, and plumbing systems; and any special systems or design elements included. Outline or narrative specifications are acceptable.

(2). A scaled site plan, with a north arrow, showing the location and size of the proposed facility in relation to existing property lines, buildings, roads, walkways, parking and existing utility services. Importance shall be placed on the early determination of the adequacy and availability of all existing utility services. The designer shall be responsible for examining all existing conditions and reviewing available as-built drawings related to the project.

(3). Single line drawings of the proposed floor plan(s) that shows the rooms and spaces, including mechanical and electrical rooms, service areas, etc. Rooms shall be identified by name or use for consideration of code implications.

(4). A statement of probable construction cost based upon areas, volumes, capacities, and other appropriate units. Provide a complete budget summary showing the breakdown of total available funds and all line item funds reflected in the design contract (see Section 6.3). It is recommended that this statement be organized in accordance with ASTM Standard E1557, Uniformat II, which defines a standard classification for building components and related sitework.

The designer efforts for the scope definition phase are normally based on a "time and material" fee, perhaps with a "not to exceed" amount set to allow the owner to set a limit on potential fees and expenses.

Once the scope is well defined and the owner has "bought into" the scope and budget, the project design can now proceed. (Although, at this point, owners with poor financial resources or those that began the project with no real understanding of what is involved can "opt out" without having spent a lot of money on design fees. The design professional, too, has been fairly compensated for the work done, even if the work now ends.)

Once the project scope and budget is defined, a second design agreement addresses the traditional design and construction phases (design development through construction administration) and these services are usually delivered on the basis of a fixed fee or fee based on a percentage of the construction cost.

This two-phase process has great advantages. First, the project scope, including cost and budget, are much better defined, reducing the risk of client dissatisfaction and a resulting claim.

Second, the design professional can accurately determine required efforts and fees are more fairly compensated for his services.

Another aspect that may trigger the need for additional designer fees is the project delivery method. Fees are normally established on the basis of design-bid-build project delivery. But, alternative delivery methods, particularly the *construction manager* or *construction manager at risk* methods, will increase the requirements imposed on designers. With these delivery methods, the construction manager will be involved in the project during the design stages. While his or her input can be very helpful to producing a cost-effective design, the design and analysis burden on the designer will increase above the level of a normal project. Some designers charge as much as 20% more for services under this delivery method.

The *design-build* delivery method has the opposite effect, typically design fees are reduced because the contractor will establish specific design criteria for the project and will not require the level of analysis or design detail as for a bid project.

The designer determining the fee required for a project is one thing, but justifying it to the owner may be something else again. Every owner, to some extent or the other, will want to hold design fees to a minimum. Therefore, the designer typically must justify his or her fee on two bases:

> 1. Cost of effort: A well-defined scope will allow the designer to determine the effort, in terms of staff manhours, subconsultant fees, meeting time, etc. to design the project, produce construction documents, and provide construction administration services. These data can be provided to the owner to show the anticipated effort that must be expended on behalf of the project, plus an allowance for a reasonable profit.

> 2. Value to the project: The design team brings expertise and experience to the project that will result in a project that meets the owner's goals and expectations, while at the same time reduces the delivery time and cost to as low a level as possible. Show the owner how this is to be done to demonstrate the team's value to the project.

4.6.3 Subconsultant Fees

Engineers, landscape architects, interior designers, etc. typically work as subconsultants to the architect on larger projects. Fee negotiations for these professionals are not with the owner, but with the architect client. Thus, two constraints are put on the subconsultant's fee…first the owner will always want to minimize design fees and the architect will want to maximize his or her profit.

> 1. Too often architects do not begin to involve subconsultants until the project is underway and the architect's fee has been established with the owner. Too often the architect, to get the job, has already agreed to a fee that is too low, leaving no room at all for subconsultants to be adequately compensated. To ensure his or her profit, then the architect will want to purchase subconsultant services as inexpensively as possible. Thus, the architect will select subconsultants mostly on the basis of a low fee.

> Subconsultants who accept commissions on the basis of low fees only have two choices…ultimately go out of business because there are no profits or survive by delivering reduced services commensurate with reduced fees.

Successful firms do neither! They negotiate a fee that is reasonable for the level of service required and to ensure that design and production quality can be maintained, or they walk. Successful firms do not work "on the cheap."

2. Once a subconsultant's fee is established, architects typically attempt to "discount" the fee by 15-25% to account for their assuming responsibility for owner communication, coordination, etc. on behalf of the subconsultant. Some will want to take over construction administration responsibilities with an even bigger fee cut...a sure path to a professional liability claim for the subconsultant.

In reality, while there may be some trade-off in responsibilities from the consultant to the architect, they are rarely significant and the fee reduction really amounts to the architect's profit percentage on a subcontract. The more reasonable range for this percentage is 5-10%.

Cutting the subconsultant's fee helps neither the subconsultant, the owner, nor the architect. The subconsultant must make a profit to stay in business. If the fee is cut to where his or her profits are eliminated, the subconsultant will simply perform fewer services, reducing his expenses to return to profitability. This can result in lack of coordination, failure to meet schedules, difficulty in getting the subconsultant to the jobsite during construction, and a host of other situations that will impact negatively on the project. Fortunately, there are enough successful architects that understand and appreciate the need for adequately paying their subconsultants…and the funny thing is that these are the most successful architectural firms!

5

GROWING THE BUSINESS

Axiom 5: Successful firms focus their resources to support growth…remember Axiom 1!

5.1 DEFINING AND REDEFINING THE PRACTICE

Every design firm is defined by two things…*what services are offered to which clients.* And, it must go even further to routinely reevaluate and modify the very type of firm it wishes to be in a changing, increasingly global economy.

During the 1950s and 1960s, design firms adopted the *utilization rate* business model…selling hours. This model no longer serves firms in today's economy and it actually pulls them into the downward spiral of *commoditization*…selling hours on a low bid basis.

The situation can be changed by understanding several key ideas and adopting some innovative approaches to working with clients and constantly reinventing the design practice, as follows:

> 1. In the boom period following World War II, design firms operated in relative independence with standard agreements allowing for adequate fees. The economic shocks of the 1970s and 1980's forced firms to tweak this model with additional business practices, including better marketing, strategic planning, and better financial and accounting systems.
>
> In the 1990's, the U.S. economy shifted radically from being capital-based to being knowledge-based. Project delivery methods changed, and design firms found themselves challenged by new competitors. Yet many firms stayed with the old, familiar business model and began to fall out of step. These are not successful firms.
>
> 2. A successful design practice is organized to optimize people and knowledge. These firms are learning organizations, have a strong sense of identity, are tolerant and decentralized with a diverse entrepreneurial staff, and use conservative financing, minimizing their debt to provide flexibility.

3. Successful firms create value, not sell hours. Increasing staff utilization, such as trying to get more "billable hours" out of each staff member, eventually saps the strength of the firm. Why? Because in order to maximize utilization rates, firms must give up the very activities that make them healthy and innovative: creative and reflective time, research and development, learning, coaching and mentoring. The successful firm builds its survival and prosperity on those very things.

4. Different types of work offer different opportunities for firms to engage in value creation. Three types of work illustrate this point:

- Type I work addresses a known problem with a known solution and little participation by the client…apartments and condos, chain restaurants, strip shopping centers, etc.

- Type II work addresses a known problem, the solution to which requires interaction with the client, and therefore leadership, facilitation and collaboration skills…educational facilities, healthcare, basic laboratories, etc.

- Type III work can be called "transformational." This work is highly complex: neither the problem nor the solution is yet understood. Clients need a trusted advisor, such as a design firm, to guide them through these new challenges that will require change and transformation as part of their solution. Some examples of this work include research facilities and high technology manufacturing (especially pharmaceuticals and crop sciences).

Successful design firms generally avoid Type I work since this represents design that is typically purchased on a commodity basis. Type II work, and even more so Type III work, provides great opportunity for the design firm to excel.

5. The advent of computer-aided design (especially the recent transitions to 3-D design techniques), wireless communication, and the Internet have spawned a boom in the invention of new business models for design firms. Successful design firms have generally embraced this move towards evolution and diversity. Less successful firms, by largely sticking with a single business model, look more and more alike — and like a simple commodity — to their clients. In nature, this lack of diversity is often the precursor of disaster — non-adaptable life forms often succumb to changes in the environment and the competition of more adaptable newcomers.

This holds true for design firms also. New species of management consulting firms, design-build companies, and foreign competitors have already eroded the design firm's traditional role. Design firms must move quickly to increase their diversity from one another, and adapt to their clients' needs to remain (or become) successful. An increased diversity of design firms can both survive and thrive in the new economy.

6. The evolutionary role of technology: Six major trends triggered by the growth of technology, particularly instant worldwide communications and access to information, are transforming the world of design firms:

- The economic shift from capital to knowledge that puts a greater value on human assets.

- The shift from a local, geographically-bounded area of operations to the relative ease of operating globally.

- The shift from having two options — a one-of-a-kind product or a mass-produced product — to the new option of mass customization, i.e. the ability to offer a great basic design and customize it for local conditions.

- The shift toward ever-greater segmentation and specialization of design services, and the reactive shift towards re-integration.

- The shift from a centralized, top-down management approach to a self-organizing, self-managing, collaborative approach.

- The shift from providing products and services via a single organization to providing them via a network or alliance.

7. Foundation for a new type of design firm: Breaking out of the old economic model means moving away from selling hours. Design firms can choose which business models and pricing strategies to use — perhaps modeling themselves after their clients. Are they capital-intensive or knowledge-intensive? Local or global? Integrated or segmented? Do they provide one-of-a-kind products, mass production or mass customization? Do they provide services alone or through a network/alliance? Are they centrally organized, self-organizing or using collaborative methods?

All of these strategies have different implications for design firm fee structures:

- Through the perception of the value being supplied, or value pricing.

- Through the perceived value of an ongoing collaborative relationship, or retainer pricing.

- Through owning and operating projects — an investment-based approach to receiving fair return for value.

No design firm, regardless of its success, can afford to ignore *benchmarking* if it wants to maintain or improve its competitive position. To remain competitive, a firm needs to be receptive to new ideas. Benchmarking provides a way to compare a firm's strategies with those of the industry's leaders.

Benchmarking simply means looking inside and outside your firm to evaluate common business functions and practices, often referred to as *metrics*. It is an ongoing analytical process of measuring the business practices of companies recognized as the best in the class for the purpose of improving your own firm. By comparing your firm's functions and practices with those of established firms, you can add to your overall problem-solving process and keep aware of the latest trends and state-of-the-art practices. You can also use benchmarking for strategic planning, forecasting, developing new ideas, and goal setting.

5.2 EXPANSION

Design firm expansion (another word for "growth") depends on essentially constant reevaluation of these two components. The following table defines a the service/client matrix in simple terms:

	Existing Clients	**New Clients**
Existing Services	**Penetration**	**Geographic Expansion**
New Services	**Diversification**	**New Business**

"Penetration" is, for newer firms, the direct route growth through marketing their current types of services to the types of clients they currently serve. Thus, an engineering firm that does water and sewer design for municipalities will simply offer these same services to additional municipalities in the same geographic area currently served. Expansion by penetration is limited and this form of growth is generally only available to smaller firms in their earlier stages. Ultimately, within any geographic area, there is a limit to the number of potential clients for any design service. This market may be limited further by the penetration of competing firms.

"Geographic expansion" means continuing to offer the same services, but adding new clients by marketing in new or expanded geographic areas. For example, an architect who does commercial building design in eastern North Carolina may expand by marketing to commercial developers in Asheville...maybe even opening a branch office (see Section 5.2.2).

"Diversification," sometimes called "vertical integration," means that a firm offers new services to its existing clients. For example, an architect doing office building design can add interior design to his or her services. A mechanical and electrical engineering firm marketing primarily to architects may expand into structural engineering, another service offered to architects.

Finally, by offering new services to new types of clients, a firm will be essentially starting a "new business"…a process that is sometimes called "horizontal integration." An example of this type of expansion is the engineering firm, long offering mechanical and electrical design to architects, that adds civil engineering capability marketed to developers, municipalities, etc. Another common form of horizontal integration is the design firm that expands into construction management or even contracting.

Every successful design firm constantly evaluates its service/client matrix and makes growth decisions based on that evaluation.

5.2.1 Expansion Paths

Internal expansion means growth by expanding an existing office…increasing staff, enlarging office space, adding resources, etc.

Internal expansion always raises the old chicken-and-egg question: which comes first, the staff or the work? Unless the firm is going into a new service or market area, *the answer is always "the work comes first"*…when the workload continues to grow, staffing must also increase. (An overworked staff will, over time, become demoralized and frustrated, introducing increased absenteeism and production errors.)

The plan for internal expansion will depend on the expansion route selected…increased penetration vs. diversification vs. geographic expansion, or some combination of any two or three.

Increased penetration is usually the first route selected. This simply means that the firm must find more clients to offer its existing services. If the firm markets primarily to hospitals or school districts, this will mean that a marketing program focused on <u>every</u> hospital or school district in the existing service area must be developed. And this program usually includes reliance on local knowledge and contacts. Ultimately, however, penetration is limited…every geographic area, no matter how small or large, has a finite number of potential clients and that will limit, or even cap, growth.

Another limit to penetration is staffing. With a fixed geographic area and focused "skill set" requirements for staff, the firm may not be able to hire staff commensurate with the increased business. An additional consideration may be buying or merging with another firm in the area (see Section 5.2.2).

Diversification is often the next expansion step…new services are offered to existing clients. For architects, this may mean offering interior design or landscape design. For a mechanical engineering firm, the next logical design service is electrical engineering. A firm that currently offers mechanical and electrical engineering can expand to offer structural engineering. A structural engineering firm can offer land planning and site development design. The combinations are almost infinite.

New design services will take some time, usually 1-2 years, to become profitable. To hold this "start-up" time and associated costs to a minimum, most firms find and hire a "rainmaker" with the expertise, experience, and contracts in the new service. This person is often the "Number 2" in another firm whose progress is being stymied. Giving this professional the opportunity to run his or her department, with ultimate firm ownership potential, can a very attractive alternative to the right person.

An alternative approach to diversification is to buy or merge with an existing established firm. (See Section 5.2.2 for a discussion of this topic.)

Expanding geographically is usually the last expansion step…requiring additional travel to market to the next hospital or school district. There is no limit to geographic expansion, but "firm efficiency" will ultimately limit the area that can be served from one location. To provide adequate client service without over-loading the staff, the maximum travel distance between the office and the client should not exceed 2-3 hours. If the firm is located in a large metropolitan area with a good airport and the clients are typically located near an airport, a geographic service radius 500-1000 miles is possible. However, if travel by car is required, the maximum geographic service radius decreases to about 150 miles…less if the roads are poor.

Geographic expansion beyond a travel time of 2-3 hours will require the opening of satellite or branch offices in order to provide quality client service. To expand into a new geographic area,

there are basically two options. The first is to rent office space in the new area and set up a new department or group, staffing it adequately with people having knowledge of the area, along with the required expertise and experience, implementing a marketing program with these people, and beginning to deliver design services. This option has several potential drawbacks…time, cost, staffing, and marketing success. *This option is really the same as starting a new business and, assuming it was successful, it still may be several years before the endeavor is profitable.*

The better option may be to acquire or merge with an existing firm with the required staff and clients. Short term, even if the firm is not profitable, it can at least be expected to pay its own way, eliminating a potential financial drain on the parent. Additionally, an existing firm can, if selected carefully, add synergy to the total organization. (See Section 5.2.2 for a discussion of this topic).

5.2.2 Acquisition or Merger

External expansion generally occurs through absorbing another firm through acquisition or merger. There are two basic options available to expand by offering new services to existing clients or to expand by offering your existing services to new clients in a new geographic area.

With increased penetration, the firm may become frustrated in its attempts to expand simply because it cannot find the appropriate staff hire to support its growth. A way around this problem is to find a firm that has good staff, is not too big, and buy it. *But, the key is to find a firm with a client base that is really of little or no interest to the buying firm*. That way, within a relatively short time frame, the existing clients can be shed and the new staff reassigned to the more desirable clients and projects.

While not terribly common, this is certainly a way that successful, expanding design firms can acquire adequate staff without having to hire them one at a time. In some markets, finding adequate technical staff is a major and ongoing problem for design firms.

The more common rationale for merger or acquisition is to add a new service or to expand the firm geographically, requiring a new satellite or branch office.

For a merger or acquisition to be successful, trust must be established between the firms before the acquisition occurs, or at least very early on. This should be simple, right? But usually priority is given to the business end first. Financials are shared, valuations are made, and the highest management of the parties involved brokers most meetings. The principals, owners, and market sector leaders meet confidentially to discuss aspects of the deal, ownership, name changes, and the easing (sometimes) in or out of key persons. But, rarely is the rest of the staff engaged enough to offer a voice or possible solution to issues. Granted, some secrecy is necessary, but it leads to rumors "hitting the streets" before these deals are done. Think how awful it is when your staff finds out from outside the company that their firm is about to be acquired. But that is just a symptom: the issue is more about getting buy-in early on so that your staff will support the big idea rather than constantly trying to second guess you, or worse feel so threatened that all they can do is constantly look over their shoulder or leave.

With every merger or acquisition, the acquiring firm thinks they are assured of the core staff. That's a great assumption, but may not be realistic. The staff of an acquired firm does not have to stay if they are unhappy. They do not have to buy into a company line that they were not educated about or able to comment on. For a merger or acquisition to work, there should be a

process in place that addresses transition strategies. The first few years are critical to the success of these transactions and if firms do not address engaging the next level of leadership they are making a critical mistake.

One option that can be used to gauge the potential success of a merger or acquisition is for firms considering acquisition to test the waters by teaming on a prospective project. When firms team strategically they capitalize on the strengths of each firm. When firms are in an acquisition mode, the same should happen with additional criteria, so they can start to determine possibilities for success and discover areas to be addressed. Too often the merger or acquisition process forces firms into the defensive mode. Wouldn't a series of facilitated workshops, intra-office visits, and mingled teams go a long way before the deal is getting done? This rarely occurs. Think of the staff you wish to mentor as the foundation of this future firm. And while the deal is in process, think of the positive message you send when you actually ask the staff of both firms what they think. It may cost a bit more up front and take a little extra time, but it will be worth it in the end. Trust and honesty repay themselves.

Looking at successful design firms, merger and acquisition are options routinely used to support growth.

5.3 CONTROLLING EXPENSES

Growth requires profit for support. Profit, from Chapter 3, is defined as the excess of income over expenses. While income results from a number of different marketing and management activities, the level of expenses depends solely on the management skills of the firm's principals. *The successful firm controls expenses to ensure profits are there to fund growth*.

In most design practices, expenses fall into two major categories:

1. Direct expenses.

2. Indirect expenses.

Different firms may address these expenses differently, but the most common method is to consider expenses incurred on behalf of a project (design, production, construction administration, and follow-up) are *direct*. These are the sum of the project expenses and include staff salaries and benefits, travel, and out-of-pocket expenses.

Indirect expenses represent "office overhead" and generally includes the following:

1. Salaries and benefits for staff not directly involved in project work and that portion of all staff salaries and benefits expended in "non-project" efforts (such as training, general research, developing office standards, vacations and holidays, etc.)

2. Office rental or amortization, maintenance, utilities, etc.

3. Office equipment expenses.

4. Marketing expenses.

5. All other expense items not directly attributable to a specific project.

To control expenses, start with the big one: salaries and benefits. In most design firms this one item will represent 50%-80% of the total expenses incurred. The firms salary structure will be dictated by two things: the firm's organization, i.e. the number of professionals relative to the number of technical staff, and the salary levels required to attract and retain highly qualified people (*the only kind the successful firm hires*). Benefits must also be provided as required to attract and retain highly qualified people. *The key to cost control, then, is to ensure each individual's productivity*.

The measure of productivity most commonly used is ration of hours charged to projects to the total hours expended. (First, the staffing level must be commensurate with the workload so that the total hours expended is reasonable…not over 44-48 hours per week, on average. Most staffers will accept a 10-20% overtime requirement, but sustained levels higher than that will create serious morale and frustration problems.) The productive hours should range from about 50% for principals to 80% for technical and production staff members. Productivity by the professional staff should range from 65% to 75%, on average.

The principal(s) who manage(s) the firm should have monthly and year-to-date reports of the hours expended by each staff member. While there are often very valid reasons why productivity levels will vary from month to month, a consistently low level over several months requires investigation and, perhaps, intervention.

5.4 DELEGATING MANAGEMENT

The most difficult thing for a design professional who has started and grown his or her own firm is to delegate aspects of the firm management to employees or junior partners. The entrepreneurial professional generally does not handle delegation very well…they are simply too used to doing what they want to, when they want to.

But, *in successful firms, management delegation is the first step in decentralization and growth*. How does this happen?

As a firm grows, there are natural divisions within the firm that occur. First, there are the mundane, day-to-day management requirements…accounting, human resources, project management…that are far less interesting to entrepreneurial principals. The first step in delegating management typically lies in these areas.

As the firm continues to grow, the shear bulk of management issues will "turn off" an entrepreneurial principal. There is a widely recognized management truism that the largest group that truly accomplishes anything is 10 people. It just so happens that this is often the largest group that an entrepreneur can management directly…larger groups must be broken down into sub-groups of 10 or fewer individuals who, in turn, must have their own managers. This "bulk" management allocation is typical for design firms.

Most often, entrepreneurial principles will have an interest in only a few aspects of the company. For example, Frank Gehry is a designer and participates in the design decisions for <u>every</u> project that comes through his office. He participates in marketing efforts simply because new projects feed his design "jones." But, he has no interest in day-to-day project management, which is delegated to seasoned principals.

In some firms, the principal is interested primarily in marketing, leaving all of the production aspects to his or her partners or subordinates.

Successful firms find, usually by trial and error, how management delegation works for them. It is a function of the founding principal's interests, how successful they are in adding senior staff to the firm, and how well they deal with not having complete control of every element of the firm. Basically, management delegation requires that the firm shift from being an individual effort to a team effort.

But, only with the delegation of management responsibilities and development of a management team can growth occur and a firm become successful!

6

LIABILITY AND RISK MANAGEMENT

Axiom 6: Design produces potential liability, but successful firms manage to minimize their risk.

Design professionals are expected to do a good job...that is the basis upon which they are hired. *They rarely receive praise for their success, but will certainly receive criticism for their failure.* Often this criticism will extend to claims of damage and then to litigation. Architects and engineers must, to a significant extent, practice "defensive" design. And, the key to defensive design is understanding construction law, the need for risk management, and strict adherence to the "professional standard of care" required of designers.

Risk management is avoiding <u>undue</u> risk. All successful firms must take some risks since a firm that tries to avoid all risk will make no progress. But, successful firms do not make the same mistake twice. This chapter focuses on common professional risks faced by design professionals and how successful firms deal with them.

6.1 QUALIFYING THE OWNER

As a result of its marketing efforts, a typical design firm may learn of a new project. The project is just the firm's cup of tea, but the clients are unknown to the designer. Before further "selling" efforts are mounted, and certainly before a design agreement is signed, the designer must "qualify" the client to help ensure that, down the road, this won't turn out to be the "client from hell."

The first, and most critical, need is to evaluate the client's financial resources. A client with limited resources, particularly one with extravagant expectations, may not be able to withstand the shocks of added costs generated by design changes, delays, claims, or other circumstances that will increase the ultimate contract price. Clients with limited resources will be more inclined to abandon a project before construction begins. If construction does begin, the client may be quicker to point at the design professional, and others, if the project does not go as expected. Clients with limited resources often begin to feel that design fees are not worth it and designer payments are delayed or even canceled…usually on the basis of trumped-up claims against the designer.

There are several ways of obtaining client financial information, but the simplest approach with private owners is to ask for a bank reference. Failing that, the designer may ask for financial statements from the principals. If a potential client refuses to provide this information, this is a client that should be avoided.

Public clients are easier to qualify simply because the financial information about them and their project is typically public information. An hour or two of research should provide all the information necessary to determine the funding status of the proposed project.

For subconsultants (engineers, geotechnical consultants, specialty consultants), the client is not the owner but the prime consultant. Failure of the prime consultant to exercise due diligence relative to the owner's financial resources does not relieve the subconsultant of the need to perform that evaluation. And, the subconsultant must go one step further to evaluate the financial condition of his or her client, the prime professional. The design profession is full of accounts of prime professionals collecting fees from owners and then being unable or unwilling to pay the subconsultants.

Any designer who takes a commission, performs design work on it, invoices for the work performed, and then finds that the client cannot or will not pay is simply stupid! The proper homework was not done and the designer has no one to blame but himself.

The second client-qualifying criterion is the potential client's experience in design and construction. An inexperienced client is much more likely to make claims simply because it doesn't realize and understand the uncertainties inherent in construction and the likelihood that adjustments will be made.

Inexperienced clients have greater difficulty defining their requirements and evaluating preliminary design documents that illustrate these requirements. Then, during construction when the client begins to really see the results, the results may not be satisfactory because that don't really reflect expectations. A more common problem, as described in Chapter 7, is "scope creep." Inexperienced clients, as they see the project under construction, begin to change or add to the scope. And, when changes and cost increases result, the client becomes unhappy, typically blaming the designer for the problems.

Certain types of projects are much more "claim prone" than others:

    1. Projects that involve new or novel materials, untested or complex building sub-systems, or novel construction techniques, which also includes "green" design projects.

    2. Projects that require "fast-track" design and construction.

    3. Projects that involve multiple phases and/or unusual construction sequencing, especially if there are significant time periods between phases.

    4. Projects with difficult or unusual site conditions…terrain, rock, soil, etc.

    5. Renovation projects that require continued operation of the facility during construction.

    6. Projects where the client is made up of multiple principals, especially condominiums and partnerships made up of professionals such as doctors, lawyers, accountants, etc.

Aside from the hydra complex these clients have, the whole project may fall apart due to a disagreement between the principals.

7. Projects that are required to be constructed using the "multi-prime" contracting system.

8. "Green" or sustainable design projects (see Section 6.10).

The design professional must recognize that each of these types of projects represents increased risk and that this increased risk must be carefully managed. One author suggests that designers develop a point system for evaluating owner and project factors. For specific client and project, if these points reach a certain level, the project should not be undertaken without careful consideration of the additional risks and addressing those risks through allocation clauses in the designer agreement. If the point count becomes too great, the project commission should be refused.

6.2 DEFINING PROJECT COSTS

In Chapter 5, we discussed the need for the design team to accurately define the project scope and cost in order to establish fair and profitable design fees. The "costing" aspect of that process is particularly important since it introduce serious risks and liability issues.

Design professionals are not contractors and do not deal with construction pricing on a daily basis. Consequently, the accuracy of estimates prepared by design professionals is often disappointing when compared to actual bid or negotiated project prices. Designers typically try to avoid being held responsible for the accuracy of their cost estimates (even to the point of calling them "opinions of probable cost" instead of estimates). Unfortunately, juries and judges will often take different perspective and want to hold the designer accountable for cost overruns…after all as a professional, the designer ought to be capable of providing such a basic service as telling the owner, with some accuracy, how much the project will cost!

Although a cost estimate usually is simply an opinion and not a guarantee, it can be a factual representation by the design professional. (This may be the reason that in 1987, the AIA changed from "a statement of probable construction cost" to "a preliminary cost estimate", which in 1997 was changed again to "a preliminary estimate of the Cost of the Work"). If it is sufficiently certain to be relied on reasonably by the client, an inaccurate estimate is a misrepresentation by the design professional. One court held that a cost prediction could constitute an intentional misrepresentation if it was guaranteed or *if the client relied on the architect's opinion as an expert.*

An innocent misrepresentation relative to cost made before the design contract is executed may allow rescission of the contract when later brought to light. Under this condition, the design professional cannot recover for services and must repay any amounts received. (If the client used the design, the design professional can recover in restitution based on unjust enrichment.) However, if the representation was negligently made, the client would have a claim for damages.

Cost as a condition of the design contract is created by either the owner requiring it or when the designer guarantees the designer's cost estimate. Even if an estimate is not a guarantee, or even if a cost condition is not created, there can be other cost-related obligations imposed on the designer. For example, one court held that the engineer who designed a water slide was li-

able for damages despite a contractual provision stating that the engineer was simply giving opinions to be used only as a guide. The court concluded that the engineer had breached the contract "not by giving an inaccurate initial estimate, but by failing to employ a professional estimator, failing to look at other water slides, failing to advise the owners about other contractual possibilities, and failing to provide revised cost estimates."

When a cost condition is created, resulting disputes generally involve the client claiming an express agreement based on a cost agreed to or set forth in the contract under which it could abandon the project and nor pay a fee. However, a cost condition can be created by *implication* when there is specific agreement as to the effect of inaccurate cost predictions.

Creating a cost condition does not necessarily mean the design professional promises to fulfill it. Design professionals can risk their fees on the accuracy of the cost prediction, although they may not wish to be responsible for losses caused by nonperformance.

Courts seem to assume, however, that a fixed-cost limit constitutes a promise by the design professional that the project would cost no more than the designated amount. Under this assumption, if costs substantially exceed predicted costs, the design professional has breached even though he or she has lived up to the professional standard in making cost predictions. The breach entitles the client to recover foreseeable losses caused by the breach that could not have been reasonably avoided.

Design professionals do not operate in the dark…they generally know what funds are available and are aware of the low probability of obtaining additional funds. Thus, any cost estimate or project budget may be "hard" and, in such a case, a cost condition may be created despite the absence of an express agreement under which this risk is taken.

Evidence that bears on the "softness" or "hardness" of any projected costs discussed between the design professional and the client, or expressed in their agreement, is crucial. This evidence, such as labeling the amounts as merely an estimate or using a cost range, may indicate that the amount or range specified is what is hoped for rather than a fixed-cost limitation.

Where the amount is "soft," design professionals are being exhorted to use their professional skill to bring the project in for the amount specified. Where the amount is "hard," the client may be informing the design professional that the latter is risking the project and the fee on ability to accomplish this objective.

In 1997, the AIA revised its treatment of cost predictions in B141, a change that has been retained in the 2007 version of the document. It linked the owner's budget with preliminary cost estimates furnished by the architect. Now the owner must specify its budget for the project and the cost of the work at the time the architect is engaged and must keep the budget current as the architect works. Further, the owner may not change the budget or contingencies "without the agreement of the Architect to a corresponding change in the Project scope or quality." Then, if the budget is exceeded by the lowest bona fide bid or negotiated proposal, the owner must take one of the following steps:

1. Approve an increase in the project budget.

2. Authorized rebidding or renegotiating.

3. Terminate the designer, paying for work performed and termination expenses, and abandon the project.

4. Cooperate in project revision to reduce cost.

This still does not relieve the designer from the risk from negligent cost predictions. In many cases where the cost estimate is wide of the mark, it is likely that a design professional will be judged as not living up to the professional standard of performance. If the client does show that the design professional has been negligent in preparing the cost estimates, it is not necessary to establish that a cost condition has been created. It is implied that the design professional will perform in accordance with the standards of the profession. If the professional does not do so, and if the project is abandoned, the client can recover any fees paid and need not pay any additional fees.

The risk by consultants to the prime design professional must also be considered. Should the consultant bear the risk that the prime design professional will not be paid by the client? Although nonpayment can result from many causes, often this occurs when a project is abandoned because of excessive costs. The engineering profession argues that consultants generally do not take this risk. It notes that the prime design professional selects the client and has the best opportunity to evaluate its capacity to pay. However, the AIA contends that a long-term relationship frequently exists between prime design professionals and consultants that resemble a partnership even, if nor cast in legal terms. It believes that under such conditions, the risk of nonpayment should be shared. Engineers should carefully address this problem in their agreements.

Designers cannot avoid providing "opinions of probable cost" and owners want these opinions to be at least reasonably accurate, say within 10% or less, a fairly typical range for bids on projects and a value supported by many courts. So how do designers meet this requirement?

First, if the firm is too small to maintain in-house cost estimators, the designer will need to find a resource to provide this service. One approach is to give the schematic design documents to two or three reputable (and friendly) contractors for pricing. This may work on smaller projects, but ultimately there are two problems with this approach: the designer has no control over the quality of the estimate prepared by the contractor and, after providing free cost estimating for several projects, any contractor will begin to feel imposed upon.

A better approach is for the designer to retain the services of a reputable quantity surveyor and cost estimating service, familiar with providing cost estimates based on schematic level documents. This service needs to know enough to include costing for the elements that are not shown, or least shown only schematically, in these preliminary design documents.

Once the construction cost estimate, including anticipated markups for contractor overhead and profit, is complete, the design professional may need to add several additional cost items to develop the final project budget:

1. Due to the limitations of schematic documents, the accuracy of the estimate itself is somewhat problematic. Therefore, a certain "uncertainty factor" or contingency must be added to the basic cost estimate. Normally, a factor of 15% is considered reasonable at this stage.

2. "Condition factors" must be added to the cost. Is the project to be fast-tracked or have other time constraints? Is the site very tight, allowing little or no area for staging? Is the building greater than three stories? Are there local noise ordinances that would

limit working hours? There are a myriad of conditions that will affect the contractors' performance and cost, on every project. The design professional must evaluate each of these factors.

3. Is any aspect of the design so new or innovative that contractors will not be familiar with it? If so, add an appropriate "learning curve" cost since contractors, when in doubt, will "throw money" at the project.

4. Will the contracting method include multiple prime contractors? While the owner may avoid some profit markups, costs will increase for coordination and "expediting" by the lead prime. (Designers may want to include additional costs for construction administration for themselves, also.)

5. Is the project predominately new work, a mix of new work and renovation, or predominately renovation? The greater the amount of renovation, the greater the general conditions cost for the contractors.

6. Will there be a need for temporary facilities during construction? If so, what will be the scope and cost?

7. Will relocation expenses be included in the project budget or addressed separately by the owner?

Once the project budget is established, the design professional must now implement a *cost management plan*. As the design phase proceeds, the design professional must routinely evaluate every design decision on the budget and to rigidly control budget "creep." Detailed construction cost estimates are again required upon completion of both the design development and construction documents.

During the design phase, also, the owner must be managed to prevent modification or expansion of the scope without the appropriate modification or expansion of the project budget (not to mention design fee).

At the end of design, an appropriate allowance or contingency fund must be agreed upon by the owner to fund unanticipated changes during construction…2-4% of the budget is generally considered reasonable (after all, who can fault being 96-98% accurate?).

Finally, during construction, proposed changes by the designer, the owner, and/or the contractors must be carefully evaluated and managed to prevent "blowing the budget."

With or without a cost condition applying to the project, what is to be done when there is a cost overrun? Most designer agreements place the burden on the owner and designer to cooperate in modifying the scope and/or quality of the work to reduce costs. Often, at this point, the contractor will propose "value engineering" in order to reduce costs without significantly reducing the scope of the project. However, except for design-build or construction manager at-risk projects, the contractor has participated in neither the project scope definition nor in the design phases of the project. He or she has no real knowledge of the owner's requirements and desires that form the project scope and basis of design. Therefore, his or her recommended cost-cutting changes to project elements can have significant, undesirable consequences that may not be immediately evident to the designer or owner. There is too much risk here that adoption of contractor-recommended changes may reduce costs, but in the end result in a

dissatisfied owner, who may blame the designer for not fully evaluating the impact of the contractor's recommendations. *Designers should never consider contractor-based value engineering as a realistic approach to reducing the project cost!*

To reduce costs through an informed and cooperative effort of both the owner and designer requires a return to the scope definition methods. First, a cost breakdown can be requested from the contractor in order to determine more specifically where the actual costs differ from the predicted costs. Once the specific items, components, elements, or systems driving the cost overrun are identified, each can reevaluated by both the owner and designer to determine if corresponding scope or quality decisions made earlier can be modified to reduced cost.

The only drawback to this process is that the evaluation and redesign efforts required of the designer will probably be provided without fee.

It is obvious that the project scope, which also includes project quality, defines the cost of the construction. Likewise, the project scope defines the required construction period. These three variables…scope, cost, and time…form a "triangle" that must be balanced. Of these three variables, the owner may control any two. A required scope and required time of completion will dictate cost. If scope and cost are critical, the time of completion must be extended. If time and cost are of essence, the scope must be reduced. *Every owner needs to be made fully aware of this relationship and how owner decisions affect it!*

6.3 DEFINING DESIGNER SERVICES AND PERFORMANCE

After defining the project scope and budget, the next step is to define the scope of designer services and the associated design fee(s).

A scope of services that merely attempts to avoid obligations without defining what is to be done is more likely to create a dispute than to avoid it. *A detailed scope of services avoids ambiguity and creates a definite and clearly understood allocation of obligations in order to avoid disputes.*

The scope of services should be drafted with third parties in mind. In many cases third parties (and not the parties to the contract) will review and interpret the contract. Specificity is necessary to minimize the likelihood that third parties can expand your duties by reference to custom and practice. In particular, address typical problem areas - shop drawings, design/build, cost estimates, hazardous substances, certifications, site visits and ownership of documents.

The following questions should be asked by the design professional when developing or reviewing the intended scope of services:

> 1. Are all services that you intend to render clearly set forth in the scope of services and do you intend to render all services set forth in the scope of services? Architects may use AIA checklists to help ensure that all needed services are included. Engineers and other subconsultants should, based on past experience, create comprehensive service checklists for use in developing each project specific scope of services.

> 2. Does the scope of services address areas that are new to you? While new areas of design may be exciting and interesting, make sure you have the expertise available, either in-house or through the use of consultants, to meet expectations.

3. Has enough time and money been allocated to a particular task? Shop drawing review, site visits, and other construction administration services are usually undervalued in relation to the potential for liability.

4. Have you defined the circumstances under which you are entitled to additional compensation?

5. Are the terms consistent with the terms of any specifications or product references that are incorporated by reference? Frequently, industry specifications and standards are incorporated by reference without a full understanding of what is contained in the most current edition. Particularly, with regard to a designer's obligation to conduct reviews and issue approvals, the incorporation of a third-party standard can dramatically alter the designer's obligations. Concern in this area can be addressed with a provision in the design agreement, as follows:

"Nothing contained in any standard specification, manual or code shall operate to alter, modify or expand the duties and responsibilities of the Owner, Contractor or Designer or any of their consultants, agents or employees from those set forth in the contract documents."

6. Are the terms consistent with the terms of other documents-construction contract, specifications including general conditions?

The contract negotiation process provides an opportunity to set the client-design professional relationship on a firm and productive course. Both parties must have a full appreciation of the issues involved in the negotiation process, their interrelationships, and relative importance to the end result, the project. Designers cannot simply prepare a contract, send it to the client for signature, and expect that the client understand fully the terms and conditions of the agreement. (Remember, in the event of dispute, courts will tend to favor the "amateur" owner over the "professional" designer.) The designer must take the time to sit down with the client, discuss each clause of the proposed contract, and negotiate in good faith to arrive at agreement.

Design professionals typically encounter five generic types of professional services contracts: oral agreements, letter agreements, purchase orders, standard form agreements developed by professional associations (often with extensive modifications), and custom agreements.

Oral agreements should be avoided. When problems occur during design or construction, the parties will rarely remember the terms of the agreement the same way, which almost invariably leads to a dispute.

Likewise, purchase orders are inappropriate for contracting for designer services and should never be used with architectural or engineering agreements. Purchase orders are designed for the procurement of materials and/or general business services. These forms typically call for extensive warranties and certifications and would have the designer assume liability for product defects. Even more of a problem is that purchase orders do not contain serious, important provisions that should be in any design agreement.

Letter agreements are often used for projects that can be very narrowly defined, such as studies, investigations, property surveys, etc. However, every letter agreement may leave out some important provision that ought to be there. To address this problem, the professional

associations have developed *short form* agreements that can be used for limited scope projects and which are appropriate for the services to be rendered for such projects.

Custom agreements drafted by the prospective client present the greatest danger. While such agreements are often developed because of the unique nature of a project or because of events that occur in the normal course of dealing with the client, the use of custom contracts may be driven by the client's intent to establish an unbalanced contractual relationship. These agreements are almost never fair to the designer.

The best type of agreement to use is one of the standard form agreements prepared by the professional associations, either the AIA or the Engineers Joint Contract Documents Committee (EJCDC). Because of its long history of use and the huge quantities of case law developed around it, the AIA agreement form is most commonly recommended. Although these association forms are designed to be used in their original form, all standard forms of agreement can and should be modified to fit the circumstances of a particular project, the client's needs, and the needs of the designer.

Some contract clauses are so important to the designer that, despite the best possible negotiation attempts, when the client will not agree to include them the designer must forego the project or accept undue and uninsurable risk. These "deal breaker" terms include the following:

1. The owner retains the right to assign the contract to others without the designers consent.

2. The owner requires warranties, guarantees, and or certifications by the designer.

3. The owner requires that he or she be indemnified by the designer, not just for designer negligence, but also from all possible claims.

4. The owner requires unreasonable or unobtainable levels of professional liability or other types of insurance.

5. The contract calls for the designer to assume responsibility for construction means and methods, techniques, sequence or procedures, or safety precautions and programs.

6. The owner requires the designer to be responsible for consequential or liquidated damages, not simply actual damages.

7. The contract requires the designer to assume responsibility for issuing stop work orders in lieu of simply rejecting portions of the work and advising the owner as whether a stop work order is justified.

Every designer agreement, prior to being signed, should be reviewed by both parties' lawyers *who are qualified in construction law*. Any points raised by the attorney's can then be resolved, preventing unexpected legal complications down the road.

6.4 PROFESSIONAL STANDARD OF CARE

Architects and engineers generally do their utmost to carry out faithfully the terms and conditions of the professional service agreements entered into. Designers all strive to do their

very best professional work, but occasionally the physical or administrative results perceived by clients are not completely acceptable. They may feel that their designer has not been sufficiently diligent or has performed some part of his or her duties at a substandard level. The project may have exceeded the client's budgetary or completion time expectations. There may be defects in the finished product for which the client would seek to hold the financially responsible.

Designers can be held negligent if they are not reasonably competent or have failed to exercise due care under the circumstances. This means that designers must possess the requisite skills for the projects undertaken and should conduct all professional activities with due diligence and reasonable care. *The common law definition of professional standard of care requires the designers to conduct themselves in the same or superior manner as the average of other similar design professionals practicing in the same community, under the same circumstances*. Many courts have ruled that services of experts (including design professionals) are sought because of their special skill. They have a duty to exercises the ordinary skill and competence of members of their profession, and a failure to discharge that duty will subject them to liability for negligence. On the other hand, those who hire such persons are not justified in expecting infallibility, but can expect only reasonable care and competence…they purchased service, not insurance.

The design professional must exercise the due care expected by the profession at each stage of their work, such as in the preparation of drawings and specifications, overseeing the bidding process, reviewing shop drawings, equipment cut sheets, contractor payment requests, and observing the work to guard the owner against defects in the construction.

While a design professional can hire others to assist him, he cannot delegate away his responsibility to see that the work he has taken on is carried out with due care. The presumption is that, if an architect is licensed and registered, he has the capability of planning a building and supervising its construction in accordance with his plans. Consequently, if he undertakes a project, he alone will be held responsible therefore. If he delegates any part of his duties, he does so at his peril (yet, this is common practice for many architects and even some engineering consultants!).

A design professional cannot defend against an owner's claims by using the excuse that he was relying upon the information or work provided to him by an employee or a consultant. Thus, while an architect or engineer who has relied on a consulting specialist may attempt to pass the liability down the line by invoking the indemnity clause of the consultant's contract, from the perspective of the owner who hires him, the design professional's duty remains non-delegable.

What does the term *community* in the standard of care definition mean? First, there is a national consideration. Since there are large design firms providing services for projects throughout the country, the performance of these firms can be used as a standard against which any design firm can be judges. However, in some regional localities, standard practices vary in significant aspects from other areas. For example, the location of the wall vapor retarder varies from northern colder climate areas to southern hot, humid climate areas. Laws and building codes vary from state to state (in some states, even from city to city). The designer can be adjudged negligent if he or she fails to follow local standard practices.

There are numerous ways in which a design professional can build awareness of the standard of care (simultaneous with enhancing professional skills):

1. Subscribe to and read the professional press including the national architectural, engineering, and construction magazines as well as the regional and local publications.

2. Review the latest manufacturers' literature. Often this will be found in your daily "junk mail." Regularly meet with sales representatives, vendors, contractors, trade subcontractors, etc. to review new products and procedures.

3. Associate with others in the profession by joining and becoming active in professional societies such as AIA, NSPE, and CSI, and is most effective when you participate in the activities of interesting committees.

4. Attend seminars, workshops, and other continuing education offerings. It is helpful to establish in-house program, such as "lunch and learn" sessions wherein outside speakers are brought in to share lunch and their knowledge.

5. Examine other designers' work and review their construction documents whenever possible. Participate in peer review programs, both as reviewer and reviewee, wherever they are offered.

6. Teach courses, give talks, and write articles whenever the opportunity arises. Preparation and study for giving a talk will be far more educational for the instructor than it will be for the audience.

All of these diverse activities will give a general overview of the ways in which other design professionals think, approach their assignments, and conduct their practices. It will also present opportunities to consult with fellow professionals on practice problems and to discuss subjects of mutual interest.

It is extremely important that design professionals keep themselves aware of new developments in construction technology as they occur. This is particularly true of recent discoveries of unsatisfactory materials or processes. Designers will usually be found negligent if they continue specifying materials or procedures that have been proven harmful or unsuccessful. (This was the case with asbestos products and polychlorinated biphenyl (PCB), using EFIS applied over wood substrate, etc.)

Some newly developed materials and procedures have not been in use sufficiently long enough to know how effectively they will perform over an extended period of time. Design professionals are not expected to conduct physical testing programs in the laboratory or field. However, they are required to be aware of the physical and engineering properties of the materials and processes that they specify and they must properly apply the generally accepted principles of proper construction design. They are also required to keep informed of new technological developments as the information becomes generally available in the technical literature.

Innovation is often considered desirable. But if the new material, new use of an old material, or a new process fails to perform as anticipated, the specifying professional could be found negligent. To limit this possibility, it is necessary to do the appropriate investigation and obtain the informed consent of your client when pioneering in new areas. The same principles apply to use of inexperienced or contractors, suppliers, or consultants who have not been recommended by reliable parties.

Another form of innovation is in the area of contract document presentation or contract administration procedures. For example, if a new method or format of notation or dimensioning is used, any losses attributed to failure of communication could be charged to the author. Novel, experimental, or unique procedures that fail in some way could be held to be a deviation from the architectural standard of care.

Another concern is failure to stay abreast of ever-changing building codes and design standards. Failure to comply with these codes and standards could be considered as negligence on the part of a designer.

It is common practice for design professionals to check their own work and the work of their consultants. They review the drawings, specifications, and bidding documents for compliance with clients' instructions and program and the building code, proper use of materials, and correct application of construction techniques and processes. They also check for coordination within the documents and for carrying out the recommendations of expert consult-ants such as soils engineers and land surveyors. Designers who do not utilize normal checking procedures are not meeting the standard of care.

Perhaps out of frustration with the common law principles that define the standard of care for design professionals, some building owners (or least their attorneys) seek, by contract, to change the standard of care to make design professionals responsible for all mistakes relative to a project, regardless of whether there was negligence or who's negligence it was. An example of a clause raising the standard of care to an unacceptable level is as follows: *"Consultant represents that its services will be performed in a manner consistent with the highest standards of care, diligence and skill exercised by nationally recognized consulting firms for similar services."*

Several problems with this clause are readily apparent, including:

> 1. The "highest standard" is an unknown. Unlike the common law standard of care which can be determined from reference to code books, customs in the practice, and peers in the area for similar projects, no designer may not know the "highest standard" (until litigation is pursued and testimony is presented in court). "Highest standard" is an ambiguous term having no well-defined meaning.

> 2. The owners who put this language in their contracts don't generally expect their designer to "gold plate" the design as might be required to truly design to some ambiguous "highest standard of care." And they certainly do not want to pay for such over design. Ironically, it seems that the clients who insist on this standard are generally also tight on the budget and hard to get along with. They demand the best possible service for the lowest possible price. *With unreasonable expectations come discontent and litigation.*

> 3. By agreeing to this "highest standard," a design professional may subject itself to liability for breach of contract even though there was no negligence on its part. Professional liability insurance policies typically will not cover such damages. (Coverage is eliminated by the "contractual liability" and/or by the "warranty" exclusion clauses of the policy.)

4. Agreeing to the "highest standard" may be viewed by some clients and courts as constituting an express warranty or guarantee. Again, these are specifically excluded from coverage by the language of all professional liability insurance policies.

When confronted with the "highest standard" problem, the designer must explain to the potential client that when they change the standard of care, they also create uninsurable risks and problems for themselves in trying to recover under a professional liability insurance policy. Clients generally understand that they are dependent upon the designer's insurance policy since design professionals don't typically have other substantial assets. Since the language of this clause creates an uninsurable risk, the client has gained nothing by it and may, in fact, create an unnecessary dispute over coverage.

If this negotiation fails, do not sign the contract…run, do not walk, to the nearest exit and leave this potential client to someone else!

Strict liability is the standard applied to most commercial activities and is defined as "liability that does not depend on actual negligence or intent to harm, but is based on the breach of an absolute duty to make something safe." Most commonly applied where the use of a product causes injury or death, most jurisdictions do not impose a strict liability or warranty standard on design professionals. More recently, a minority view has emerged in some courts, however, holding the design professional to an outcome standard that requires the design professional to achieve the understood expectations of the client. For this reason, *disclaimer of warranty* language in the designer agreement is crucial.

And, environmental design professionals have a special concern about potential liability under the environmental liability of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or "Superfund"), since numerous courts have imposed strict liability on design professionals for environmental impairment resulting from their services. In one case, an engineer was held to be subject to strict liability as an "arranger" for disposal of hazardous waste on the basis of having provided a site owner with the names of several licensed disposal facilities as options for disposing of wastes removed from the site during cleanup activities.

6.5 NEGLIGENCE AND THE TORT SYSTEM

A *tort* is a civil wrong that is not based on a contract and the most common tort that designers face is that of *negligence*: the failure to exercise the required *standard of care*.
The concept of negligence is founded upon the idea that a duty is owed from one person to another and a breach of that duty causes injury or damage to another party.

There are four essential elements to any tort claim:

1. The defendant owed a duty to the plaintiff to conform to a certain standard of conduct in order to protect the plaintiff against unreasonable risk of harm.

2. The defendant did not conform to the standard required, a breach of the duty owed.

3. The breach of duty must have been a *proximate* cause of the damage to the plaintiff. Proximate means "immediate to, contiguous, touching, or direct." A proximate cause of an event is one that is *reasonably foreseeable*.

4. The defendant invaded a legally protected interest of the plaintiff.

The standard of conduct normally applied is the *community standard*, which requires that the defendant do what the reasonable person of ordinary prudence would have done. But, an exception to this rule applies to persons who, because of their special training or innate skill, are expected to do better than the average person. Design professionals certainly fall within this category (see Chapter 3 for further discussion).

The concept of duty, when applied to designers, is well established. For example, design professionals will normally be required to provide information as part of their professional services. Often, parties other than the owner, who retains the designer, will use this information and may suffer losses if the information is incorrect. These third parties, then, will attempt to recover from the designer on the basis that the designer breached his duty to provide correct information.

Designers will often be named as a defendant in the event of the injury or death of a worker, an employee of a contractor, subcontractor, or even sub-subcontractor, on the jobsite. While almost all construction contracts allocate the responsibility of jobsite safety to the contractor (see Chapter 6), the injured worker may allege that the designer owed him a duty to ensure that the contractor met his contractual responsibilities to provide a safe workplace.

The potential for tort claims against designers is almost limitless.

6.6 SUBCONSULTANT AGREEMENTS

Subconsultants…engineers, interior designers, landscape architects…often serve as "second tier" members of the design team, working for the architect, who has the role of prime designer. Sometimes this role is reversed when a large engineering project requires some architectural design. No matter what the type of project, or who is prime designer, subconsultants always are "second fiddle" to the prime designer; they have a functional and professional relationship with the owner, but do not have a contractual relationship.

The subconsultant's client is the prime designer, not the owner. This can be the source of much conflict if the prime designer does not meet his or her obligations, especially if related to the payment of fees. The subconsultant and the prime designer may develop a dislike for each other as the project proceeds, something that is not so uncommon where designers have never worked together before. Conflict between members of the design team can spill over into problems with project and, ultimately, claims by the owner.

Each subconsultant is typically required, as part of his or her agreement with the prime designer, to accept and agree to meet the requirements of the prime designer's agreement with the owner. Since the subconsultant typically has no role in the negotiation of this "master agreement," the subconsultant must carefully review the agreement between the prime designer and the owner in light of previous discussions in this chapter. Terms and conditions that are not acceptable must be addressed in the agreement between the subconsultant and the prime designer.

The prime designer may try to force its poor business and risk management practices onto the subconsultants. This is something that no subconsultant should agree to! If terms and conditions of the agreement between the prime designer and owner are unacceptable and the

prime designer is unwilling to modify them in the subconsultant's agreement, the subconsultant should take a pass on the project

Even when the prime consultant does a creditable job in negotiating fair terms and conditions with the owner, there remain certain concerns for the subconsultant:

1. The subconsultant must make sure that the agreement with the prime designer ensures that he or she will be paid regardless of the prime consultant receiving payment from the owner…avoid any "pay-when-paid" clause that may be proposed. First, the pay-when-paid clause is simply a bad business practice, placing the subconsultant in the position of assuming a risk that he or she should not. And, the subconsultant can become a victim, through no fault of he or her own, of some service and payment dispute that may develop between the prime designer and the owner. The agreement should contain invoicing and payment specifics, along with additional language to require payment regardless of payment by the owner.

2. No subconsultant wants to be a party to a claim against the prime designer. This is one place where an indemnity clause would be helpful. However, since the prime designer will rarely agree to a unilateral indemnity, a reasonable and insurable bilateral indemnity can be created by each party agreeing to, within the fullest extent permitted by law, to indemnify and hold each other harmless from any and all damages, liabilities, or costs, including reasonable attorneys' fees and defense costs, arising from their own negligent acts, errors, or omissions in the performance of their services under this Agreement, to the extent that each party is responsible for such damages, liabilities, or costs on a comparative basis of fault.

3. Require that the prime designer maintain and furnish proof of appropriate insurance by requiring, in the agreement, that certificates of insurance be provided to the subconsultant when submitted to the owner.

4. The dispute resolution clause of the agreement with the prime designer should not provide for arbitration. Language can be very similar to that recommended for use with an owner, as follows:

"In the event of a dispute between the Subconsultant and the Consultant arising out of or relating to this Agreement or the Project, the Sub-consultant and the Consultant agree to resolve such disputes in the following manner:

"First, the parties agree to attempt to resolve such disputes through direct negotiations between the appropriate representatives of each party.

"Second, if such negotiations are not fully successful, the parties agree to attempt to resolve any remaining dispute by formal nonbinding mediation conducted in accordance with rules and procedures as agreed upon by the parties.

"Third, the parties agree that only if the dispute or any issues remain unresolved after mediation may either party institute legal action against the other."

6.7 LITIGATION: THE LAW AND OUR LEGAL SYSTEM

When there is a dispute between any or all of the contract parties, obviously the first step toward resolving the dispute is to attempt to discuss the problem in a calm, rationale manner and to negotiate a settlement between the parties. If that fails, however, often the next step is *litigation*, a civil complaint brought by one or more parties against one or more other parties asking the court to determine the proper allocation of blame and compensation due to damaged party or parties. To understand litigation, it is first necessary to understand how the law and our legal system function.

Law is created two ways: *statutory* laws are the specific legal codes enacted by government, while *case law* represent specific interpretations by the courts of statutory law when applied to a specific set of conditions. Trial courts cannot make case law since the role of the trial court is to simply render a verdict in a civil action. However, higher courts make case law as they review and interpret the law as applied at the trial court level.

Anyone related to a specific construction project can, typically, bring suit against anyone else involved in the same project if he or she has experienced loss (*damages*) as the result of another party's action or failure to act. The typical construction lawsuit is a civil lawsuit and the first step in the process is for the *plaintiff*, the person initiating the action, to file a *complaint* with the Clerk of the appropriate *trial court*.

In North Carolina, there are three levels of trial court:

> 1. Magistrate Court: A magistrate is a judicial officer of the District Court who handles certain criminal and civil matters. In criminal cases, a magistrate issues warrants and sets bail. A magistrate may also accept guilty pleas and payments of fines and costs for traffic violations and minor misdemeanors and, in some counties may conduct trials in certain worthless check cases. In civil cases, the magistrate presides over small claims court and is authorized to try small claims involving up to $4,000 in damages.

> 2. District Court: District Courts sit in the county seat of each county. It may also sit in certain other cities and towns, specifically authorized by the General Assembly. Civil cases involving less than $10,000 are heard in District Court (along with criminal cases involving misdemeanors and infractions).

> 3. Superior Court: Civil cases involving more than $10,000 (and all felony criminal cases and misdemeanor and infraction appeals from District Court) are tried in Superior Court. A jury of 12 hears the criminal cases, but in the civil cases, juries are often waived. Superior Court is divided into eight divisions and 46 districts across the state. Every six months, Superior Court judges rotate among the districts within their division. The rotation system helps avoid favoritism that might result from having a permanent judge in one district.

Designers are typically the *defendant* in civil claims and usually learn about the lawsuit by being "served" by a deputy sheriff or other process server with a copy of the complaint.

A complaint is a document filed with the court that asks the court for some sort of assistance. Typically, it alleges that actions, or the failure to act, by the defendant resulted in damages to the plaintiff. The damages do not have to be specified beyond the broad limits that will define the statutory limits for the trial court.

The complaint has important information in it. It defines when and where the defendant needs to appear and answer the lawsuit. The defendant does not need to actually appear in court on that date, but an *answer* needs to be filed in the specified court by the specified date. If an answer is not filed, the defendant, by default, admits to the important statements made by the plaintiff in the lawsuit and a *judgment* may be rendered against you (a "default judgment").

The answer is the defendant's chance to explain its side of the case to the Court. In the answer, the defendant should state whether he or she admits or denies the plaintiff's claims made in the complaint. The defendant also can include any explanation or defense it may have to the claims. The defendant should provide a current mailing address. A copy of the answer must be mailed to the plaintiff and all other parties involved in the lawsuit.

In an answer, the defendant may request a jury. The defendant also may file a *counter-claim*, *cross-claim* or a *third-party complaint*.

A counter-claim is a lawsuit against the plaintiff in the same case and is usually based on the same dispute or set of facts. If the defendant believes another defendant is responsible for the damages claimed by the plaintiff, then the defendant can file a lawsuit or cross-claim against the other defendant. A third-party complaint is a lawsuit against a party who has not been named in the lawsuit, but whom the defendant believes is responsible for the damages claimed by the plaintiff. When a third-party complaint is filed, additional parties are joined in the lawsuit and these additional parties are called *third-party defendants*.

Many different things can happen after the answer is filed. Typically, the parties (plaintiff and defendant) can request information about the lawsuit from each other:

> 1. Request for Disclosure: A party asks the other party for basic information about the other party's contentions and knowledge about the subject matter of the case. The other party must provide this information.
>
> 2. Interrogatories: Written questions may be sent to the other party asking for information about the case. They must be answered under oath or objected to.
>
> 3. Request for Admissions: Written statements may be sent to the other party that must be admitted or denied or objected to.
>
> 4. Requests for Production: A request for documents and physical records/things may be made. These must be responded to and the documents and things produced, unless objected to.
>
> 5. Depositions: This is where a person answers questions from the other party's lawyer under oath and before a court reporter. Depositions may be videotaped. They can also be used in court as evidence just as if the person were on the witness stand answering questions.

Interrogatories, requests for production, and depositions may also be used to get information from persons or companies that are not parties to the lawsuit.

Various *motions* may be filed during the lawsuit process. A motion is a request for a specified ruling or action by the court on behalf of one of the parties.

With today's crowded courts, the trial court judge will almost always order the parties to attempt to mediate their dispute (or the parties themselves may decide to do so voluntarily). Mediation is a " settlement conference" presided over by a trained mediator. It is not binding, but does frequently lead to a settlement of the lawsuit without having to proceed to trial. (See Section 6.9.1 for a more detailed discussion of mediation.)

If the lawsuit is not settled or otherwise disposed of, it will come to trial.

If a jury has been requested, the trial begins by selecting a jury. The lawyers (and sometimes the judge) will ask questions of a large group of potential jurors, a process called *voir dire* (literally, "to speak truthfully"), to identify those who cannot be fair or impartial and are remove them from the panel *for cause*. Additionally, each party can exclude a certain number of potential jurors from those remaining on the panel simply because they feel the prospective juror may not be receptive to their case.

Once the jury is empanelled, the lawyers then give an opening statement to the jury, explaining what each side plans to prove.

The plaintiff's lawyer then presents the plaintiff's evidence. Then, the defendant's lawyer presents the defendant's case. Evidence may be physical evidence, such as photographs, documents, etc., or may be witnesses testifying in court, depositions given prior to trial, and answers to discovery requests.

A "fact" witness is anyone testifying about specific facts in the case, based on his or her actual involvement. In construction law, both plaintiffs and defendants use "expert" witnesses extensively. An expert is person with experience in a particular aspect relative to the case whose testimony the court has determined may assist the jury in understanding the issues of the case and, therefore, fairly deciding the issues. *An expert may testify as to his or her opinion relative to an issue, while a fact witness may testify only as to the facts of which he or she has direct knowledge.*

Since experts testify as to their opinions, different experts may examine the evidence relative to their area of expertise and arrive at different conclusions and opinions. It is up to the jury to decide which experts to believe when determining a verdict.

Each lawyer may question ("cross-examine") the other's witnesses and present evidence rebutting the other's physical evidence.

When both sides have put on their evidence, they "rest." The judge will then give the jury instructions relative to the law and the case (the "jury charge") and, after final arguments by the lawyers, the jury will "retire" to decide its verdict.

After the jury decides its verdict, the judge will, usually at a later date, render the final judgment for the prevailing party. (In a non-jury trial, the process is the same except that no jury is empanelled and the verdict rests solely with the judge.)

Once the trial is complete, the party who did not prevail may appeal to a higher court, alleging that some error of law or of legal procedure took place during the trial:

1. Court of Appeals: The Court of Appeals is this state's only intermediate appellate court. Fifteen judges sit in rotating panels of three, deciding only questions of law on every case appealed from the Superior and District courts except death penalty cases. Cases in which there is a dissent in the Court of Appeals go to the Supreme Court as well as to those that the Supreme Court accepts for review through petition.

2. Supreme Court: The Supreme Court of North Carolina is the state's highest court, and there is no further appeal in the state from their decisions. This court has a chief justice and six associate justices who sit together as a panel in Raleigh. The Supreme Court has no jury, and it makes no determination of fact; rather, it considers error in legal procedures or in judicial interpretation of the law.

6.8 ALTERNATIVE DISPUTE RESOLUTION METHODS

There are two major disadvantages to litigation…the process is lengthy, often requiring 2 to 5 years to run its course, and it is expensive. Consequently, *alternative dispute resolution* methods should be considered…methods of resolving disputes that are viable alternatives to litigation. There are numerous alternative dispute resolution methods that may be used, from straightforward negotiation to "mini-trials" with private judges, but the most common are *mediation* and *arbitration,* as discussed in the following sections.

6.8.1 Mediation

Mediation is a confidential process and the parties and their lawyers are required to sign an agreement to that effect. Mediation allows the business executive to minimize legal costs, control the decision-making process, avoid most of the emotional stress, maintain business relationships, and provides the most rapid process for full and final resolution of disputes. *Critically important in choosing a method to resolve a construction dispute is the fact that success rates in mediation exceed 80%.*

For designers, another consideration is that most professional liability insurers will reduce the required deductible by as much as 50% for insureds that utilize mediation for dispute resolution.

Both arbitration and litigation are binding procedures while mediation is non-binding. This crucial point is still not well understood by either the business or legal community. Since mediation is not binding, the business executive retains control over the scope, amount, and details of resolution of the claim. Frequently, the resolution includes elements that would not be achievable in either arbitration or litigation. Since mediation is not binding, the familiar *ex parte* rules whereby the parties can talk to each other and the judges only through their lawyers are not applicable. All parties may make contact with the mediator in whatever frequency and method creates comfort and confidence in the mediator and the process. Experienced advocates encourage their opposition's contact with the mediator, knowing that the greater the confidence the adversary has in the mediator, the greater the likelihood of final resolution. These advocates are also comfortable that an experienced mediator will retain his or her impartiality throughout the mediation process.

Sharing the costs of mediation is important to a successful resolution whether the cost sharing is contractually required or agreed to after a dispute arises. Both parties must have a financial and emotional stake in a successful resolution of the dispute through mediation. Careful contract drafters will require mediation in their home city to reduce their own costs of resolution.

While there are no known decisions enforcing a mandatory mediation clause prior to arbitration or litigation, the current judicial climate strongly encouraging mediation should be sufficient basis for enforcing the mediation clause.

At any time after a dispute arises, including after trial or during the appellate process, mediation may be agreed to and conducted. An agreement to mediate needs no procedure or detail. The parties need only agree on the approach and select a mediator or a mediation organization. There is very little structure to the process and the necessary agreements relating only to confidentiality and payment of the mediator are routinely signed at the commencement of the mediation. A party desiring to mediate but concerned about the reaction of their adversary is advised to contact the administrator at one of the mediation companies who is skilled in convincing the other party to agree to a mediation. Such organizations will also provide the mediator and the location for the mediation. Alternate methods of encouraging a reluctant adversary to mediate include suggesting to a motion judge or presiding judge that you are eager to mediate but your adversary is reluctant. Given such an opening, most judges will bring strong pressure to bear on the other party to mediate.

There are a variety of places to find a mediator. Most other jurisdictions have seen the benefits of mediation and have instituted a mediation program of one type or another. Programs vary from a judicial settlement conference to a true mediation. The careful practitioner should investigate the program in a particular jurisdiction, the experience of the mediation judge in construction and lien cases, and their belief in and experience with the mediation process. One advantage of mediation through the court system is that there is no cost.

Private alternatives to mediation through the judicial process require payment of fees. There are several organizations throughout the country whose major focus is mediation and who also provide private arbitration. These organizations include U.S. Arbitration and Mediation, American Arbitration Association, and numerous active mediators not affiliated with any mediation organization. The mediators available from nonjudicial sources have varying degrees of experience as mediators and varying degrees of competence in construction disputes. The fees for their services also vary.

It is crucial to the success of a mediation that an individual who has full and complete authority to resolve the case represent each party. It is unacceptable in a mediation to have final authority reside in an individual at the home office who is not present at the mediation. Arguably, the largest single reason for mediation failures is that the individual with authority to resolve the dispute is not present. Every effort must be made to have the responsible person with full authority present for the entire mediation. Insuring the presence of the appropriate individual is the joint responsibility of the attorneys for the advocates, the mediation administrator, and the mediator. An attorney who has a concern about who will be present should communicate that concern immediately to all parties involved in structuring the mediation.

Many mediators commence the mediation by holding a joint meeting. In that meeting, each party will have the opportunity to state its position to all of the other parties. No witnesses are called, no cross-examination is allowed, and a premium is placed on brevity and concise statements. Either the attorney or the party or both may speak. The purpose of the initial session is for each party to hear facts and positions not previously communicated to the decision-maker. The underlying concept is that most disputes occur when communications break down and the initial session is an aspect to the process by which communications begin.

Immediately after the initial session or, sometimes in lieu of an opening session, the parties will be separated into separate rooms and the mediator will continually circulate from room to room. In situations where the mediator believes that a joint meeting has the potential to aggravate animosities, or where there has been a full communication of the parties' positions, the mediation will commence with the caucuses. In a caucus, communication between the mediator and the parties is confidential and the mediator fully explores the position of each party in a separate caucus. The positions, concerns, and proposals of each party are communicated to the others with the help of the mediator. Generally, after several rounds of caucuses, a full and final resolution is reached. During the process, the mediator will move past nonessential detail and address and resolve the major obstacles to resolution. After an appropriate exchange of information, the mediator will focus on the practical economic costs of the dispute and help the parties reach an appropriate monetary resolution. A mediation typically is completed within one day and rarely takes longer than two days.

When to mediate is a very delicate question. Generally, mediation should be conducted as early as possible in a dispute. If the prerequisites to mediation can be met, the mediation should occur before litigation or arbitration is commenced. The only requirement to mediation is that there be a general understanding of the positions of each of the parties. Mediation will generally be unsuccessful if one of the parties has not communicated the amount or description of their claim. However, mediation is appropriate immediately after the initial exchange of the general positions of the parties. Mediation should not be delayed because one party is concerned that they don't know a piece of information held by one of the disputing parties. In such a situation, the letter to the mediator should request the mediator to determine that fact or facts in the initial caucus. If an independent investigation or expert analysis is required, such as engineering analysis, those should generally be completed before commencement of the mediation. With those caveats, the sooner the mediation occurs, the less money has been spent on the lawyers, the less anger and hostility has been generated, and the more money there is available to invest in the resolution as opposed to the dispute itself.

The purpose of mediation is to allow disputing parties to resolve their own disputes. That statement implies a limited role for the lawyer. The major contribution that the lawyer can make to the process is determining the appropriate time to reach the mediation, selecting the best mediator possible, and writing a persuasive letter to the mediator outlining a path to successful resolution. Almost all mediators, and advocate lawyers, should encourage maximum client communication with the mediator. Venting by the client is extremely valuable and the lawyer may be surprised at the flexibility and willingness of the client to reach settlement. The mediation process encourages and facilitates parties to discard posturing and candidly discuss their real objectives. The lawyer can be extremely helpful in reinforcing those statements of the mediator with which the lawyer agrees and which move the parties toward resolution.

6.8.2 Arbitration

Arbitration is also a process that results in the rendering of a decision by a third party, just as with litigation. However, instead of a judge or jury rendering the decision, arbitration relies on an arbitrator (or a panel of three arbitrators) to determine who is right or wrong. Arbitration is binding, with little or no allowance for appeal to the courts.

Arbitrators can be selected by the parties from a myriad of private arbitration firms, such as the American Arbitration Association (AAA), or from a pool of individuals deemed mutually acceptable by the parties. Unlike a judge or jury, arbitrators have direct first hand knowledge of the construction industry and construction contracts. Arbitrators are former and current design

professionals, constructors, construction attorneys, and consultants. Therefore, an arbitrator knows the industry and does not have to "educated" or prompted to stay awake during the proceeding.

Arbitration is designed to expedite the resolution of the claim. The process discourages extensive discovery. Parties are encouraged to exchange relevant materials and evidence a few days before the hearing, dependant upon the arbitration body used. Unfortunately, parties and their counsel are often uncomfortable the lack of traditional discovery. The arbitrator is frequently requested to allow the parties to engage in the exchange of depositions, interrogatories and documents. This expansion of the discovery rules also expands parties' costs and the length of the case.

In arbitration, the formal rules of evidence are not employed unless specifically requested by the parties and accepted by the arbitrator. Matters that do not lend themselves to the formal rules of evidence are not weighed down by it and progress more smoothly. However, in certain instances, this can also be a detriment. Without the application of the formal rules of evidence, certain testimony and evidence that would not see the light of a courtroom are accepted in arbitration. Statements purportedly made by individuals who will not appear before the arbitrator or be cross-examined are regularly accepted in arbitration. The same testimony would probably be excluded from a courtroom as a consequence of hearsay rules. Arbitrators may simply refuse to accept important documentary evidence.

Arbitrators are not required to apply legal principles or even the terms of the contract in dispute in reaching decisions. They are not required to even state the reasons for their decisions. This becomes doubly troubling since it is difficult to obtain knowledgeable, qualified arbitrators. Even if an arbitrator acts with bias, prejudice, or even fraud, a party to the arbitration cannot appeal the decision.

And, arbitration can be as expensive and time consuming as litigation. Dependant upon the claim and the number of parties and arbitrators involved in the process, the scheduling of hearings can be a logistic nightmare.

6.9 PITFALLS OF EMAIL, CELL PHONES, AND WEBSITES

Electronic communication - cell phones and email - are an integral part of a successful design firm's daily operations. But, the ease and casual attributes of email, cell phones, and other forms of immediate response technology also increase the risk for these firms. *Improper cell phone and email messages and the absence of operational procedures present dangers that could subject firms to legal liability.*

There are two major risks in this rapid communication system. First, email is easy to generate and distribute. Composing and sending messages is often undertaken without the careful thought that characterizes most written correspondence. Inappropriate or confidential comments and attachments can be distributed without proper review.

Second, email is rarely preserved properly. Even though there may not be an official record in the project file, the message may still exist electronically. Information that an email sender thinks has been deleted may simply lie hidden in electronic form to be called up after a problem is identified. Carelessly provided opinions or instructions communicated through email may end up coming back to challenge the credibility or establish the negligence of the firm.

To maximize the benefits and avoid the potential pitfalls of email, many professional service firms have created email use policies. Firms without such policies should consider the following as requirements:

> 1. Email communication to clients or parties involved in the construction process must be necessary, relevant, and in compliance with firm standards.

> 2. All project-related email transmissions must be channeled through a firm member in responsible charge.

> 3. Email messages must be printed out and filed as hard copies or scanned as digital images.

Employees are increasingly using cell phones to conduct business, but rarely are such conversations documented. Even firms that carefully record telephone conversations made from the office rarely have a system in place for recording and preserving the substance of cell phone calls. The impulsive or informal use of cell phones for business purposes exacerbates communication deficiencies that can lead to claims.

As with email use that could lead to claims not related to specific projects, such as claims ranging from sexual harassment to copyright infringement, cell phone use can also lead to exposures beyond the scope of professional liability insurance. One such risk is the use of cell phones for business purposes while driving. The allegation in the event of an accident may be that the employer did not take public safety into consideration when requiring or condoning the use of cell phones in unsafe situations.

An official written policy about cell phone use should be created. It should require that the substance of a project-related cell phone conversation be recorded and stored in the project file. The policy may also prohibit cell phone use for business purposes when inappropriate, including while driving. The firm should determine the laws or restrictions on cell phone use in the jurisdiction where they practice and make all employees aware of any regulations.

For larger projects, the use of "project websites" is now being used to provide a central depository for all project data by all project team members…designers, owners, contractors, suppliers, etc. The potential problem with this concept is simply too much information that may be too poorly organized. Successful firms are experimenting with the use of project websites, put proceeding slowly to avoid new, unforeseen problems. *In the event of a claim against a professional firm, there is nothing better than well-organized paper files!*

6.10 RISKS OF "GREEN" DESIGN

Today, there are three major guidelines or standards that can applied for sustainable or "green" building design:

> 1. ASHRAE Standard 189.1, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings,* published by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE). This is a consensus standard with scientifically proven basis and demonstrated performance.

2. *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings*, adopted by every major department of government, representing greater than 90% ownership of all federal buildings. This document references a number of consensus standards. The federal Interagency Sustainability Working Group (ISWG) is charged with providing technical guidance and updates for the *Guiding Principles.*

3. *The State of Minnesota Sustainable Building Guidelines* published in 2006 by the Center for Sustainable Building Research, College of Design, University of Minnesota.

Until recently, the LEED (Leadership in Energy and Environmental Design) "Green Building Rating System" has often used for establishing the performance goals for high-performance, sustainable buildings. The U.S. Green Building Council developed LEED in the 1990's with the following goals:

- Define "green building" by establishing a common standard of measurement
- Promote integrated, whole-building design practices
- Recognize environmental leadership in the building industry
- Stimulate green competition
- Raise consumer awareness of green building benefits
- Transform the building market

LEED provides a framework for assessing building performance and meeting sustainability goals with a numerical rating system. The advantage to the LEED rating system is that it is a simple scoring system that can be applied to determine if a particular design is "sustainable". However, that may also be its disadvantage.

Since 2005, though, there has been increasing concern that dependence on the LEED rating system was not supportable and increased professional liability exposure for designers. Many of these concerns were presented an article (*ASHRAE Journal*, December 2005) by Frank Musica, a risk management attorney with Victor O. Schinnerer & Company and his concerns have been reinforced by other attorneys and the rate schedules established by the professional liability insurers. *There are significant risks for designers who do sustainable design and specifically for those who have little or no experience beyond simply being "LEED Certified".*

With LEED, the measure of sustainability becomes calculable by design professionals (and by owners) who like to "count points". LEED's stated goal is to distinguish building projects demonstrating a commitment to sustainability by meeting the "highest performance standards" and defines its self as setting "a national standard for achieving high-performance, energy efficient and economically viable buildings that enhance occupant well-being through the application of sustainable design principles".

However much this concept may be inspirational designers, it may seem like a "guarantee" to owners, since the terms "highest standards" and "economically viable" are used in defining the rating system.

For the most part, the benefits of building construction/operation on the basis of LEED points have only been presumed and there is a clear lack of demonstrated, directly verified benefits simply because performance verification after the completion of construction is not part of LEED…designers get all the credit up front!. This is true for both direct benefits such as reduced energy usage and improved indoor air quality as well as indirect effects such as improved

occupant health, comfort, and productivity. All of the new sustainable design guidelines require performance measurement and verification for 1-2 years after the building is completed.

Generally, owners pursue measurable sustainable design for their buildings because they desire the outcome to be a better product. Public owners may desire the public relations value of a sustainability rating, while private owners may believe that it will increase market value, command higher rents, cut energy costs, lead to reduced employment expenses, etc.

While typical design must only meet the minimum code requirements regarding energy, water, waste, etc., sustainable design takes a different approach. The goals are resource efficiency, a protected environment, and healthy conditions for the building's occupants. *But, in attempting to reach that goal, design professionals may increase their exposure to legal liability.* (After all, how many engineers are qualified to make design decisions on the basis of "…environmental, societal, and human benefits".)

Sustainable building design and construction is often promoted as a cost-savings measure. The literature routinely states that the higher original investment for sustainability will be paid back within a relatively short time. The picture created by the marketing of sustainable projects often leads the owner to believe that cost savings will be significant and easily realized.

One significant risk for designers centers on the hard-to-measure savings of "societal cost reductions." These include higher productivity rates and fewer absences due to illnesses. These types of "savings" hold out a real benefit to project owners or tenants, although they often add little to the bottom line. If the anticipated savings do not materialize, the owner may look to the designer to make up the "loss."

A significant mistake any designer can make is to accept a new product (equipment or material) based solely on the manufacturer's product data sheets and sales literature, The owner must be informed of the risks inherent in specifying new materials should sign a waiver of the designer's liability for the use of untested products.

Most building systems and products are subject to the Uniform Commercial Codes' four-year limitation on product liability actions and/or specific manufacturer warranties. However, the statutes of repose applicable to design professionals generally range from six to 10 years, during which there is exposure of the design team to claims of negligence in selection of materials. Consequently, if the owner cannot obtain compensation from the manufacturer for problem materials or equipment, the design professional may become a target for cost recovery.

(Note too that manufacturers offer only limited warranties that typically cap their liability to the replacement cost. The cost of labor, direct damages and consequential damages, such as reduced productivity, are generally excluded.)

The benefits of a sustainable design often depend on how the project is operated and maintained. Without recognition by the owner of his or responsibility for operation and maintenance, a claim may be sustainable and the professional liability exposure of the designer could he extreme.

From a professional liability perspective, numerous potential risks may be generated or intensified by any certification process or other "sustainable" calculations or promises made by a designer, including:

Unfulfilled expectations: Promoting oneself as an expert without any significant experience and unique knowledge of the design principles underlying a sustainable system creates the likelihood of dissatisfied clients, who may later file claims. *Therefore, certification programs such as the LEED Accredited Professional program can actually increase professional liability exposure.* (The one-week LEED training program does not create experts!)

Cost recovery: The broad nature of the "green" rating system can serve as a trap for design professionals attempting to design to a pre-selected certification level or based on product claims. Clients expect to see the financial savings that their investment is supposed to produce. Higher sustainability levels usually require more design effort and often greater construction costs. If an anticipated benefit is not achieved, whether that benefit is lower operating costs or higher rents, the firm could be expected to pay for its "mistakes,"

Implied or express warranties: Certification implies energy savings and increased productivity. As the sustainability levels increase through arbitrary systems such as the LEED process, expected benefits also increase, Warranties could be claimed for anything ranging from the failure to meet the planned certification level to excessive energy, water, or maintenance costs,

If the certification states that increased daylighting and healthy indoor air quality means healthier and more productive employees, it may not matter what other factors prevent such results. Even the failure of the design to decrease employee sick leave and increase productivity "as promised" could be claimed as a breach of warranty.

Fraud or misrepresentation: The savings in life-cycle costs may be misleading, since they are often based on assumptions that do not survive the design and construction of the building. If a client does not understand this, the designer could be accused of deceptive practices. Fraud or misrepresentation claims are not covered by professional liability insurance.

As with all projects, design professionals need to carefully assess the risks of sustainable designs and clients seeking such designs. Client education and client reliance on the professionalism and sound judgment of engineers and others on the design team must be promoted. Otherwise, the movement to sustainable design and the reliance on prescriptive standards, such as LEED's rating system, that are not incorporated into building codes could result in claims against design firms.

While LEED has been used for a limited number of projects by various federal agencies, the use of LEED at the federal level has, as of January 2006, been eliminated, replaced by new *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings*, adopted by every major department of government. Since LEED does not meet the federal criteria of being a consensus standard with scientifically proven basis and demonstrated performance, the new federal guidelines are based on such standards, including ASHRAE/IESNA *Standard 90.1-2007*, and requires after-construction measurement and verification.

These risk factors are very real. In the last two years, there have been several high profile and high dollar lawsuits relative to the "less than admirable" performance of some green design projects and more are on the way. One contributing factor, aside from the pitfalls associated with LEED, is that some designers are have become so enthusiastic and focused on their

designs' being "green" that they fail to make sure these designs really work…already we're seeing some of the "energy saving" design mistakes from the 1970's making their reappearance!

7

QUALITY CONTROL

Axiom 7: No successful firm does poor quality design.

7.1 STAFF QUALIFICATIONS AND DEVELOPMENT

Successful firms hire people who are "effective:" they get the job done and are successful in so doing.

The Seven Habits of Highly Effective People by Stephen R. Covey provides a very good description of the traits of effective people, the type of people that every successful design firm would like to hire. These "habits" or traits are summarized as follows:

1. Be Proactive: This is the ability to control one's environment, rather than have it control you, as is so often the case. Self-determination, choice, and the power to decide one's response to stimulus, conditions and circumstances characterize this trait.

2. Begin With the End In Mind: This is the habit of personal leadership…leading yourself and others towards what you consider your aims. By developing the habit of concentrating on relevant activities, effective people build a platform to avoid distractions and become more productive and successful.

3. Put First Things First: This is the habit of personal management. This is about organizing and implementing activities in line with the aims established in habit 2. Habit 2 is the first, or mental creation, while habit 3 is the second, or physical creation.

4. Think "Win-Win:" Achievements in any organization are largely dependent on co-operative efforts with others. The "win-win" concept is based on the assumption that there is plenty for everyone, and that success follows a cooperative approach more naturally than the confrontation of win-or-lose.

5. Seek First to Understand and Then to be Understood: One of the great maxims of the modern age...the habit of communication, and it's extremely powerful. Successful people are good listeners and then good communicators.

6. Synergize: This is the habit of "creative cooperation"…the principle that the whole is greater than the sum of its parts, which implicitly lays down the challenge to see the good and potential in every other person's contribution.

7. Self-Renewal: This habit necessarily surrounds all the other habits, enabling and encouraging them to happen and grow. Everyone consists of four parts: the spiritual, mental, physical and the social/emotional, each of which need feeding and developing. Without personal growth, no person can maintain his or her success in a changing environment.

Since growth necessarily implies that new people must be hired, successful firms attempt to hire people who, to the maximum extent possible, demonstrate these habits.

Once a person becomes part of a successful firm, development and improvement of that person's skills and effectiveness is an ongoing requirement. This is accomplished through three distinct processes:

1. Continuing Education: The only constant is change…technology changes, codes and standards change, owner expectations change. The only way to keep up with all of these changes is to provide for routine staff continuing education.

   This can range from simple "lunch and learn" sessions where new issues, ideas, concepts, etc. are presented and discussed during a lunchtime meeting to sending people to workshops, seminars, conventions, vendor training programs, etc.

   Routinely, successful firms will allocated up to 40 hours per year for continuing education for each staff member…more for senior members.

2. Increased Responsibility: Always promote a staff member to a more responsible position before he or she is ready for it! While this sounds crazy, this one aspect alone can be the key for attracting effective, ambitious new staff to the firm. Typically, these folks do well…that's why you see 30-year-old project managers and 25-year-old designers in the most successful design firms. Firms that make a competent designer wait 20 years to become a project manager will lose that designer longer before the 20 years expire.

   Obviously, there are risks associated with this concept. But, good senior management can put "controls" in place to minimize the downside of this very positive effort.

3. Ownership: Finally, there must be ownership potential for senior staff…an effective person that is hired, developed over some years, and assigned increasing responsibility within the firm isn't going to stick around if there is not potential to become a firm principal.

7.2 DESIGN AND PRODUCTION

7.2.1 Determining and Documenting Owner Requirements

Chapter 3 addressed the need to define the project scope, in some detail, as the basis of establishing the design agreement. The next step is to expand the scope definition to address, in even more detail, the owner's requirements and expectations for the project, and carefully documenting them.

The purpose behind this process is, obviously, to eliminate (or least reduce to a minimum) having the design fail to incorporate an owner requirement or expectation. This is, basically, an impossible goal, but every designer must strive to come as close as possible to attaining it…the more the project satisfies the owner, the less potential there is for dispute and claims.

If defining the project scope is the "macro" level of determining and documenting owner requirements, there are several "micro" and "sub-micro" levels that must be addressed as the design proceeds through the design development and construction documents phases.

First, every building can be sub-divided into two basic parts: public areas and private areas. For a small office building, the public areas may only be an entry and elevator lobby, repeated each floor for multi-level buildings. In a laboratory building, the entry and lobby on the first floor may be the only public part of the building. Museums, assembly buildings, and shopping centers are at the other end of the spectrum since the public will access the vast majority of the building area.

Owners may have vastly different perceptions of needs and wants for these public spaces, even in the same type of building. A small office building occupied by a public relations firm will undoubtedly require more impressive (size, finishes, scale of design, etc.) public areas than a similar office building occupied by a group of doctors.

The private areas of every building can be broken down into various functional elements: open offices, private offices, classrooms, workrooms, corridors, conference or meeting rooms, etc. The space planning effort required to arrange these functional elements is well understood by architects. What is, perhaps, not so well understood is that most owners, particularly the inexperienced owner, will not have this level of understanding and must be "guided" as the design develops. This happens even with sophisticated owners and complex buildings.

Schematic design defines the basic project scope and elementary space plan, systems definition, and level of finish for the project. Now, during design development, the details of the design must be developed. Too often, critical design decisions won't get made until construction drawings are underway because the designer fails to properly execute the design development stage of the project. *At the end of this phase, every major and most minor design decisions must be made, the space plan must be developed in significant detail, and all support systems (structural, HVAC, plumbing, electrical, etc.) must be well defined so that no significant changes to these elements are required during the production of construction drawings.*

To meet this goal, the owner's needs, wants, and wishes must be well understood (and documented) by the design team. To ensure this, especially with the inexperienced owner, the designers must make sure that the owner understands the project design in these early stages well enough to actually define his or her needs, wants, and wishes. If the project gets to construction documents, or worse yet to actual construction, before the client says, "I didn't

understand that it was like that; that won't work for me," then the project is on the road to trouble.

What process is required to help owners really define their requirements?

First, the process must be educational. While one particular developer client may have built ten shopping centers and knows exactly what is required and wants to avoid all previous mistakes, the family partnership developing their first shopping center will not have a clue. The designer must evaluate the owner and take all necessary time to walk him or her through the design, element by element. Build models or make simple renderings, since most owners really cannot envision the final product from drawings. Take the owner on site visits to similar facilities and make a careful list of likes and dislikes observed (the lease span is too great for my market, the entry lobby is too shabby, why is all this space wasted in corridors, etc.) *Site visits become more important as the complexity of the building increases.*

Next, for every space, create a "definition file" with all of the individual design parameters documented: use, net square footage, lighting level, environmental conditions, occupancy, hours use during the day, equipment installed, level of finishes desired, etc. Adjacency needs must be carefully determined and documented so that the schematics space plan can be revised on the basis of better information.

At the end of the design development phase, the owner should review and approve the definition file, in writing. Since nothing is perfect, any modifications to design during the construction drawings phase must be recorded in the definition file and initialed by the owner. This definition file produces too important results: it documents every design decision and forces "buy-in" to these decisions by the owner.

7.2.2 Construction Documents

*Successful firms complete the "design" effort prior to beginning the construction documents phase of the project…*all major design decisions about the project are made during the schematics and design development phases.

Construction drawings are produced to define all of these design decisions in sufficient detail to allow the project to be constructed. Today, there are several goals the successful designer must meet in producing construction drawings:

1. They must be complete.

2. They must be accurate.

3. They must not be ambiguous.

Failure to meet any of these goals, even in part, may bring charges of negligence on the part of the designers.

While no set of construction documents is perfect, the goals listed above must be met to the maximum extent possible. Other designers are doing this, so every designer can be held to that standard of care.

To meet the goal for completeness, standardization of sheets and sheet layouts, the use of standard symbols and abbreviations, standard construction details, and, most importantly, office guidelines and checklists, are critical steps to ensuring that everything required is included in the documents. Schedules (door and hardware, finishes, mechanical equipment, electrical panels, structural members, etc.) must be standardized within the office. *The goal of standardization is to require the designer to provide all needed information, every time.* This has the added benefit of creating an "office" product, rather than a product that varies from designer to designer (probably with varying levels of quality, also).

To meet the goal for accuracy, a quality control system must be utilized. This system must address three factors:

1. Information accuracy: Does the information on the drawings match the "definition file" requirements and is the information correct? For example, one type of inaccurate information may be the interior finish for a space being defined differently than required by the definition file. A more basic type of inaccurate information is simple math errors, such as three sub-dimensions that don't add up to the overall dimension shown. And, always make sure that the drawing scale is correct!

2. Missing information: What is the required wall thickness? What is the ceiling height in this space? Which type of light fixture is to be use? Missing information can range from the very simple to the very complex, like how did this project get on the street for bids with no wall fire ratings shown?

3. Conflicting information: An HVAC equipment schedule may call for a pump to have a 20 hp motor, but the electrical panel schedule indicates that the pump has a 10 hp motor. The architectural plans may show a 20 feet by 20 feet column spacing while the structural plans indicate a 22 feet by 20 feet spacing. These types of conflicts, based on inaccurate information transfer between disciplines or simply due to typographic errors are deadly!

The worse enemy of providing accurate and adequate construction drawings is time. *Many designers become so focused on their production schedule that they will fail to adequately review and check the drawings before they are issued.* Some will try to use the bid period to make corrections, issuing new drawings right before bids are due, with effect of irritating of all the bidders and increasing bid prices. Others will even wait until after bidding to make corrections, hoping to negotiate "trade offs" with the successful bidder. And, a few will not make required corrections until problems begin to show up during construction.

Successful firms consider the production schedule on any project secondary to need to maintain control of the quality of design and construction documents! A client may be unhappy if the project is delayed a week or even a month while accurate and adequate construction drawings are produced. But, he or she will probably be more unhappy if poor documents result in cost increases and time delays during the construction period.

The other major part of the construction documents is the technical specifications. There are two approaches to writing technical specifications: prescriptive specifications or proprietary specifications.

Prescriptive specifications refer to industry reference standards and provide a generic description of the assembly. They define exact materials or systems and the detailed

fabrication and installation processes to be executed, without stating individual trade or manufacturer's names. They best suited for describing properties of complicated components or systems that cannot adequately be shown on drawings.

Industry or consensus standards may also be incorporated as part of the specification. A consensus standard is a written accord or agreement on certain materials, testing procedures, or processes that conform to criteria developed and accepted by a recognized public or private authority or agency. When referenced, the standard in its entirety becomes a part of the specification.

Proprietary specifications identify products or components by the manufacturer's trade name and model number. When the component is specified by naming one product or manufacturer and then allowing equivalent or "equal" products, *the burden of determining compliance with the design requirements falls on the designer*. If the contactor submits a product as "equal" to the named product, the designer becomes responsible for proving or disproving that claim, a far riskier position for the designer.

For designers, the disadvantage to prescriptive specifications is the sometimes difficult task of developing one. The advantage, though, far out weighs this disadvantage: *prescriptive specifications place the burden of proving compliance with the design requirements on the contractor.*

Today, there is a new trend toward "performance" standards and building codes. The impact of these are not yet known, but it strongly recommended that designers carefully evaluate these standards and building code requirements and determine if a more "prescriptive" approach should be required by the contract documents.

7.3 CONSTRUCTION ADMINISTRATION SERVICES

7.3.1 Managing The Owner

It should not come as a surprise to any designer that his owner/client, even after having reviewed the design documents on numerous occasions, will actually have no idea as to what the project will really be until construction gets underway. While managing the owner and documenting his or her requirements during the design phase is a significant task, the minute these requirements are presented in terms of steel and bricks owners often will want to start changing their requirements. This represents two failures: (1) failure by designer to adequately ensure that the owner understands the nuances of the project during the design phase and (2) failure by the owner to educate himself or herself to fully understand project details when they were presented on paper…many owners will fail to tell a designer when they don't understand something during design so as not to appear "dumb." Some owners simply can't understand design drawings and the designer fails to see that, resulting in significantly weakened communication between the two.

Successful design firms ensure that every client understands that changes introduced after construction starts will almost assuredly increase costs, delay project completion, and increase the potential for error and claims.

The first step is to require novice or unsophisticated owners to retain an "owner's representative" to be the interface between the designer and the contractor during construction.

This representative must be knowledgeable relative to both the scope of the project construction and the project design intent from the owner's perspective. Communication with the owner through a knowledgeable representative goes a long way toward helping the owner understand what is happening at each phase of construction, what changes can be made with minimal impact on cost and/or schedule, and what changes are simply unreasonable.

Often owners have lots of staff members, all of whom are interested in the project and want to know what's going on during construction. Whole droves of folks may don hard hats and tour the project during lunch! And each will see some aspect that they question and think that change is needed.

Successful designers do not let this happen! During construction, the owner's access to the construction site is limited to specific personnel. However, to allow everyone to see things, guided tours can be scheduled at regular intervals to take others through the project and have the owner's representative respond to any questions or concerns that may be raised.

Finally, successful firms involve the owner and his or her representative in the entire construction process. Copies of submittals and all other project correspondence are sent to them. They attend all project progress meetings. And, routine "owner briefings" are provided by the designers to keep owners up to date on project construction progress and any issues that may require owner input.

7.3.2 Dealing with Contractors

Successful design firms develop professional working relationships with the contractor to help ensure that the project is delivered on time and within the budget. For this process to work, the designer must work with the contractor in three major areas:

> 1. Project schedule and sequence of construction.
>
> 2. Information communication: Don't fall prey to a contractor who overwhelms you with a barrage of uncoordinated submittals. Require that the contractor provide a detailed submittal schedule before processing the first construction progress payment. You should evaluate the demands that the schedule will place on you and your consultants and discuss any resource concerns that you may have with the client and the contractor. Negotiate a realistic flow of submittals and manage the process vigorously.
>
> Require, too, that the contractor provide objective evidence that all submittals have been coordinated before presenting them to the design team for review. You might consider the use of a submittal approval stamp with a statement confirming coordination.
>
> Work closely with the contractor and his or her subcontractors in overlaying mechanical system shop drawings and in laying out major mechanical equipment. Resolving design conflicts before the shop drawings are formally submitted helps expedite submittal turn around times while avoiding project delays.
>
> Sometimes, as soon as the construction contract is signed, contractors will begin to submit "requests for information" (RFI's) to the designers. Under normal circumstances, the role of the RFI is to provide clarification and detail relative to some aspect of the design documents.

Although valid RFI's are a part of every construction project, many a contractor will generate them at the drop of a hard hat, often when a simple perusal of the construction documents and other available data would reveal the necessary information. This may be simply laziness on the part of the contractor or it may be an overt attempt to shift legitimate contractor duties to the designer…an unfair and unwelcome burden.

If the contractor is in a severe time or money squeeze, he or she may look to the RFI process for financial salvation. The desperate contractor may attempt to build a case for delays and extras by issuing urgent RFI's for every reason imaginable. In so doing, the contractor buries the designer in paper and forces him or her into "unacceptably" long response times. By the end of the project, the total number of RFI's (valid or otherwise) may reach into the hundreds or even thousands. A jury could interpret this to indicate flawed design documents and substandard performance by the consultant. Why else, the jurors will say, would the poor contractor have had to ask so many questions?

Another reason for an excessive number of RFI's can be the ineffective use of progress meetings and the failure of both the designer and the contractor to establish an open line of communications to ask questions and resolve problems during these meetings. Some designers create their own problems by insisting that all communications between the parties be in writing.

Excessive RFI's may due to contractor problems. If the contractor's key staff is inadequate, under qualified, or frequently reassigned, the designer may be expected to pick up the slack. When there are frequent turnovers, new contractor employees may lack the continuity and the historical perspective to know how or where to find answers. Often, the information already shows on the construction documents.

Some RFI's are requests for dimensional information that is available only through knowledge of field conditions. And some RFI's are requests for guidance in the means or methods of construction. All of these are strictly the contractor's responsibility. If the contractor had provided adequate, qualified and stable staffing, he or she wouldn't need to ask the consultant for answers.

Design professionals can substantially reduce the problem by incorporating clear-cut RFI procedures in the construction contract supplementary general conditions or in Division 1 of the specifications. *The designer must insist on contractor compliance with specified procedures and steadfastly require resubmittal of vague or incomplete RFI's.*

The following wording incorporated into the Supplementary General Conditions will revise AIA 201-1997 to eliminate most of the problems with contractor RFI's:

> Replace subparagraph 3.2.1 with the following:

> "3.2.1 The Contractor acknowledges and understands that the Contract Documents may represent imperfect data and may contain errors, omissions, conflicts, inconsistencies, code violations and improper use of materials. Such deficiencies will be corrected by the A/E when identified. The Contractor agrees to carefully study and compare the individual Contract Documents with each other and with information furnished by the Owner pursuant to subparagraph 2.2.3 and report at once in writing to the A/E any deficiencies the Contractor may discover in the form of a 'Request for Information' seeking an interpretation or

clarification of such deficiencies. The Contractor shall clearly and concisely set forth the issue for which it seeks clarification or interpretation and why the response is needed. The Contractor shall, in the written request, set forth its interpretation or understanding of the Contract's requirements, along with reasons why it has reached such an understanding. Response from the A/E shall not change any requirement of the Contract Documents. The Contractor further agrees to require each subcontractor to likewise study the documents and report at once any deficiencies discovered."

"3.2.1.1 The Contractor shall resolve all reported deficiencies with the A/E prior to awarding any subcontracts or starting any work with the Contractor's own employees. If any deficiencies cannot be resolved by the Contractor without additional time or additional expense, the Contractor shall so inform the Owner in writing. Any work performed prior to receipt of instructions from the Owner will be done at the Contractor's risk."

"3.2.1.2 The Contractor shall be liable to the Owner or A/E for damage resulting from errors, inconsistencies or omissions in the Contract Documents the Contractor recognized or should have recognized and failed to report to the A/E. If the Contractor performs any construction activity knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the A/E, the Contractor shall assume appropriate responsibility for such performance and shall bear an appropriate amount of the attributable costs for correction."

"3.2.1.3 The following principles shall govern the settlement of disputes which may arise over discrepancies in the Contract Documents: (a) as between figures given on Drawings and the scaled measurements, the figures shall govern - no measurements shall be taken by scale as working dimensions except on large-scale Drawings not dimensioned in detail; (b) as between large-scale Drawings and small-scale Drawings, the larger scale shall govern; (c) as between Drawings and Specifications, requirements of the Specifications shall govern; and (d) as between the Agreement and the Specifications, requirements of the Agreement shall govern. The principles set forth herein shall not alter provisions of Article 1.2."

An RFI should be issued only when information is either missing from the construction documents or is ambiguous. These requests should specify which drawings and details need clarification and exactly what information is required.

Ideally, a formal RFI would he the last measure taken by the contractor, issued only after the contractor's reasonable review of the construction documents and field conditions fails to come up with an answer. Many questions can be answered with a phone call, email, or jobsite conversation between the contractor's superintendent or project manager and the designers, without resorting to the RFI process. As always, though, your staff should keep careful records of all such conversations and, if substantive, these conservations should be reported in writing to the parties.

It is not asking too much to require the contractor to demonstrate that an honest effort was made to look for answers and work out a solution based on the information shown. This effort should include working with its subcontractors to resolve coordination or

cross-trade issues. The contractor should be required to prioritize RFI's and to present them in a timely and organized manner to facilitate the designer's response.

To address these issues, it is typically necessary to add a provision to the construction contract that requires a thorough review of the construction documents and field conditions by the contractor prior to submitting an RFI.

Despite all this, every design professional has an obligation to respond to valid RFI's in a reasonable time and to keep accurate and complete records (date in/date out and response given) as part of the project file. By obligating the contractor to perform the work as described in the contract documents, by having an RFI submittal form and procedures, and by responding to RFI's in a careful and timely manner, designers can greatly reduce their exposure to claims for delays or extras resulting from misuse of the RFI process by the contractor.

3. Submittals: Submittals bridge the gap between the design requirements of the contract documents and the details necessary to fabricate and install portions of the work. As such, submittals are an essential element of construction projects. Unfortunately, the submittal review process often does not receive the attention required. Proper procedures should be established and followed so that responsibility is allocated to the appropriate party and can be properly carried out.

Designers must remember that the purpose of submittals is for contractors to provide information relative to their proposed means and methods for complying with the design requirements (plans and technical specifications). *The burden of proof is on the contractor*. Most construction specifications and contracts stipulate that submittal review by the design professional is for the limited purpose of checking for conformance with the contract documents, and such review does not extend to the means, methods, techniques, sequences or procedures of construction, or safety procedures. Further, the contractor is responsible for reviewing a submittal prior to it being submitted to the design professional or client and state that any review by the design professional does not relieve the contractor of any obligation in the contract documents.

There are two important aspects of handling and reviewing submittals that every successful design firm understands and addresses:

- A delay in processing submittals may result in a delay to the project. The contractor should submit properly detailed submittals in a timely manner if the contractor expects the submittals to be processed by the design professional accordingly.   Conversely, the contractor's performance is contingent upon the timely processing of submittals by the design professional. If the processing is untimely, such delay may be compensable to the contractor. Thus, the designer and the contractor should jointly create a submittal schedule will aid both parties in the timely preparation, submittal, and review of submittals for each project.

- Submittal review by the designer is never an authorization for changes in the work. Changes can be accomplished only through properly executed change orders and not through the submittal review process. Some contractors play a game of "catch me if you can" with submittals. These dishonest contractors submit materials, components, equipment, etc. that, in one or more ways, does not comply with the design requirements. But, by not identifying the non-

complying features, it is up to the design professionals to find them. Failure to do so is utilized by the contractor as a *de facto* change order, allowing him to reduce quality without providing a cost benefit to the owner.

7.4 DEALING WITH DESIGN ERRORS AND OMISSIONS

In order to minimize the error's impact on both cost and project schedule, the designer must address design errors or omissions that are found during the construction period immediately. For the contractor, work involving the error or omission must stop immediately and not proceed until a change directive or change order is issued.

Nothing frustrates owners more than paying for design errors and omissions. Owners are unhappy when they must pay for mistakes made by their contracted service provider. They assume, in the absence of any other information, that the services provided will be free of mistakes, and if mistakes are made, those making the mistakes will pay them for them. Owners often view architectural and engineering services no differently than lawn care services promising weed-free results. This is especially true in this age of consumer rights and protections, where "satisfaction guaranteed" rules the day.

By entering into a contract with an owner, the design professional implies he possesses the "ordinary skill and ability" necessary to serve the owner's needs. So, legally, there is no guarantee of a perfect plan or even satisfactory results. Instead, architects and engineers are expected to use reasonable and ordinary care in the practice of their profession. The courts know it, designers know it, and contractors know it. *For some reason, this information is not always conveyed to owners.*

But, since all design firms make errors, obviously successful design firms handle errors and omissions differently from other firms that don't and, subsequently, go out of business.

Owners can make better decisions when pursuing reimbursement if they understand how industry and the courts view errors and omissions. Omissions usually add value to a project. Instead of being included at the time of contract award, the building improvement "omitted" from the bid package is picked up by a change order. Designers will normally argue the owner should pay for omissions because he would have paid in the form of a higher contract amount at the time of award anyway. Owners may counter that funds may not be available, as the omission was not in the project budget. They will also maintain a higher cost for the omitted item results from adding it by change order versus competitive bidding. Generally, recovering for the cost of omissions is an uphill battle unless the number of omissions is excessive and the design professional failed to meet the standard of care.

Design errors, on the other hand, are mistakes made by the designer that when corrected do not add greater value to the project. While a design error may be recoverable, owners should be aware of the following truth, which is embraced by industry and accepted by the courts: there is no such thing as error-free design. Even a modest building design effort requires scores of individuals acting on hundreds of major decisions to coordinate the design of thousands of building components. A design effort is a unique, one-time creative endeavor that does not have the benefit of product testing. To expect a perfect design would be like believing software will function flawlessly without beta testing.

Communication throughout the project can help both owners and designers align their expectations. When both agree an error falls below the standard of care, many design professionals, governed by pride and reputation, will work with a client to reach an amicable settlement, so long as the owner has fair and reasonable expectations.

A well-informed owner is more apt to be fair. Unlike the medical and legal fields, where client expectations are aligned prior to performing services, design professionals often wait to discuss expectations after the owner reaches the breaking point with change orders. During negotiations of the design agreement, owners are generally well coached by designers about establishing a project budget contingency for changes, unknowns, and unforeseen conditions that will surely arise during the course of the project. Owners must be made to clearly understand that at least some of these change orders will result from errors and omissions by the designer.

A second aspect of dealing with design errors lies with the contractor. Obviously, it is far easier and less expensive to correct design errors early in the construction phase before subcontracts have been obligated, materials purchased, and even some of the work completed. Thus, the contractor's cooperation in helping to identify design errors early in the construction sequence is requested (even required) by the General Conditions to the Contract.

Some contractors view design errors as opportunities to improve the profits on the project. To avoid this problem, language should be included in the construction contract that forces the contractor to acknowledge that the contract documents may represent imperfect data and may contain errors, omissions, conflicts, inconsistencies, code violations and improper use of materials and that any deficiencies will be corrected by the designer when identified.

8

OWNERSHIP TRANSITION

Axiom 8: You can't take it with you!

8.1 PLANNED INTERNAL OWNERSHIP TRANSITION

It is very common for the principals or partners of design firms, especially small and medium sized firms, to continue as owners of the company until they pass away or ultimately retire at a very old age, often continuing to work into their 70's or even 80's.

This has two negative impacts: First, it stymies the advancement of qualified younger professionals and leads to their moving on to other firms or leaving to start their own firm. Second, as the number of design firms proliferates, this fragments available design resources and leads to a lot of smaller firms, but only a limited number of larger firms with the resources to tackle larger, more complex projects. *And, as discussed in Chapter 1, it is the larger firms that reap the bulk of the financial rewards in the design industry!*

Thus, every successful design firm has in place a plan for "ownership transition" that has two elements:

> 1. Planned development and advancement of experienced designers to become principals; and
>
> 2. Planned retirement programs for the current owners.

The first element keeps the firm in a vibrant, growth mode, while the second element allows the current older owners to receive a financial return on the investment in both time and money they have made into the practice.

As discussed in Chapter 3, every design firm must have a partnership agreement (for partnerships) or a shareholders agreement (for companies and corporations) that establishes the relationships between the owners and the policies and regulations that govern their business association. This agreement must also include specific measures for ownership transition, including mandatory retirement and ownership termination at a specific age (usually 60-65), provisions for "emeritus" status and continued employment for those who want to stay active in the business after yielding their ownership position, and the routine allocation of ownership shares to staff as they are promoted within the firm and assume greater management burdens.

In a privately held firm, the process of transferring ownership to the next generation is often difficult and time-consuming. Sometimes there is an obvious leader that the second generation willingly accepts. At other times, there are several qualified candidates who undergo training and development until a leader emerges. In some cases, a leader may be brought in from the outside.

Considerable thought needs to be given to the process. Questions such as the following need to be addressed: Should I sell to a larger firm that might buy my firm on more favorable terms than an internal transfer? Are there people in the firm who are able and willing to assume the burdens of ownership? How much longer do I intend to keep working, and under what conditions? Why would anyone buy my firm when they can leave to start their own?

Most of these questions will be addressed in an ownership transition plan that provides for a smooth transition and allows the present owners to gradually reduce their involvement. The first step in developing the plan is to identify the successors and determine their interest.

The process of ownership transition recognizes that the goals and objectives of buyers and sellers are different. Sellers are generally retirement-minded and concerned with estate planning, since the bulk of their estate is often comprised of their ownership interest in the firm. Retiring owners are also faced with the prospect of paying a capital gains tax on their investment. Sellers generally hope to sell at a premium above fair market value, which is defined as a price that is fair to both buyers and sellers. They justify the premium price as compensation for years of struggle to achieve the firm's present status.

Buyers are generally younger and face different problems. They are buying homes and raising families. Usually they have no other source of income and require all of their salaries for living expenses. Many do not understand why it is important for them to become owners. Buyers often hope to buy at a discount below fair market value because of a perception that this is a reward for their years of effort.

A successful transfer can only be accomplished in an atmosphere of mutual trust. Sellers are trusted to carry out the plan and turn over increasing responsibility to the new owners. Sellers need to recognize that the purchase price has to be affordable. Buyers are trusted to continue to perform at a high level so as to generate the profits necessary to accomplish the transition. Buyers need to understand that there are risks, as well as rewards, of ownership.

The plan assures the continuity of the firm and significantly impacts client relationships. Clients are much more likely to continue working with a firm that is gradually transferring to the next generation rather than facing an abrupt change. In fact, the next generation within the client's organization is likely to be making a similar transfer. This allows individuals of similar ages and experiences to begin working together to extend the relationship into the future.

Another advantage of a smooth transition is that it allows older owners to gradually withdraw their investment while still contributing to the success of the firm and training new owners. This is much more satisfactory than paying off the older owners after they retire. Younger owners tend to forget the terms of these agreements and may resent having to make payments to those who are no longer contributing to the firm's success.

In addition, bringing buyers into an ownership position early allows them to spread their financial obligation over a longer period of time, which eases the burden. It also gives the younger

people an incentive to stay with the firm and to help it grow.

Because of the limited resources of new owners buying in, the buyout options are often limited to using bonuses or bank loans.

Bonuses are the primary source of funds. However, this means using after-tax dollars, and individuals often need these funds for personal expenses. An alternative is to expect the new owners to forego salary increases as a source of funds.

Some firms expect the new owners to pay for their stock with funds borrowed from a bank. The loans are then repaid out of future bonuses. If bank loans are used, the firm should make arrangements with its bank to permit employees to borrow at attractive rates. The stock is used as collateral for these loans, and the bank usually asks for the firm's guarantee. In order to avoid any repayment problems, it is helpful to set up a payroll deduction plan whereby the funds go directly to the bank from salary or bonus checks.

Following are some considerations that successful follow in their internal ownership transition:

1. **Work within a strategic plan**. The ownership transition plan is a subset within the firm's overall strategic planning process. Ownership transition is an important phase of the strategic plan.

2. **Begin the transition process early**. It is never too early to begin the transition process. Some owners are interested in early retirement, and others may be contemplating a second career in an unrelated activity. A gradual transition also allows for a change in leadership if the wrong person is selected at first.

3. **Develop skilled managers**. New owners need management as well as technical training. That is, they must have an understanding and appreciation for financial management, human resources functions, marketing, and other skills of a well-developed manager. It may be necessary to encourage the new owners to take courses and attend seminars to develop these skills.

4. **Set a realistic firm value and stock price**. Develop a stock valuation formula that is easy to understand and fair to both buyers and sellers. An alternative is to begin with an independent valuation of the stock and use the methodology developed by the appraiser as a formula for valuing the stock in future years.

Internal ownership transition offers several advantages. It encourages greater effort since new owners will work harder for a firm that rewards them with an ownership position. This, in turn, improves employee morale and establishes loyalty to the firm. Internal ownership establishes continuity for the firm that is easier for clients to accept.

The disadvantages of an internal transition are the uncertainty that the next generation will be successful and complete the transfer. Internal transition does not offer an immediate payout to current owners. Also, profits must be sufficient to pay bonuses for stock purchases as new owners rarely have funds of their own with which to buy stock.

A critical success factor in ownership transition planning is the establishment of a communications program. This program is designed to help new stockholders understand the benefits as well as the risks of ownership, and why it is important for them to own stock in the

firm. Normally, the objective of stock ownership is to achieve a return on that investment. However, this is not the case in a closely held firm that usually pays no dividends. Instead, certain intangibles—such as the stature of being a firm leader and the likelihood of taking over management of the firm in the future—are what drive new owners to sacrifice immediate spending for long-term career objectives.

Sharing financial information on the firm is essential when offering ownership to new people. Providing a monthly or quarterly review of financial information, such as income statements and balance sheets, keeps owners informed on the progress of the firm. In many firms, new owners are briefed periodically by older owners on the outlook for the firm and what needs to be accomplished in order to meet objectives for the future. New owners are also informed of how the value of the stock is determined. They need to be able to relate the value of the stock to the firm's recent financial history. At the same time, discussions should be held on the options available for financing the stock purchases.

The current owners must also be considered as they transition. First and foremost, they need to be compensated for their contributions to the firm. This means that retirement and buyout agreements must ensure that there is comfortable retirement program in place. Second, some will not want to fully retire, but will want to transition to some specific role in the firm that allows them to feel useful and make a continuing contribution…an emeritus status. The first part is taken care by establishing 401(k) plans, pension programs, and ownership valuation and payout plans that are incorporated into the partner or shareholder agreement. The second part can trickier, but if successful will allow successful people to continue to contribute to their successful firm without being saddled with the management and liability burdens they carried before.

A very good reference source for planned ownership transition is *Architect's Essentials of Ownership Transition* by Peter Piven (Wiley and Sons, 2002, ISBN 0471434817). While directed toward architects, it provides very good guidance for any type of design firm.

8.2 UNPLANNED TRANSITION: DISSOLVING, SELLING, OR MERGING THE FIRM

Unfortunately, too often, there is no plan for transition of ownership of a firm. In small firms, typically, the first hurdle is for the owner(s) to come to grips with how their role will change in a transition and be committed to that change. The impediments to accepting such change include:

- Key employees are not allowed to become owners until they are in their forties. As a result, talent may not be bonded to the firm and may leave for firms where they can obtain an ownership position.
- Ownership interests are distributed as compensation perks rather than to encourage key players to participate in management.
- Planning occurs too close to the retirement of the principals who manage the firm. As a result, there is not enough time to train successors.
- Tax advantaged retirement plans (such as pension and profit sharing plans) are not considered as a funding source for an eventual buy-out under a buy/sell agreement.
- Firms create obligations to retiring partners without providing adequate funding. As a result, retirements of one or more owners may create a financial crisis for the firm.
- Firms fail to recognize the potential of existing employees to transition into management and business development.

- Owners make the first step in ownership transition planning the determination of firm value by outside appraisers. As a result, the owners find that they have no buyers at those values.
- Firms fail to consider the value of covenants not to compete to prevent the loss of existing clients upon departure of employee-owners.
- Firms fail to consider the option of recapitalization with a limited liability company as a method to make a transition plan more affordable.
- Future owners are kept out of the planning for ownership transition. As a result owners are disappointed when employees choose not to purchase ownership interests.
- Firms fail to fund buy/sell agreements to purchase stock upon disability with disability buy-out insurance.
- There is a failure to consider ownership transition as merely a part of a strategic planning process.
- Firms fail to understand that clients like to see younger generations of management being prepared in order to give them interrupted service. Older owners need to understand that the cemetery is filled with indispensable people.
- Firms use attorneys and consultants who are primarily involved in serving asset based companies. These advisers may not understand the special needs of professional service firms.
- Firms that look to outside purchasers to remedy the lack of an ownership transition plan, don't understand the problems that can be created by claims made professional liability. As a result, former owners may have to buy "tail" insurance or be responsible for deductibles for claims caused by the merged firm.
- First owners often believe that their "sweat equity" should be reflected in the value of the firm. *Usually there is no basis for such an assertion.*
- Ownership interests are given to employees without requiring payment. This usually causes unexpected taxable income to the employee based on the value of the interest.
- Ownership transition planning is delayed because owners don't want to allow employees to be able to look at financial records.

Note that many of these reasons are psychological fears reflecting an entrepreneurial personality characterized by being results- and action-oriented, domineering, and aggressive. Remember from Chapter 2 that it is these same entrepreneurial traits that must be overcome for the firm to grow and ultimately survive. The other reasons from this list are simply the result of poor planning. *If owner(s) can't transition management responsibilities, then ownership transition is out of the question and the only option is to dissolve the firm and sell the assets or sell the firm to an outside buyer.*

When considering a sale or "merger," the first question is always, "What is the firm's value?" One thing that often comes as shock to sole proprietor practices is that *there is no way to sell or transfer a sole proprietor practice without the principal. Without him or her, there is no practice.* Consequently, the practice has no value beyond a few physical assets. Generally, sole proprietors must either wind down their business or sell the assets and close the doors.

The textbooks will tell you that the value of a firm in a sale or merger will range from 100% to 300% of "book value." Book value for design firms, unless the firm owns real estate or other "hard" assets, is rarely a large number. A firm that has gross revenues in the millions will typically have a book value of only a few hundred thousand.

Typically, much is made by the selling practitioners of the firm's "good will": existing clients and the firm's reputation. Yes, this does have value, but since design practices are formed on the basis of professional-client relationships, with departing principals, good will value is both limited and short lived (1-2 years) and buyers will heavily discount this in a purchase offer.

Also, since few design practices are large firms with widely held, publicly traded stock, there a "discount for lack of marketability" (DLOM) that must be considered by when dealing with potential buyers. DLOM can be the single factor that most affects the value of an interest in a company.

Selling a design firm and hoping to make a bundle is, for the most part, a pipedream! Planned ownership transition will always be more rewarding, both financially and personally.