



Acorn Consulting Services, LLC

## Contact Us

Acorn Consulting Services, LLC  
2830 N Swan Road  
Suite 140  
Tucson, Arizona 85712  
520.322.6150  
520.327.0062 fax  
**clientservices@acs-eng.com**

### On the Agenda

**Introduction:** In our first Volume of the Forensic Exchanger, we discussed some of the all too many reasons why HVAC systems fail. If you missed that edition and are interested in that topic [e-mail us](#) and we will gladly send it to you. We will follow up with more discussion of that important topic in later editions.

In this edition, we will discuss things you can do to avoid conflict in the design and construction of building projects. This is a more upbeat topic than the last edition, one that all Owners, Contractors, A/Es and others involved in the project delivery process can benefit from. Our goal is for you to be more proactive in the development of contracts, relationships and communication that keeps everyone *“pulling on the same end of the rope”*, rather than degrading the process to an adversarial one.

### Discussion – How to Create Positive Project Outcomes by Proactive Planning and Partnering:

The design and construction business has historically been riddled with relationship-busting conflict ranging from verbal disputes to litigation and all manner of heartburn in between. When a project goes sour, no one wins – reputations are tarnished, feelings are hurt and in the worst of cases, businesses go broke. No one goes into a project with the thought that any of these outcomes will occur, but what do they really do to proactively plan for and cause positive outcomes?

The reasons disputes arise may be technical, contractual or even simply a matter of perception – almost always they relate to poor communication or a breakdown in communication that hasn't been dealt with. Regardless of the cause, most conflicts don't need to happen in the first place, but if they do, many can be repaired with some honest and prompt communication. Having a better understanding of the issues and potential problems can often be the first step in avoiding them on your projects.

Here are a few of the means to improving projects through proactive planning.

1. Contracts that say what they mean.
2. Agreeing on a rational and well-documented scope of services.
3. Keeping scope changes under control.
4. Doing the right thing for all sides.
5. What if it can't be salvaged?

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### Contracts That Say What They Mean

What you say, how can this be an issue? Of course your contracts say what they mean. If it were this easy, no one would have a dispute on a design or construction project. The truth is, design/builders and their clients are frequently at odds about the terms of their contracts – not out of malice or a desire to try to “pull the wool over the other's eyes” at the outset, but simply because the true intent of the contract may come under scrutiny

during the course of a difficult or contested project at some time in its life cycle.

Communication, that often discussed, seldom well-practiced art is the answer, however, this needs to take place during the contract negotiation process in the form of positive fact-finding, exploration of needs and goals and good old-fashioned scope definition.

In order for the contract to say what is meant, someone (hopefully both sides) needs to know what they want. A simple premise, but often overlooked in the euphoria that surrounds the outset of a project. I am reminded of the story of the four fishes that had been used as an example by American Council of Engineering Companies of the need to clarify scope in the bidding process. Paraphrased, it goes like this:

A customer asked several suppliers to quote their price for four fish. Thinking this a simple request, the customer was surprised when he got quotes ranging in price from \$4 to \$400. In evaluating the bids further, the customer found the following discrepancies in the suppliers understanding of the RFP:

- Supplier Number 1 bid \$120 – which he explained was the cost of four gourmet fish dinners at his chic restaurant (wine, appetizers and desert excluded).
- Supplier Number 2 bid \$4 – which he said would buy the customer 4 gold fish – alive and swimming FOB his pet shop, excluding bowl, food, water treatment and other necessities (including a lot of luck) to keep them alive.
- Supplier Number 3 bid \$400 – for which price he would supply and deliver 4 medium-sized prize Koi carp (excluding pond, filters and recommended medications).

It turned out that what the owner was really looking for was a reproduction of a famous painting of four goldfish by Henri Matisse that should have been available framed for about \$50.

The moral of this simple yet surprisingly intuitive story is that there needs to be a complete meeting of the minds any time a bidding situation exists.

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### Agreeing Upon a Rational and Well-Documented Scope of Services

Let's start with this subject from the owner/buyer's perspective of purchasing design or construction services. How many owner/buyers really know what they want or more importantly what they really need at the outset of a project? Part of the design process is to discover what is required to meet a client's needs. On all but the most mundane of projects, or the project that is a virtual repeat of a previous project, discovery of needs is often a great challenge. Don't believe this? ... What kind of person did you think you wanted for a spouse before you found that special person?

Let's see what we can do to improve the process and avoid later misunderstanding that lead to dissatisfaction or disputes:

1. **Scope Checklists:** One of the best ways to ensure both sides have a thorough understanding of the scope is to start with a good checklist – one that is based upon your experiences over a long period of time or a large number of projects. Don't have that much time and experience? Then start with the AIA scope checklist that is included in AIA document B162 and the corollary document 1910 from EJCDC. Most importantly, discuss the needs, goals and cost implications (fee and life-cycle cost) of including or excluding scope items from the initial contract. If something is left out inadvertently, or excluded intentionally that ultimately needs to be done, the cost to get it done later may be much higher, both in fees and aggravation than it would have been at the outset.

As an example, don't simply agree (or require) alternative system studies as part of a conceptual design service. State the specific types of systems to be studied and the number of alternatives to be evaluated (e.g. evaluate three (3) methods of chilled water generation for the central plant).

2. **Due Diligence:** Both the owner/client and the design/builder need to understand the needs of the other through adequate due diligence. What this means will vary widely from project to project. On a

retrofit type of project it may require a technical (engineering) audit of the existing facility – can the structure handle new loads, can the infrastructure (water supplies, power, central plant, etc. accommodate the expansion), will the regulatory agencies approve the kind of renovation that is contemplated? On a new project, due diligence may take the form of programming or conceptual design, depending upon the complexity (or uniqueness) of the project and the owner's ability to clearly and with specificity detail his needs.

3. **Timing:** Is the project time sensitive (which ones aren't?) and if so, what is the "opportunity cost" of delays? Some delays – weather, strikes and a few others can't be anticipated and can't be controlled, but the vast majority of potential delays or obstacles in the path of the project, can and should be anticipated by the team. Have a game plan, a work-around strategy for those obstacles that come up that could cause delays, such that the project can proceed with minimal disruption? The lengths that you go to and the alternative costs that you can and should incur are a function of the "opportunity costs", which if known at the outset, help all parties to develop viable strategies for work-arounds. When these kinds of issues are not discussed at the outset, avoidable delays may occur that later become the root cause of dissatisfaction of disputes.
4. **Phased Design and Construction Services:** Phasing the design or contracting can be an effective way to reduce risk, particularly in large and complex projects. If the scope of the project cannot be fully comprehended at the outset (as is sometimes the case in a complex retrofit), by issuing a contract for a known subset of the overall scope that can be used as a building block to help all parties uncover the true scope of the next phase, both parties may be protected from unforeseen problems. Caution is the word here, as the imprudent use of phasing may result in scope gaps, unnecessary delays or duplication of effort, all of which can add cost or lead to disputes.
5. **Retrofit and renovation:** This type of project is especially prone to pitfalls – what should have or could have been contemplated by the parties? When is the owner asking for unjust enrichment by calling upon the "CYA" language that is rampant in many specifications and when is the contractor being unreasonable in his demands for extras that really should have been foreseen and covered in the bid proposal? Many of these kinds of questions can be negotiated by the designer (who is supposed to be an unbiased party), however, when the dollars get large, this may not be feasible. Contingency funds should be established on these kinds of projects with clear rules as to their intended purpose and authorization protocol for use. Nowhere in the design/build world are the terms "know your client" or its corollary "know your builder" along with "buyer beware" more well placed. Trusting relationships that are built on a history of fair and equitable dealings are the watchword. Low bids are often just a means for unscrupulous contractors to get their foot in the door and their change order pads warmed up.
6. **Open Ended (Job Order) Contracting:** When is an open ended, job or task-order based type of contract justified, if not indicated? When a client (customer) and a supplier (design firm or contractor) have established a trusting, symbiotic relationship, cost plus or other forms of negotiated contracts may be the best way to go. This type of contracting has been used successfully for many years with large consumers of design/build services like the Corps of Engineers. In this type of delivery method, the owner/consumer and the designer or builder negotiate rates and other contractual terms (such as audit procedures) ahead of any specific project scope. Both sides have a general understanding of the types of projects that will fall under the terms of this type of contract and what types of projects will not (usually those that are large and readily defined). The contract price for any given work order under the umbrella contract is generally negotiated by an evaluation of the probable time and quantities of materials required to accomplish the objective – these units are then multiplied by the pre-established unit prices. Ambiguities may still arise due to unknown (generally hidden) conditions, but these can usually be easily addressed with further negotiation once that matter is better defined. In situations where owners have on-going need for design and construction services and the burden of bidding or separately contracting for each project isn't justified, this method has proven to be cost effective for both sides of the contract.

**Design/Builders as Purchasing Agent:** The design and design/build process places the designer and/or the builder in the role of facility purchasing agent for an owner. Accordingly, the more information he is armed with at the outset and the more experienced he is, the better the purchase experience is likely to be. In the design/build delivery process, a knowledgeable contractor is teamed with a knowledgeable designer (at least in theory). This should improve the likelihood of a satisfactory purchasing experience (the old "two heads are better than one" theory). The only problem with any of this is that the designer and the builder are trying to purchase for the owner something that may never have been built before, so the finished product may be hard

to fully comprehend or visualize – especially for a buyer that is not very experienced. While this may explain why many such purchases aren't optimum (how many cars have you bought that didn't live up to your expectations, even with the benefit of a test drive?), it also reinforces the need for a close relationship between prospective owner and shopper. The better wants, needs and goals are established, the more likely the purchase will be successful and meet the objectives for many years to come.

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### **Keeping Scope Changes Under Control**

One of the most insidious problems in any design/build project is expanding scope or "scope creep." This is the bane of owners' budgets and the enemy of cost control from the design/builder's perspective.

Nip scope creep in the bud with a well-defined scope or budgetary estimate – if it isn't in the scope or budget, eliminate something else to pay for it. Both sides of the contract need to have a (seemingly) ruthless approach to containing the project to the original intent or program. The small changes that seem so harmless at the beginning of a project can quickly multiply to real dollars that bust even the most well considered and funded budget.

Communicating with the owner/client via adequate programming and schematic design is the way to ensure the project concept meets their needs, thus reducing the tendency for scope creep to occur. As an example:

My firm designed a project for a client that included a service elevator for moving equipment from the basement level to the upper two manufacturing floors. The elevator wasn't programmed to go to the roof, because there was no equipment on the roof that needed servicing. During the design phase, one of the (many, make that too many) owner's reps stated that it was now a requirement to have the elevator go to the roof because he believed that it might someday be necessary to service equipment on the roof. We showed the owner that the original estimate that was a part of the approved program document clearly provided for only three levels of service. We explained that the cost to add the roof access would be approximately \$50,000 (which while significant, didn't seem important to this individual on a project with an overall budget of \$80,000,000). We asked the owner's representative to either back off from this request, trade this added scope for a reduction in some other line item, or find an additional \$50,000 in funding to add this feature. After much gnashing of his teeth, he agreed to transfer funds from his other capital projects to make this happen.

**Moral:** The process of scope containment, while somewhat uncomfortable at first (we all want to please our clients and give them what they want), resulted in an understanding that budgetary constraint was important to all concerned and that compromise could be reached if we all communicated in creative ways at the outset of the project. We set the tone that budgetary constraints were important to the success of the project and that if everyone was willing to compromise, we could bring the project to a successful conclusion and all be heroes – and we were!

One of the most difficult types of projects involves retrofit and renovation. We've all experienced cost overruns associated with unforeseen conditions – but should there be so many of these conditions? Experienced designers and constructors owe it to their clients to consider the potential for unknowns to crop up and to allocate a reasonable contingency fund to cover the truly unforeseen. However, the magnitude of unforeseen conditions can and should be limited by conducting a thorough audit of the condition of an existing facility as part of the due diligence or feasibility process. The best way to avoid surprises is to quantify the potentially unknown and use engineering judgment backed by operational data, rather than relying on anecdotal information.

**Keep everyone on board (in terms of the scope) by continually reminding them of the mission, thus the desired ROI is maintained and the project is constrained to the budget.**

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### **Doing the Right Thing for All Sides**

Fairness is the key to success in design/build projects. Nobody should have to lose, however, nobody should

have to pay twice for something that should have been included in the original contract. Contrary to our experience in buying many forms of commodities, the lowest initial price for design or construction may not translate into the **best deal**.

**How to know what fair is ....** But how do we know when we are getting the best value, or an optimal solution for our needs? This is the \$64K question, even for experienced owners and design/builders. The answer is different for every project and every owner. Perhaps the only way is to deal with reputable players that you have a track record with or that come highly recommended by trusted sources, and then to work (communicate) with them to ensure they fully understand your project goals in the short and long run.

**The integrated team** – a philosophy that says we are all in the project to gain, and that by helping each other achieve individual objectives, the whole project wins. While this sounds too utopian to be true, the best projects follow this model or ethos. This philosophy relies on all parties believing that business is not a zero sum game. If we have parties that believe that for them to win another must lose, then we are in for a rough ride. Issues that could have (and should have) been resolved early on, become insurmountable. Each such festering sore grows and creates an infection site that allows other sores to manifest.

The best projects and end results for all parties are those in which everyone realizes that compromise may be required to resolve issues, and that an equitable contribution to a solution is generally better than a one time coup.

**Partnering sessions** – more than just Ra-Ra hype, or are they?? The use of a third party facilitator at the outset of a large high stakes project has been shown to reap rich rewards for all members of a project. The best outcomes are achieved when the process goes beyond the original session and is revisited throughout the project, especially when stress is high and much is at stake. This is not singing Kumbaya around a campfire, but real world business relationship building wherein the key elements to success for each party are clearly articulated and understood.

It is true that great clients generally have great projects – they understand how they succeeded and recognize that it was not only their own brilliant ideas and actions, but the good will and good works of others that helped them to get there. Keep this in mind and projects will go smoother and will be more successful.

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### **What if it Can't Be Salvaged?**

An early recognition to agree to disagree is sometimes a good idea .... You will not always come to an amicable and un-refereed agreement – what do you do then?

Some problems can be set aside in the grander context of getting a project done – for everyone's sake. Agree to disagree, record the nature of a dispute for later resolution and don't let it upset the whole project, if at all possible.

When an issue cannot be worked out by internal negotiation "in the spirit of friendship and good business relations," then some form of dispute resolution is probably indicated.

While ADR is a subject about which many volumes have been written by more qualified authors, our advice is to seek calm and rational counsel early. Begin the process of discussion of how to resolve differences as early as possible while the relationship is still positive. Don't hide from the problem as this only causes the other party to think the worst and become more defensive in posture than he might otherwise.

Talk to your insurer if this is a potential insurance claim and seek their early advice – generally this is given free of charge and without prejudice to your reputation or rating. If the issue is not likely to be covered by insurance, talk to your legal advisor in the spirit of developing a negotiated solution, before the rhetoric and attitudes on either side get out of hand.

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