

How do YOU differentiate between Owners, Design Professionals, and Contractors?

Perhaps the simplest way to approach this is to tell a story explaining how an individual, an Owner, developed a successful facility to conduct his/her business venture.

The Owner had an idea one day that if and only if there was the right location with plenty of customer traffic, a new business venture could be launched that would benefit the community as well as be profitable. The new idea needed to be incubated to see if the Banker would buy-in and provide the funding necessary to develop the new location as well as provide working capital for materials and inventory and employee wages and salaries.

A business plan was immediately started to paint the picture of the new idea as well as demonstrate to the Banker that it would be worth the Risk to provide funding for the project. Everyone agreed that the new idea would benefit the whole community. But the question that still needed to be answered was if the business would stand on its own financially.

Now the Owner ran into a problem. How much funding would there need to be to develop the new idea's facility and provide some sort of guarantee for the Banker that it could stay within a reasonable budget. This information was critical to the credibility of the business plan.

Should the Owner call a Contractor? Maybe a Design Professional would need to be engaged to provide professional services? What should the Owner do? Have you ever found yourself in this situation?

As a suggestion, perhaps the first thing the Owner needs to understand what differentiates a Contractor from a Design Professional.

Design Professionals generally provide services to give the “*ethereal* ideas” of Owners definition by creating deliverables that manifests themselves as “blueprints and specifications”. An architectural Design Professional generally has strengths in space planning, access and egress, shapes, finishes, and colors. The Engineer Design Professionals, on the other hand, take spaces, shapes, materials, and create structural, mechanical and electrical systems that will support the function of a facility. Engineering Design Professionals prepare their deliverables for the Owner in the form of “blueprints” and “specifications”. These all include the minimum criteria set forth in Building Codes in addition to special requirements needed to make the facility operate at its maximum efficiency; the Owner's business plan must address the Total Cost of Operation.

Contractors on the other hand, are Managers of:

- Skilled Labor
- Unskilled Labor
- Equipment
- Materials and
- Schedules

Contractors take the “blueprints and specifications” created by the Design Professionals and use them to develop construction schedules, define skill sets necessary to do the work, quantify the

labor and materials required based on the “blueprints”, qualify the quality of materials to be ordered to meet the requirements of the “specifications”, and determine what specialized equipment necessary to build the project.

All of the information provided in the “blueprints and specifications” gives the Contractor a point of reference to prepare a “Bid” proposal to do the work of building the project for the Owner.

Occasionally, there are circumstances that require Change Orders during the “construction phase” of the project. Change Orders can occur due to a variety of circumstances, generally due to “unknowns”; items that cannot be identified during the “design phase” and preparation of the “blueprints and specifications”. Other times, the Contractor is looking for a way to enhance their total “bid” proposal price. If there is a specification involved, there is generally a method defined for Change Order submission that determines who approves the Change Order process. Sometimes, the Owner decides to make changes in the time schedule, material quality or quantities after the Contractor’s “Bid Proposal” has been accepted.

Each of the members of the Build-Team; the Owner, the Design Professionals, and the Contractor has a role to fulfill. The Owner has a fiduciary responsibility to insure that the Design Professionals are paid in full, and that the Contractor is paid in a timely manner in accordance with pay requests reviewed and approved by the Design Professionals.

Sometimes an Owner will decide to “save money” by eliminating one of the team members, perhaps a Design Professional. This often yields a short sighted result, as the experience or expertise of that or those team member(s) is lost in the process. The same number of decisions must be made by someone to complete the project, usually the Owner, but now they must be made without the valued counsel of a Design Professional. Unfortunately, most Owners do not realize what they are missing when the project is finished, or when they do, it is too late to recover without an extreme increase in cost.

Contractor’s become experts in project construction. They gain knowledge of materials, crew skills, and equipment over years of experience. Their experience is valuable to the Build Team. The Contractor determines the Means and Methods to be used in the construction process.

Contractors are sometimes left to find the drain in the swamp after all of the problems with a project surface, because an Owner does not provide a competent set of construction documents. A good motto to remember is that “The Devil is Always in the Details”. Sometimes Contractors contribute to creating problems by convincing an Owner that a Design Professional is not needed. An Owner that doesn’t provide a Contractor with set of good set construction documents prepared by Design Professionals is definitely going to get what he/she is paying for.

So just what does a Design Professional do anyway?

In general, the Design Professional of Record is the person or company that oversees the “whole picture” of a project. As an example, there are Engineers of Record (EOR), and there are Specialty Engineers. So what does this mean? Quite simply, the EORs oversee all of the details of a project including the compatibility and interface of the different materials or equipment that is used in the project.

A Specialty Engineer, on the other hand, has specialized knowledge about one topic such as floor or roof trusses, or mechanical air handling units. They are deeply involved in the design and manufacture of the component that meets the industry material specifications and the loading requirements created by the EOR. The Engineer of Record often depends on a Specialty Engineer to provide a unique solution for the special use or loading requirements of a project. In this case, the EOR specifies and stipulates the load requirements for a project. The loads can be “prescriptive” as required minimums by a material or specialty code, or they can be “performance based” as defined by special needs of a project.

Now I know this must be getting a little bit heavy to understand, so in order to keep it simple I like to say that:

TEAMS WIN!
individuals wither...

Now for a quick quiz....

Is an Owner better served by paying a Design Professional 20% more of the basic design fee for services, or saving that 20% of the basic services fee of 10% (let’s keep the numbers simple) yielding a net 2% more. In other words, 12% instead of 10% to save 5% on the Contractor’s Bid Proposal, because more of the details are covered in the construction documents?

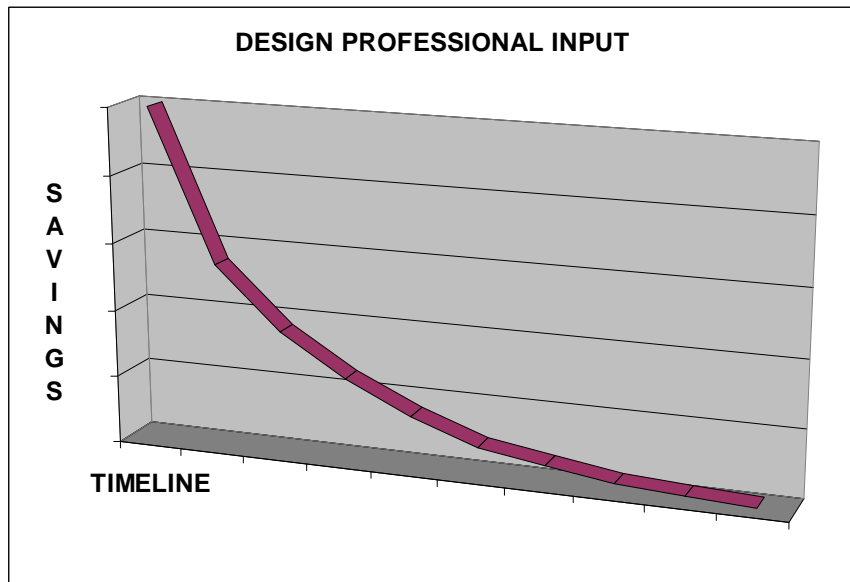
Well let’s see. Say we take a project that is estimated to cost \$1,000,000 in a business plan. An increased design fee of 12% would be \$120,000 instead of \$100,000, an increase of \$20,000.

Now if the Contractor bids the project at \$950,000 plus a 5% contingency, because of more complete “blueprints and specifications” the Owner has the opportunity to save money. Contractors can generally find ways to justify Change Orders on the order of 5% to 10% depending on the nature of the project. Typically Change Orders Add to the cost of a project. So if the total Change Orders were limited to 5% above the contingency budget because of the extra planning and coordination budget by the Design Professional, then the Owner could pay an additional \$47,500 above the \$950,000.

Example Project Cost Budget

Design Prof. Fee %	10% x \$1,000,000	12% x \$1,000,000	Net Savings
Design Prof. Fee \$	\$ 100,000	\$ 120,000	\$ -20,000
Contractor’s Bid	\$1,000,000	\$ 950,000	\$ 50,000
5% Const. Contingency	\$ 50,000	\$ 47,500	\$ 2,500
5% Change Orders *	\$ 50,000 *	\$ 47,500 *	\$ 2,500 *
10% Change Orders **	\$ 100,000 **	-	\$ 100,000 **
Total w/5% C.O. *	\$1,200,000 *	\$1,165,000 *	\$ 35,000 *
Total w/10% C.O. **	\$1,300,000 **	\$1,165,000 **	\$ 135,000 **

Rule: More construction savings can be found early-on in the design phase if more resources are made available to investigate alternatives, than later in the design process after resources have been expended. Caveat – Involve the Design Professional Early in the Planning Process.



Involvement of the Design Professional from the outset of the project can yield significant savings during construction and lower Total Cost of Ownership.

What if the Owner did not have a competitive budget (\$1,000,000 in the example above) for comparison? How would he/she know how much over or under the project cost would have been?

It is suggested that a new Owner review the definitions of the roles of Design Professionals versus Contractors once more. A seasoned Owner who has built several projects may have the experience to negotiate for services knowing what services are necessary for a particular type of project.

One final thought. There has never been a perfect Project, a perfect Owner, a perfect Design Professional, or a perfect Contractor. However, magnificent projects have been completed because of people coming together, each contributing their part, adding to the contributions of others summing up to be the whole. Mutual respect and cooperation between Build Team members overcomes challenges that surface during the construction process.

If you want to put a Build Team together, we would be very pleased to join you to create your next successful project using our engineering services. Our role can be as a Team Leader or a Team Member. We can provide partial as well as complete engineering services. We would use our structural engineering services to create the framework for your next project.

Thank you for your interest in our engineering services.