HOW MUCH DOES DESIGN COST?

What do we mean by "design"?

> Architects are (contractually) responsible for communicating "design intent"
>> **NOT** "means and methods"
>> **NOT** precise dimensions (that others can rely on)
>> **NOT** documents without conflicts
>> **NOT** constructible details
>> **NOT** real life tolerances (as delineated in the specifications)

> To actually build something, each component requires a design that contains:
>> Dimensions and properties that lead to fabrication or purchase
>>> Of items that are "suitable for intended use"
>>> Are dimensionally and materially compatible with surrounding materials
>> Installation instructions (often in exquisite detail)

"Design cost" is <u>often</u> understood as fees paid to design professionals
> Architects, engineers and all manner of specialist designer
> Equates to cost of producing contract documents (plans and specs)
>> PLUS
> Some "construction administration" time

The fullest definition of design cost is the cost of all the thinking and knowledge gathering that must occur in order to build a structure that performs as intended at the estimated cost.

There are many ways to define cost of design. Here they are in order of obviousness. Going down the list as you include each one, you increase the apparent cost of design that results from using a broader definition.

- Checks written by owner to licensed design professionals for contract documents.
- Above PLUS checks written by contractors, subs, and suppliers to design professionals (not necessarily licensed) for detailed documents that are not part of the contract drawings (this includes unlicensed professionals who prepare shop drawings) and similar costs that are internal to contractors of all levels (no external check written) for preparing, checking, and discussing such documents.
- Above PLUS cost of time of all players to create and review such detailed design-elaboration documents. Includes coordination time where details of construction are at issue (as opposed to straightforward sequence and scheduling, which pertains solely to the act of building, not to the design, which is what you will build.).
- Above PLUS cost of time of all players to create and review RFI's and time of all not-licensed-professionals of all kinds to evaluate and respond to ASI's. [Here there is a temptation to exclude time spent pricing, but attention to cost is an intrinsic part of design.]
- Above PLUS cost of time of all players in solving design problems that arise after formal review of shop drawing. This is a significant part of "trailer time"

- Above PLUS cost of bidders (all bidders, not just the successful ones) that are essentially proofreading of contract documents. Most pre-bid questions fall into this category.
- Above PLUS cost (design and execution) of correcting design errors, whether such costs are incurred during construction or post construction
- Above PLUS increased costs of maintenance, repair, or early replacement of poorly designed building elements.
- Product reps are a common source of technical information on products. The apportioned cost of their time (in reality it is embedded in the product cost) servicing a project and helping with design is also a cost of design. Maybe even a small portion of the association dues of all the subs, as such associations typically provide design knowledge to the subs.

My guess is that taking this view, design costs are 15-25% of project costs, probably more. The advantage of such a view is that it encourages us to spend more money upfront. You usually get a bigger bang for your buck avoiding a small problem than living with it in your building.