Residential Design

Designing A New Home From The Beginning

Designing a home is not just drawing lines on a piece of paper. Understanding the current codes & requirements are crucial. Interpreting them is as important as being able to design to them. Understanding materials and the building process is very important. Everyone's taste is different. What I like, most likely, may not be what you like.

While we design, I will be thinking about a lot of things that years of experience in design and construction have taught me.
I have been in business since December 10th, 2001. In that time I have worked on well over 500 projects. They range from small bathroom remodels to custom decks and additions to 3000 sqft custom homes. I started drafting in the 8th grade and continued down the course of education through high school. I attended a trade school where I graduated in 1998 receiving an associates degree in drafting and design.

While in high school I worked with my father who is a carpenter by trade and worked with him for 4 summers building multiple homes and a couple of commercial buildings.
Residential Design

Meetings, Goals, Budget & Time Frames

The first step is to meet in my office. We will discuss your goals and the process required to complete this portion of your project.

We will then meet at the site. We will discuss the home and the challenges of designing within the constraints of the land.

We will brainstorm ideas for specific designs and processes. We will discuss the size of the home you wish to build along with the budget.

We will discuss the time frames for design, project coordination, and construction.
As a designer it is my job to make sure that the design fits your budget. It would be irresponsible of me to design a home that far exceeds your financial grasp.

I work with many contractors in the Tuolumne area. Whether you were referred to me by a contractor that I work with or are in need of a contractor referral, your budget remains confidential.
Once we have met in my office and the field, and we have discussed the size of the home you wish to build and the budget you wish to build it in, I will assemble a proposal for my design and drafting services. The proposal will outline the costs of my services and what is included in those costs.

There are services that I can not include in my agreement by law.

If you decide to accept my proposal, we will begin the design cycle.
Residential Design

Pre-Design Responsibilities

Depending on the size of the lot and its topography, a land surveyor may be required to generate a boundary map and subsequently a topography map.

If we are trying to place the house extremely close to the property line, a survey will be required. Adversely, if we are trying to place the home in the middle of 10 acres, the surveyor will be required to determine the building pads location via a map.

You as the homeowner are required by law to contract directly with a land surveyor.
Residential Design

**Design Cycle**

During this cycle we will draw the floor plans and elevations and meet in the office or via web meetings to review the design. This cycle allows us to iterate through several designs until we finalize on a floor plan and desired look of the home.

I allow you to modify the design as many times as needed during this cycle until we get it right.

This process may take as long as a month depending on our schedules and complexity.

This cycle must be completed before we move on with the design.
Not all projects require structural analysis. The residential code allows for a designer to design within specific rules. It is my responsibility to let you know if the design is outside of the requirements of the code during the design cycle.

I will recommend possible ways to manipulate the design to meet code requirements.

If the entire structure is designed per the code with exception of one small part, the engineer can address just the part that doesn’t comply, saving money.
Construction documents will proceed once the design is approved by you. We will work on framing plans, foundation plans, more detailed floor & elevation plans, cross sections & enlarged plans of high density areas (ex. kitchens).

Once we start the constructions documents, changes to the design take significant effort, therefore additional costs are incurred to make changes.

We will meet again to go over the design to make sure that these elements meet the design intent initially sought after.
Residential Design

Request For Quotes From Trades

At this point the plans need to go to several trades for their analysis. Those trades are as follows:

- Structural Analysis
- Truss manufacturing
- Fire sprinkler design
- Energy analysis

Note: Not all projects require structural analysis. If the structure was designed 100% per the code, we do not need analysis.

Time frame for quotes: Approx 1 Week
Structural analysis can begin once we have completed the construction documents.

The costs of structural analysis will vary by engineer. The plans will be sent to the engineer for a quote. You as the homeowner are required by law to contract directly with the engineer.

You can expect the following costs: approx $1.00/sqft for the living space, approx $0.50/sqft for garages, decks and patio covers.

We will get a time frame from the engineer as well.
Residential Design

Roof and Floor Truss Design

The next step is to provide the plans to a truss manufacturer who will then design and layout the trusses. The truss company must interface with myself and the engineer in order to complete his design.

The design of the trusses may adversely affect the structural elements of the home and we may be required to analyse any forces imposed by them.

Time frame for trusses:
Approx 2 weeks
Residential Design

Fire Sprinkler Design

The fire sprinklers must be designed by a C-16 licensed contractor and subsequently installed by the same contractor.

You as the homeowner are required by law to contract directly with the fire sprinkler contractor.

The fire sprinkler contractor will provide a quote for their services and a time frame to complete them in.

Time frame for sprinklers:
Approx 2 weeks
All new homes require energy analysis. All projects are required to be registered with the state of California.

During the analysis, many things are taken into consideration. Windows, insulation, water heater, doors, hvac units, solar power, geothermal systems, etc. are analyzed to determine the most efficient way to run the home.

I will interface with the energy expert in order to ensure the correct information is provided in the drawings.

Once the analysis is completed, the drawings will be updated.
I will coordinate all of the trades for your project. I will make sure that the truss information gets to the engineer. I will also make sure that the structural data is placed on the plans. The coordination and completion of all of the trades can take as much as 1 month depending on their schedules and design complexity.
Pre-construction soft costs are any professional or material fees that are associated with your project all of the way up to the time you have your permit in hand. These items are explained in the next couple of slides.
## Residential Design

### Pre-Construction Soft Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost per sqft</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design &amp; Planning</td>
<td>$3.00/sqft</td>
<td>$6000</td>
</tr>
<tr>
<td>Land survey</td>
<td>$1500</td>
<td>$1500</td>
</tr>
<tr>
<td>Structural engineering</td>
<td>$1.25/sqft</td>
<td>$</td>
</tr>
<tr>
<td>Fire sprinkler design</td>
<td>$0.50/sqft</td>
<td></td>
</tr>
<tr>
<td>Building permit fees</td>
<td>$1.10/sqft</td>
<td></td>
</tr>
<tr>
<td>School fees</td>
<td>$3.65/sqft</td>
<td></td>
</tr>
<tr>
<td>Road mitigation fees</td>
<td>$3200</td>
<td></td>
</tr>
<tr>
<td>Traffic mitigation fees</td>
<td>$3200</td>
<td></td>
</tr>
<tr>
<td>Encroachment fees &amp; Septic Fees</td>
<td>$800</td>
<td></td>
</tr>
<tr>
<td>Traffic mitigation fees</td>
<td>$3200</td>
<td></td>
</tr>
</tbody>
</table>

Total: $19,000