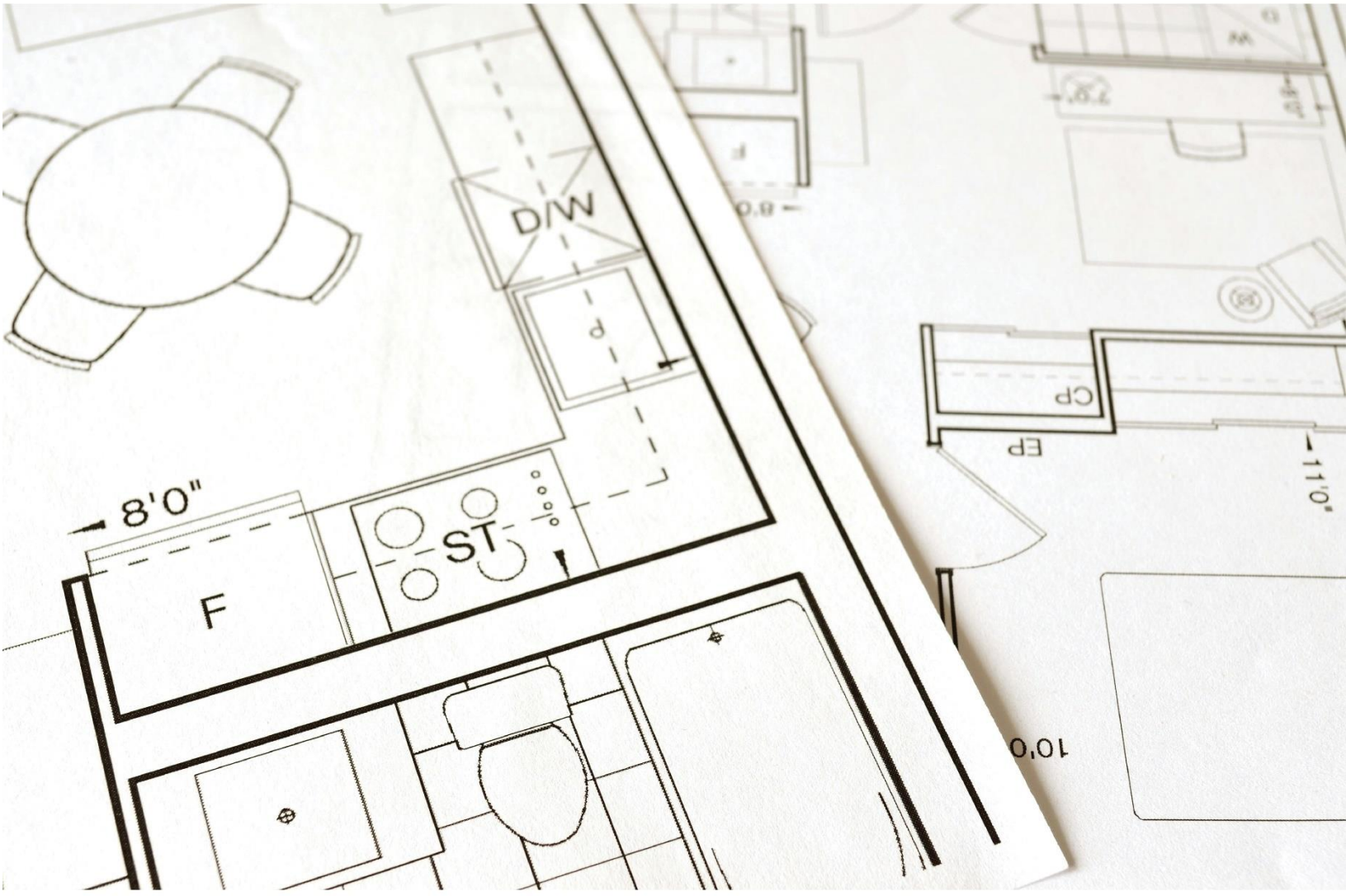
OwnerzEdge

ADDITION

Straight Talk About the Process



Paul L. Johnson

Special thanks to my children:

Josh and Jordan

Christ, my Savior;

To my dad, who thought his life

never meant much; mom.

To clients, employees, suppliers, sub-Contractors, mentors, and tradesmen who provided an income, and/or faithfully served for so many years — you know who you are.

Foreword

The fall of 1986 was hot, long and tedious. I came home one Friday evening after having worked all day with four other carpenters framing a house for a builder. It was a particularly sweltering day for that time of year in Washington, D.C., and I was not immune to it. I arrived home hot, sweaty, and tired. But beyond that, I was frustrated.

Again, for the 10th week in a row, I'd come home without a paycheck. I was (and still am) a good-hearted soul and felt sorry for the builder who kept telling us he was having financial difficulties. He promised to pay us as soon as the bank released the draw checks. If that ever happened, I never saw my portion.

Seeing the discouragement in my eyes, my dad made a suggestion: "Why don't you just go into business for yourself?" My first thought? *Is this guy out of his mind?* My second thought? *What the heck do I know about running a business?* That evening, I sat and my mind froze, like someone had placed it on pause.

That weekend I got together with my best friend, Greg (who also worked with me as a carpenter), and asked him what he thought about going into business for ourselves. He was in. So, we took our Maryland state home improvement license exam, passed it, and were off and running.

But Greg had other plans. He decided that his true desire was a career with the Maryland Fire Department (we were both volunteers at the same station). So, I launched my business alone, and for many years he worked for me on his days off.

My background in construction is wide and varied. My dad built the home I grew up in, and I enrolled in shop classes from the 5th grade through my senior year in high school. I also worked as a carpenter's apprentice, a laborer and carpenter for a commercial construction firm, a cabinet company, and I had numerous friends in the industry. But what did I know about business? Actual *business?* According to my dad, *nothing I couldn't figure out!*
Thanks, Dad.

So, I started reading everything I could get my hands on about business, especially the construction industry. I read the *entire* AIA Construction Agreement and General Conditions. Try doing that sometime, it'll make your head spin.

I learned about the different kinds of business models, how to protect my personal assets, and the consequences of the various business types as determined by the IRS.

I wish I knew (I really tried to find out) who made the following quote: "If you want to be successful, do what successful people do."

Well, I took that to heart and worked hard to meet those I considered successful businessmen. We met for lunch, coffee (well, for me juice or hot chocolate, 'cause I don't drink coffee) golf, wherever/whenever to get inside their minds.

The most interesting thing I found? They all had a common thread. Knowledge of their field, exhaustive planning, stellar organization, willingness to delegate, and a genuine care for their employees and clients. They also surrounded themselves with great and highly qualified character-rich people inside their organizations (and within those organizations that supported them), and they all had the burning desire to be the best in their industry.

It is these 7 principals that have been the foundation for everything I've ever tried to accomplish in business. They, and the blessing of God Almighty, form the foundation for the following business successes:

- First million-dollar revenue year in 1991.
- Self-taught computer literate 1992.
- First Fortune 500 client in 1995.
- Set company record for the Rouse Company for fastest build-out of a mall restaurant space with no disruption to adjacent tenants. Build-out time: 31 calendar days.
- $5 million dollar sales year in 1999.
- Served as owner's representative for a $13 million-dollar church construction/remodeling project, saving the church $175k on one change order.
- Earned the following awards: Contractor of The Year award from NARI for a kitchen remodel over $150k, and 2nd place for interior remodel over $500k in 2010.
- Invented a cabinet installation assembly that earned a United States patent.

Fast forward to 2012. I moved my family from Maryland to South Carolina to help my aging parents and allowed myself six months to get settled into our new home.

On June 19, 2012 when we arrived, I knew a total of 4 people: Mom and Dad, Aunt and Uncle (all retired with no business ties to the community). Okay, 5 people if you count our realtor.

Then, less than 4 years into that new hometown, those 7 principals provided me the opportunity to serve some of the most well-known design professionals and old money families in Greenville.

My purpose in writing this book is simple. I hope you take away a nugget or two of truth that will be a blessing to you on your next project. I want to save you tens of thousands of dollars, lost time, and even prevent a lawsuit. I want you to learn what I've learned, without having to spend the 45 years I did to get there. I hope I succeeded.

Blessings, Paul

Straight Talk – Addition Project

From 45 year's industry experience and now, as part of my consulting practice serving as an Expert Witness, I cannot exhort you more strongly enough to study this information and if there is only one aspect from this that you ensure is part of your contract it will benefit you in the long run.

Here are some reminders from the video that brought you here:

- Do you know all of the information that is required in your state to be in a legally binding contract, how to look up online to see if your contractor is properly licensed, the business entity is properly established, and in good standing, according to the laws of your state?
- Do you know all the questions to ask of a prospective contractor/builder, how to properly describe what you want from the finished product and most importantly, how to understand if all of that has been properly communicated on a set of plans and specifications?
- Do you know the difference between substantial completion and Final completion and what the contractor/builder is responsible for with each? Did you know that if you don't know the difference between these two your contractor can bill you (regardless of whether or not he/she is due any money) and if you don't pay can have a lien placed against your home?
- Do you know what an appropriate payment schedule looks like?
- Do you know if your project requires permits, and what kind of permits?
- Do you know what industry, code and manufacturer standards are and how they are to be applied to your project?
- Do you know how to properly (legally), work with your contractor when workmanship does not meet with expectations or if he/she is not showing up, dragging the work out for what seems like forever? Do you know how to protect yourself ahead of time in case the wagon wheels come off?

These are just *SOME* of the things you need to know, and what I promised would be covered here in this one-of-a-kind resource.

Now, a reminder of some pretty sobering statistics. (and this is a short list), from the U.S. Government and industry sources:

- According to the US Department of Commerce, construction and contracting businesses have the highest failure rate of any other business, with 96% failing before 10 years.
- 2/3 of construction companies are out of business within 5 years.
- Primary reason for failure: Lack of cash flow.
- Of all industries, construction has the least expensive barrier to entry, with the average firm having less than $12,000 to start.
- The home improvement industry has the highest number of customer complaints. In Florida alone lawsuits filed jumped from 30 to over 1,000 from 2009-2017.
- From 2012-2015 only 25% of construction projects studied finished within 10% of their original deadlines.
- In my home state of Florida, in 2008 only 31 construction defects cases were filed, in 2017 that number jumped to close to 1,000! This is no joke folks!

These statistics ought to scare the living daylights out of you.

Think about it. Your home is probably your single largest investment and should not be gambled, but that's exactly what you're doing when you contract for any kind of construction or remodeling, especially in areas of your occupied home!

With this as the backdrop, it's time for *you* to have your copy of The Owners Edge Straight Talk on building an Addition to your home.

Blessings, Paul

OwnerzEdge

Table of Contents

Design Phase

- **Homework**
  - Figure out what you want for the project design style, or maybe you want the Designer to help you with that.
  - Know what you like and especially what you don't!
  - Start collecting photos/website URLs of projects you like, identifying key elements that you want incorporated into your project and have them organized into various sub-groups i.e., exterior finishes/details, wall finishes, flooring, tile, cabinets, countertops, plumbing and electrical, especially smart home aspects.

- **Selecting and working with your Design professional**
  - Know who you are and what you are looking for in other professionals. The Designer that worked for your best friend might not be a good fit for you, see chapter 4 of book. If you need, this is a Design Pro that I've worked with and referred for years, there may be equal, but no better!
  - Be willing to spend good money on the design phase to get well designed, drawn, and detailed plans and specifications, it will pay great dividends over the course of the project. Remember the old saying, garbage in, garbage out. If, at some point, the information is not on the plans or in the specifications for your builder to build from the result is a change order and or a home with details that you don't want. I've seen plenty of folks over the years spend more time selecting the options for a new car than they have when planning and designing their new home. Don't let this be you!
  - Establish the deliverables. Understand exactly what the Design professional will deliver for the contract price. Many designers will provide an initial design with up to 3 revisions of the accepted design schematic. After that you will probably pay hourly for additional work. It is recommended that you establish what is considered part of included revisions and what is extra. Once you establish that, ask the Designer for the hourly rate if you go beyond the contracted revisions.
  - Establish time frames for deliverables of the various stages of the design process, i.e., schematic, design development, and specifications. Once the time frames have been established let the Designer be to follow through but request regular check-in/progress meetings.
  - Ask for examples of previous work, including full color, 3D renderings of the proposed space. These should include what look like images of a real space right down to flowers, window treatments, even the brand of appliances (if any) that you will have incorporated into your project.

- Evaluate the amount of money the design professional is asking for up front. I don't recommend providing any more than 50% of the total fee up front, with the balance being paid upon satisfactory completion and delivery of the following: Complete set of plans minimally includes,
  - Site Plan
  - Foundation Plan
  - Floor Plans for each level
  - Reflected Ceiling Plans
  - Roof Plan
  - Plumbing Riser Diagram
  - Electrical Schematic
  - HVAC Plan
  - Exterior Elevations of ALL Elevations
  - Interior Elevations for all areas receiving cabinetry, trim, hardware and or wall finishes other than drywall.
  - Complete Wall Schedule
  - Complete Sections from foundation through roof
  - Window/Door Schedule, including Hardware
  - Interior & Exterior Finishes Schedule
  - Cabinet Schedule, including Hardware
  - Trim Schedule
  - Plumbing Fixture Schedule
  - Electrical Fixture Schedule
  - Appliance Schedule
  - Smart Home, A/V Item Schedule
  - Window Treatment Schedule
  - Schedule of items NOT to be furnished and or installed by Builder/Contractor

- **Homework**
  - Read my book, especially chapter 4 on how to hire the contractor that is the right fit for *YOUR* project. Not every contractor should have the right to earn your business, it should be earned in part, based on their expertise and type of work they are familiar with, along with a host of other positives that YOU determine are right for YOU.

    In other words, you wouldn't go to your dentist for a knee replacement or an OBGYN for an earache. So why would you hire a contractor that is known for building decks to build your home? Chapter 4 of my book will provide much more information on how to interview the contractor that will be the best fit for you and your specific project.

  - Make use of the following information that I will share with you. This information took me 44 years to accumulate over thousands of projects. Many go to college or university for an education and that's all well and good, but as the saying goes "training is useful, but there is no substitute for experience", especially the experience that I had where real dollars were on the line and if I didn't perform I would lose real money and potentially find myself in a very expensive lawsuit.

  - Understand that contractors are not trained professionals such as physician, engineer, architect, or lawyer. The vast majority (me included) have not gone through any formal (college/university) type of training but rely on mentors and others within the industry from which to learn. This does not mean that there are not highly knowledgeable and qualified contractors. What it does mean is that since there is nothing more than taking a state test that focuses mainly on the most basic of business, state law and very light/general construction knowledge, there are many out there that lack the knowledge necessary to bring a construction project to a successful close, especially the higher end.

    Think about this, these state exams do not cover things like review of plans and specifications, understanding of sub-contractor bids/scopes, the secret sauce of building and maintaining relationships, the secret sauce of planning and scheduling, understanding what should and shouldn't be considered a change order. These are the basics of the industry that can and will leave you exhausted, frustrated to tears or at the brink of divorce or court in very short order.

- **Insist on a carefully executed contract**
  - First, if you are not familiar with construction or contracts and all of the industry jargon, state requirements, items that will protect your interests, home, and implications, retain a qualified construction attorney (not a business attorney that is not familiar with contract law) to have him/her review prior to signing.

- Retain a qualified Owners Representative to review the contract ensuring that items that are not codified (code-required) include any industry standard and manufacturer requirements to be followed.

- Check with your states licensing board to make sure your contractor is licensed, and that the license is current and in good standing.

- Check with your states licensing board to know what your state requires in a contract.

- Check with your state's business entity registrar to make sure your contractors business entity is correct and in good standing with your state.

- Most know about the very basic information that should be in a contract, but just as a refresher these are:
  - Contractors' legal business name (including any trading as names), address, office phone number, cell number of the principal officer, email address of the principal officer and state license number. The legal name is that name recognized by the state licensing board and State business entity name, including the names and contact information of all officers of the company.

  - Owners (Customer) legal name(s), address, phone number(s), cell number(s), and email address.

  - Project address, if different from your home address.

  - Complete contract written scope and price, including any allowances or unit amounts, if any. An allowance might be something like the amount set aside for things like cabinets, appliances, plumbing and electrical fixtures, countertops, flooring materials etc. Additionally, the allowance should state if there is to be any contractor overhead and fee. If the contractor is going to supply the materials he/she is entitled to a pre-established profit and overhead amount to be included in the allowance.

    A unit number/amount is something that might be used for excavation or bulk materials. Let's say you're adding on to your home and the contractor has to excavate for a basement or pool and there will be an unknown amount of dirt or rock to be removed. I recommend that the contract state a unit cost for that up front and verification of the quantities removed. It could go something like this: "Unit cost per truckload of dirt is $x cost". This way you know exactly what it will cost for any dirt to be removed from your property.

  - Legal Venue. A good contractor will have a provision in his contract that makes a provision for legal venue. This means that should things go south,

and you end up in court the court that has authority is predetermined, and what law is established as binding.

- Change Orders. Change orders and construction are pretty much a fact of life. See my book, chapter 6 and make sure you have a provision in your contract for how, when, and why a change order might be necessary, what rights you have and the implications of any change.

- **The deposit amount, progress, substantial completion, final payment, lien releases and warranty.**

Deposit

- This is one of the most important aspects of the contract. The deposit amount should be in direct relation/proportion to the size of the contract amount and be tied to specific items/areas of the work. Remember, small business owners typically have very low cash reserves and contractors, often times use money from one project to float the needs of another. This means that the money you gave them could be being used to fund the needs of other projects, it happens every day. If the deposit requirement is large (over $2,500), it is recommended that the contract include a provision that the contractor will provide verification that the order was in fact placed, that it was placed within a given number of days of contract ratification and that your name and home/project address is referenced.

Invoicing

- After the deposit, all subsequent payments should be tied to actual progress of the work scope. This means that there should be a schedule of values for each item of work, and you only pay for completed/approved portions of work. It does NOT mean that just because the contractor submits an invoice that you hand over a check. A simple schedule of values (Note, this is NOT the complete, contract specification for this item of work) should look something like this:

Demolition	**25,000.00**
Framing	$15,000.00
Roofing	$5,000.00
Windows & Doors	$6,000.00
Siding & Trim	$9,000.00

So, if the Demolition and Framing portions of the work are complete, **and the work meets with contract requirements**, your invoice when foundation and framing portions of work are complete would be for a total of $40,000.00.

- With each progress payment it is recommended that you obtain a global lien release from your contractor. A Global lien release is one that releases any and all

responsibility from you and places on the contractor, ensuring that should the contractor not pay his bills, you are not left holding the financial bag of responsibility. Additionally, should a sub-contractor, material supplier or whoever attempt to file a lien, you are simply able to present the lien release to that individual/company, leaving them responsible. Without it, you will likely pay twice and very likely pay attorneys fees. See our sample Release

Substantial Completion Payment

- Most homeowners have no idea that there are two types of completion when it comes to construction, and there are significant implications for each. When the project has reached substantial completion it means that it is complete to the point where you are able to use all aspects for the intended purpose, but that there might be remaining items left to complete before you agree that the contractor should receive his final payment. Typically remaining at this stage are things like some paint touch up, a missing piece of hardware, a door needs adjustment and the like, all minor items that make up a list called a Punch List. The substantial completion payment should be an amount of money that is proportional to the overall dollar amount of the project, including change orders and one that provides you with the security of knowing that the contractor is going to perform and one that he/she understands that there is a significant amount to be forfeited if not. A good rule of thumb is 3-5% of the overall contract value to be withheld until the punch list items list has been completed. See chapter 10 of my book on a punch list.

Final Payment

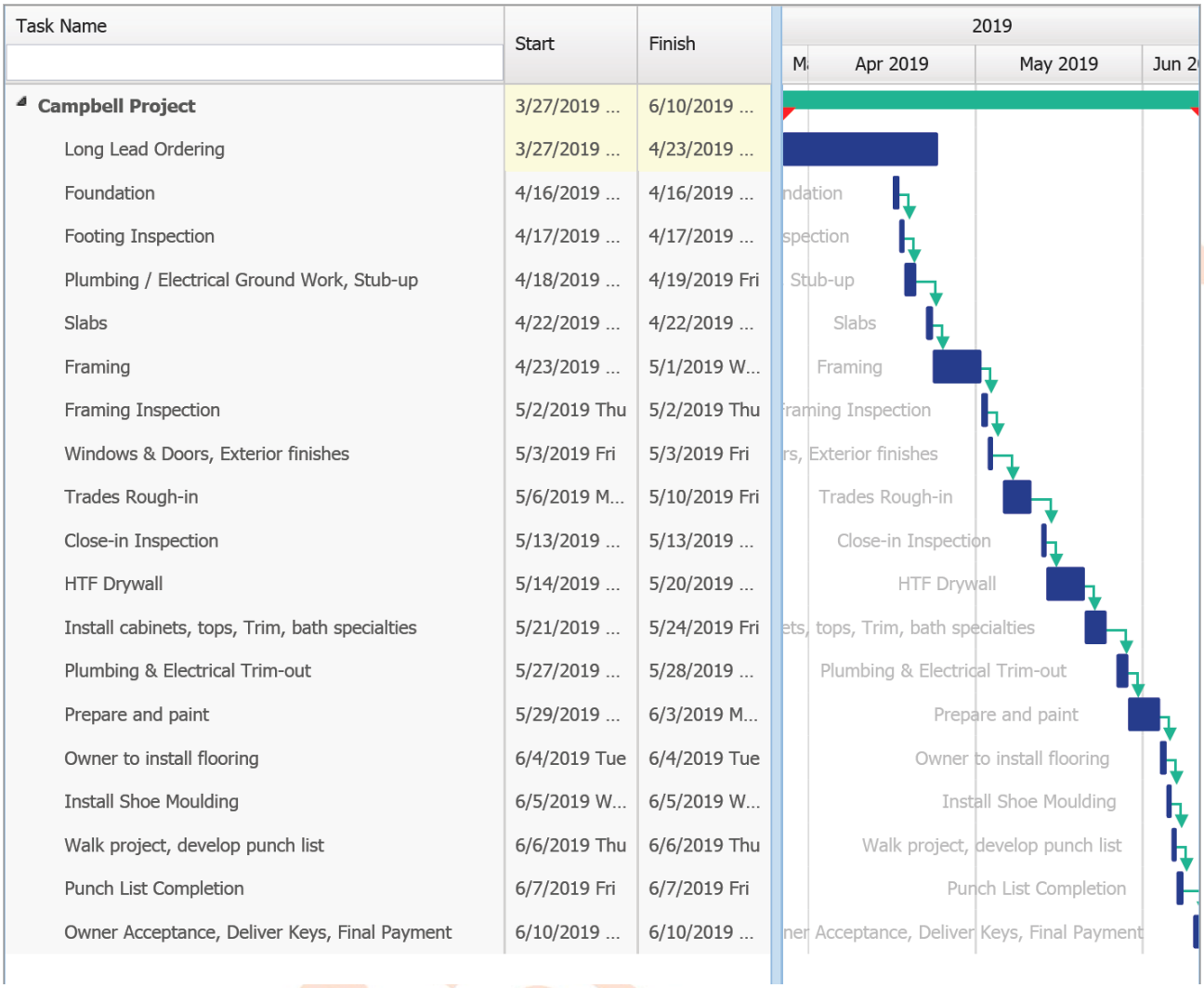
- Final payment is made only when you and the contractor agree that the work of the project is complete according to contract documents, all punch list items have been addressed and again, not just because the contractor submits and invoice. With all of the work of the contract complete and accepted and in exchange for providing the final payment to the contractor, the contractor is to issue two documents one, a final lien release holding you harmless for any contractor, sub-contractor, labor, or material liens for any and all work performed under the contract at your home/project address, and a copy of the contract-provided warranty. Failure to obtain a final lien release could put you in a situation where you still owe money beyond what you paid the contractor because he/she did not pay all of their project-related bills.

Warranty

- Once the final payment has been made and you've received your final lien release, the warranty takes effect. It is recommended that your contract include specific language on what is and what is not included in your warranty from the contractor. Additionally, it should be stipulated in your contract that your contractor deliver any and all manufacturers' warranties at the time final payment is made, along with any manufacturer's installation instructions, demonstrating that all items were installed in accordance with the manufacturers requirements. This is especially important for appliance manufacturers warranties.

- **Insurance and Indemnity**
  - Do not, and I repeat, DO NOT enter into a contract until you have received a copy of your contractor's insurance verification paperwork. The industry standard is called an Accord Declaration sheet that will list your contractors name, address, types and limits of coverage and agency name. It is recommended that you request to be listed as a Certificate Holder and additionally insured. Additionally, it is recommended that you verify, aside from general liability and workmen's compensation insurance, that he/she also has inland marine and completed operations coverage.
  - Ask your attorney to draft a hold harmless agreement between you and your contractor. You have no idea how many individuals will be working on your project and if someone gets hurt and the general contractor or sub-contractors' insurance is not in effect, lapses, falls short etc., you could be part of the lawsuit. Head that off with a hold harmless agreement.

- **Schedule**
  - Most everything we do in life is schedule driven. When contracting for a major construction project at or in your home a schedule is essential. Even if it's a simple schedule, *demand a schedule*. This can be something as simple as project start and completion dates to a full-blown Gantt chart schedule. See chapter 5 in my book for a better idea of what you should require in a schedule. A schedule is very important because it requires your contractor to be held accountable for your time and, it ties the amounts being invoiced to the progress of the work. The following is an example of a simple Gantt Chart schedule.



Task Name	Start	Finish
Campbell Project	3/27/2019 ...	6/10/2019 ...
Long Lead Ordering	3/27/2019 ...	4/23/2019 ...
Foundation	4/16/2019 ...	4/16/2019 ...
Footing Inspection	4/17/2019 ...	4/17/2019 ...
Plumbing / Electrical Ground Work, Stub-up	4/18/2019 ...	4/19/2019 Fri
Slabs	4/22/2019 ...	4/22/2019 ...
Framing	4/23/2019 ...	5/1/2019 W...
Framing Inspection	5/2/2019 Thu	5/2/2019 Thu
Windows & Doors, Exterior finishes	5/3/2019 Fri	5/3/2019 Fri
Trades Rough-in	5/6/2019 M...	5/10/2019 Fri
Close-in Inspection	5/13/2019 ...	5/13/2019 ...
HTF Drywall	5/14/2019 ...	5/20/2019 ...
Install cabinets, tops, Trim, bath specialties	5/21/2019 ...	5/24/2019 Fri
Plumbing & Electrical Trim-out	5/27/2019 ...	5/28/2019 ...
Prepare and paint	5/29/2019 ...	6/3/2019 M...
Owner to install flooring	6/4/2019 Tue	6/4/2019 Tue
Install Shoe Moulding	6/5/2019 W...	6/5/2019 W...
Walk project, develop punch list	6/6/2019 Thu	6/6/2019 Thu
Punch List Completion	6/7/2019 Fri	6/7/2019 Fri
Owner Acceptance, Deliver Keys, Final Payment	6/10/2019 ...	6/10/2019 ...

- **Terms and Conditions**
  - Any contractor that has been in business for any period of time will likely have a section of their contract titled “Terms and Conditions” Pay close attention to these as they can typically have significant implications. Don’t be afraid to question any of them and don’t be afraid to ask for additional terms to be included if necessary. The worst they can say is no, but it gives you the ability to know how rigid they are and how serious they are about customer service and their commitment to a successful project.

- **Communication**
  - Communication is key to a successful construction project. Establish in the contract with whom and how you will communicate. Will the contractor be the one that will be responsible, or will he/she have a Project Manager (PM) assigned to your project? If the contractor is small and will be the one directly reporting to you it’s pretty simple, but you still want to establish how and when communication is to

take place. Three typical methods are phone, text, and email. Since communication is so important and keeping track of that communication is important it is recommended that anything related to specifications, plans, records, schedule, change orders and any items that reflect on the contract be communicated in written form. Text messaging is the easiest for this, but email is better and provides a better platform for keeping track. If a larger project, like a new home, it is recommended that the contractor you select already employs the use of project management software like BuilderTrend® to handle project communications. If the contractor has a PM assigned to your project he/she should provide you with office phone, cell phone and email contact information. Whether contractor or PM, it is recommended that you establish what is considered an emergency and how to contact them in that event and what are considered normal working hours and the normal workweek. See chapter 11 for more information on communication.

Construction Road Map

Ok, the design work is complete, the contract has been ratified and it's time to build your project! If you've ever seen the movie Groundhog Day there is a scene where Bill Murray is approached by a high-school classmate named Ned. Ned is an insurance salesman that just doesn't know how to "read the room" as it were. Few places in life is it more important to know how to read the room than when being the Owner party to a construction project.

Contractors and Tradesmen/women (don't refer to them as "workers", this is very insulting) are by and large a very proud group and want to be treated with respect. The best way to do this is to recognize them for the professionals that they are. Their "office" just happens to be your home and just as you wouldn't walk into someone's office and expect them to stop everything they're doing to chit chat or worse yet, question what they're doing, you shouldn't attempt the same with one of your contractors' tradesmen/women. Make sure to refer to them as Tradesmen/women.

If you are not sure about what one of the tradesmen are doing, contact the contractor or PM and ask them. But to be sure when you ask them, ask from an inquisitive, not accusatory, or doubtful standpoint. Accusing your Builder or the tradesmen of doing something wrong or not knowing what they're doing can be disastrous for you, change the entire tone of the project and can potentially jeopardize your contract. It is my recommendation to take on the Steven Covey philosophy, that is "Seek first to understand, then to be understood".

Think of the tradesmen working on your home as guests and treat them as such. Do so and I guarantee you'll receive the best work possible. Think about it, when you have invited someone to your home you don't just show them the couch, tell them to have a seat and ignore them. No, you invite them in, offer them a drink of whatever you might have (no alcohol, lol), maybe a baked good etc. I had a customer for 25 years that whenever they had us at their home for a project would offer the tradesmen afternoon tea and all kinds of other goodies throughout the course of the project. The men loved it and loved that customer heck, they would have done just about anything for Almuth because they were treated so well. For a better idea how to do this see page 127, chapter 11 of my book.

As part of communication, think about your project in daily, weekly, and monthly terms (depending on the size of the project of course) and communicate any concerns accordingly. In other words, when you visit the site each day and see the progress from that day's work, if you are not sure about something shoot your contractor/PM a quick text message inquiring (not accusing) about the item(s) at hand. Don't demand an answer right then but note that you wanted to bring the matter up prior to the next day's work. Remember, it's not your emergency if something is not quite right.

- **Project Start-up**

Everyone in the process is a human being. That might seem trite, but the reality is that all are capable of making mistakes and now that you know that all too many in the industry are way undercapitalized its important to understand how that may affect you and your project. That mistake made may be so great that the contractor does not have the resources to make it right, so you end up having to live with the results.

Allow me to digress to tell a story. A while back I represented a client that was sued by his builder for not making the final payment on the construction of his new home. One of the reasons was the home being built a full 2 feet higher out of the ground than planned. This issue created a domino effect that had implications for the entire home and by the time the issue was realized it was too late and the builder was not able to change anything that would make the issue go away.

I share that story to advise you to make sure you are on top of what is getting built. Make sure you have weekly progress meetings, make sure you (or someone you've hired/trust) are paying attention each and every step of the way. Ask your contractor to provide you with confirmation information at the various stages, ensuring that the information on the plans and in the specifications are being followed. If you're not sure about what I am talking about I strongly encourage you to check the availability of me or one of my colleagues to review your situation one on one.

As an example, when the contractor is ready to begin the foundation, and prior to pouring the footings, ask him/her to provide verification from the civil engineer that the location of the home on your lot is what is shown on the site plan. Additionally, that the points have all be laid out with a transit and level and that the elevation of the foundation is in accordance with the site plan. A good contractor will thank you for making sure things like this are right.

One more, when you ask for this DO NOT DEMAND or come across with a holier than thou attitude. Read my book, starting on page 123 on how to talk with your contractor. Once you know when and how and with what attitude to approach is when he/she will want to please you.

- **Project Duration**

As you move through your project there are key phases (think of these phases as waypoints on a GPS system) of importance that you need to pay more close attention to, ensuring the desired outcome. Again, you do NOT want to come off as in your face or a pest to your contractor. If you did your homework and hired the right contractor (chapter 4 of my book) both of you will appreciate the team effort.

Many believe that as their home is being built various inspectors make sure that their home has been built properly and according to codes and regulations. Ok, I'm going to be really blunt here – give me a break! Here's the dirty little secret: Codes and regulations are the absolute minimum required standards required by law, but guess what? If you look at the

average number of inspections that the average county or municipality inspector has to perform each day, there is NO WAY he/she is able to look at each and every aspect of your home's construction. No, they rely on the integrity of the contractor to perform their work in accordance with code and regulations. Certainly, they might observe failures here and there, but for the most part I can assure you from 44 years' experience that they miss a LOT! Some contractors even use third-party inspectors that they pay to inspect your homes construction. Can you say conflict of interest here? If the contractor is paying them for a service will they not give deference to their customer, the contractor? In my experience, all too often have I experienced great numbers of significant construction defects that third-party inspectors have missed.

That said, I am not faulting all inspectors! The vast majority take their work very seriously and do a great job. The problem is that what they are not able to inspect, due to time constraints and the fact that the liability falls back to the contractor becomes your problem when missed and these items that once your new home has reached 366 days after completion and present themselves in the form of failures, failures that will cost you money that you already paid your contractor, your contractor is gone. Once he's gone and you have a defect guess what, now you have to take him to court and *hope* to recover.

For the items below you might think wait a minute, I've spent thousands of dollars on an Architect, he/she and the contractor should know all this. While that may be true, they don't know what you don't know and don't think to ask and at the end of the day it all falls on you anyway. Additionally, too many that I know of to count have purchased plans online and there is no one there to guide you, the Owner. Your contractor is going to assume you know what you want based on the plans, so knowing what and when to ask questions of your contractor is just as important as having a set of plans and specifications.

These key phases are:

1. Foundation
2. Demolition
3. Under-slab prep
4. Framing
5. Roofing
6. Exterior Windows & Doors
7. Exterior Finishes
8. Rough-in (Plumbing, HVAC, Electrical, Smart Home/AV) Make up air
9. Fireplaces/Chimneys
10. Insulation
11. Drywall
12. Tile/Stone Installation
13. Hardwood Flooring
14. Trim, Interior Doors, Cabinetry
15. Painting/Finishing
16. Trades Trim-out (Plumbing, HVAC, Electrical, Smart Home/AV)
17. Mirrors and Glass

Let's consider each phase.

As with all things the foundation of anything is critical, get that wrong and everything else that follows is screwed up. And if you remember nothing else about this information, remember that everything is the foundation for everything else. The earth is the first foundation, then the concrete, then the framing, the drywall is installed over the framing, the tile is installed over the drywall and so on. So, if one foundation element is not right well…

Foundation (if any)

1. As mentioned above make sure a civil engineer has provided what are known as "points" for the contractor to locate the foundation on the site in accordance with the site plan. Additionally, review the site plan with your contractor to ensure that the closest point of your home will be located according to county/municipality property set-back lines.

2. Elevation of foundation allows for first floor elevation to be in accordance with plans. Consider having a civil engineer verify the tops of concrete wall forms (if poured concrete is to be used) once forms are in place, and prior to placement of concrete.

3. Review door and window openings with the contractor, ensuring proper units and locations prior to walls being built.

4. If a basement or crawl space is planned, that the foundation has the proper drain system moving water away from the walls and is preferably run to daylight. If extending the foundation drain to daylight is not an option due to site conditions, ensure that the civil engineer has made provision for this item.

5. Review the waterproofing to be used. I recommend a membrane material instead of a tar type. Observe this material and ask for photos of the completed installation prior to backfilling, or preferably take photos yourself.

6. If your foundation has an unbalanced fill (meaning that the outside soils around the foundation are higher than the inside crawl or basement space) make sure that at least the first-floor framing is complete above it prior to backfilling taking place.

7. Look for the location where utilities will come into your home, making sure they don't interfere with other elements.

8. If there is any concrete to be poured for a floor or exterior make sure to review with your contractor (hopefully according to plans/specs) what kind of finish is to be upon completion. Garage floors and areas where there will be tile, carpet or engineered hardwood should have a ***hard trowel*** finish. Exterior areas should have a ***broom*** finish, or possibly ***exposed aggregate*** or ***stamped*** finish. Again, check the plans/specs and if not stated review the options with your contractor.

Demolition

1. Pay careful attention first to the demolition plans and notes within those plans. Failure understand what is and to what extent portions of the work are being demolished and or removed and set aside can literally cause a heart attack. Think of it, is there a portion of your home that maybe was built or altered by a family member that is more valuable than gold to you? An unknowing tradesman could demolish that aspect without a thought (and rightfully so), based on what was described on the plans.

2. Walk the site with your Contractor, specifically earmarking and confirming items that are to remain, memorialized by follow up written confirmation that is distributed to all parties by email, where all parties acknowledge receipt.

3. Should there be items of high and or sentimental value to remain I recommend you ask your Contractor for a plan to ensure their safeguarding throughout the course of the project, where you spot-check their protection along the way. Remember, doo doo happens and when it comes to tradesmen and a construction project all the more!

4. Where existing finishes are to be saved (especially floors), ensure the traffic of other areas does not go through that space.
5. If the remodel is going to involve an addition ask your Contractor if it is possible to build out the shell of the addition, completely adjoined to the existing home, prior to demolition of the existing.

Under-Slab Prep

1. Compare locations of stub-ups (these could be electrical, plumbing, HVAC or low voltage for your smart home or AV system), that are run in the ground under the concrete slab and will be placed prior to the concrete being poured with plans to ensure they are in the right location. Something that is located even an inch in the wrong direction could spell disaster as the process moves forward.

2. Ask your contractor to provide sample measurements of the slab area prior to the slab being poured. Uniform thickness of your on-grade concrete slab is very important for the life of the slab and to ensure you don't end up with cracks, weak spots or future settlement that shouldn't occur.

3. Sleeving. Sleeving is where you literally place a sleeve of material completely around the plumbing pipes that will pass through any concrete floor or slab. The sleeve prevents chafing between the concrete and pipe as dissimilar movement – expansion and contraction takes place. Sleeving does not need to be done between schedule PVC schedule 40 drain piping and concrete.

4. Consider hiring a third-party inspector to be present when the concrete is being poured, requesting photos and video of the process.

Framing

1. Prior to framing beginning consider having a civil engineer verify that the points of any foundation walls are where they are supposed to be and that the tops of the foundation walls are level, according to industry standard.

2. As with all other things in life your plans will NOT be perfect. I cannot state this emphatically enough. One of the things that I have seen time and time again are plans that have an overall measurement for a wall and then individual measurements for each element.

   As an example, let's say the front of your home measures 84 feet, 9 inches. As part of that overall measurement there will be a front entrance, windows, maybe a spigot, front porch columns, etc. and when you add up the measurements of those individual items the measurement is greater or less than the overall measurement. Now what? 9 times out of 10 your contractor won't know this until he's right on top of it, typically with 5 or 6 men standing around looking for direction. You want to make sure your contractor knows that you want to be included in the decision-making process if this happens to know how it will affect the completed project.

3. Review the plans and specs to know what type of plywood is to be used for the sub-floor. Learn what manufacturers stamps look like on plywood and how to tell if it is being installed properly. This is especially critical for those of you that live in areas of the country that are prone to have a lot of rain during the construction of your home. Make sure that the tops of any new subflooring meet with the top of adjacent subfloor and that there be proper blocking/framing at junctures where new meets with original, preventing piano string movement, especially under areas to receive tile or stone flooring.

4. Consider having your framing inspected by a third party to ensure all elements are in accordance with plans/specs. Should you not wish to do so at least walk the entire home with your contractor, looking for items outside of industry standard for plumb (vertical) and level (horizontal). As part of the cut/paste standards that you have received as part of this information, I have referenced industry standards from the R.S. Means company, from their publication "Residential & Light Commercial Construction Standards. For plumb, level, and true the standard for framing is ¼" in 10'.

5. Inspect all interior door rough openings, verifying that they are 2" wider and 2" taller than the specified door.

6. Tradesmen should observe the locations of all towel bars, toilet paper holders, finished hardware etc. and provide solid framed blocking at those locations so that after finishes are installed those items are able to be installed into solid material.

Roofing

1. Most times you will not be getting up on and crawling around on your roof, but there are things to understand about it to ensure it performs properly and its materials will be warranted by the manufacturer. To ensure that consider having it inspected by a third-party inspector.

2. Several main things to look for: Drip edge at all fascia and rake boards, proper valley flashing, ice and water guard material installation, proper starting strips for shingles, proper overhang of shingles, shingles/roofing material specified on plans and depending on the area of the country, snow guards.

3. Prior to the roofing materials being installed the plumbing, mechanical and any penetrations through the roof should be in place for the roofers to flash around.

Exterior Windows & Doors

This might seem like a no-brainer, but you'd be surprised how often mistakes with these elements happen and how to ensure against the oopsies. (Yes, oopsies is a word ☺)

1. The point in time you sign the contract is typically going to be when you order windows and doors as they have what are known as long-lead times and to make sure the project schedule hums along these items should be ready to deliver within weeks of you breaking ground. At this time, I highly recommend that you meet with your contractor and go over the specifications and sizes of each and every window and door, including them being numbered according to where they will be installed in your home. This way when they arrive on site you can quickly look at the sticker, identify the number and know that the correct window/door is in the correct location.

2. When you review the window and door order make sure to understand the following: for windows, is it operational or fixed, if operational how does it operate, is it a single or double hung, casement, awning or sliding. Does the interior and or exterior have a finish, if so what is it. Is it to have screens?

3. For doors what is the handing, meaning which way will it swing, will it swing into another door or interfere with a hallway or other element? What type of hardware will it have, will the doorstops be at the baseboard or on the hinges? What color/finish will the hardware be – brass, burnished brass, chrome, brushed chrome, polished nickel, brushed nickel? If there will be one type of finish on the exterior will there be the finish that matches the interior on the inside? Folks, you might think "wait a minute, I hired an Architect and Contractor, why do I need to know all this? Simple, people make mistakes and as I've said already, your contractor is probably under-capitalized. If a mistake is made, and depending on how big a mistake it is, if it's too great he just might not have the resources to make it right and guess what, you end up holding the proverbial bag :/ Remember, none of the individuals you hired in the design and building of your home will ever live there, only you!

4. Review the manufacturers installation instructions with your contractor, making sure they are properly installed, including code and manufacturer-required flashing and insulation. If you are not familiar with this I beg you to hire an inspector. If they're installed improperly your manufacturer warranty could be voided and on the typical custom home today it's not out of the question for the exterior window and door package to run well in excess of $100,000.

5. Once installed, and prior to exterior finishes being installed, walk the home with your contractor, allowing him/her to demonstrate that each window/door operates properly.

6. Finally, request that your contractor install and maintain protective materials on all thresholds and windowsills throughout the course of construction. An ounce of prevention is worth way more than a pound of cure here.

Exterior Finishes

1. The exterior finishes (outside of roofing), encompass one of the most significant and important components of your home. A significant portion of my work as an Expert Witness, related to construction defects deals with water/moisture intrusion into the interior of the building. As with windows and doors a little prevention goes a long way.

2. Review the plans and specs as the windows and doors are going in. Check your code regarding all exterior finishes (hint, most likely your home falls under the International Residential Code, IRC), and you want to look under §R-703.

3. Flashing, water, and moisture proofing your home are of preeminent importance. Did you know that water damage from leaks is responsible for more expense to insurance companies than earthquakes, fire and storm damage combined? The problem is that if you have water damage from poor quality construction (not a broken pipe) your insurance will NOT cover the damage!

4. The likelihood that you as a layperson will know what you're looking at or what to look for is very low. I cannot recommend enough that you have an inspector observe and document exterior finishes being installed.

5. Exterior trim is very important. Pay attention to the type of trim that is specified on your plans. Contractors use all kinds of exterior trim materials, and their types will be critical to the longevity that is expected. Consider the use of materials like Azek® Miratec® James Hardie® or other composite materials. When doing so make certain that the tradesmen are following installation instructions properly.

6. If a masonry exterior the transition and air space between the brick veneer and substrate is critical. Weepholes, lintels, and sills are critical. Mortar type and knowing if the mortar sat too long before use is critical. Washing the masonry work down upon completion is important.

7. If the exterior is going to be a combination of masonry and siding understanding how transitions between the two at vertical and horizontal joints is critical. Flashing is critical.

8. If the exterior is going to be a cement siding knowing nailing patterns, how cuts and joints need to be treated, how vertical joints need to be flashed and how joints need to be caulked/sealed is critical. For instance, James Hardie® is probably the largest manufacturer of cement type siding and they have very specific installation requirements in order to maintain their warranty. The likelihood that your contractor has employed a subcontractor to install this siding is very high. Additionally, the likelihood that the subcontractors' tradesmen have received any proper training on the installation of this siding is also very low. This means that again, their lack of knowledge may result in a failure due to defects that at some point will cost you money due to products that have no warranty as the result of improper installation.

Bonus:

Many times, tradesmen use pneumatic nailers to fasten cement siding. While some pneumatic fasteners can do an "ok" job making sure the head of the fastener is not too deep or not set enough is very important. Failure to set these fasteners in the appropriate way may void the warranty.

9. If the exterior is vinyl siding proper nailing, flashing and attachment of materials is important. As with cement siding proper fastening is crucial and use of pneumatic fasteners virtually guarantees an improper installation.
10. It is recommended that you have all of your exterior finishes privately inspected.

Rough-in

Plumbing

1. After framing is complete your contractor should be moving quickly to perform what is known as the rough-in of various trades. Rough-in is the term for installing of the items that will be inside walls, ceilings, and floors. These items once the walls ceilings and floors are complete with their respective finishes will never be seen.

2. Understanding geometry and basic physics helps one understand what rough-in work should be completed first. Since wastewater must run downhill and often times the amount of space you have inside the walls, ceilings and floors is limited by architectural design, it is important that the plumbing aspect of the rough-in process take place first. I have witnessed attempted change orders by contractors to Owners where it was claimed that since other trades items were in the way that they could not install their drainpipe. When I asked why the contractor didn't schedule the trades properly I was met with stunned silence.

3. Framing is necessary for structure, that should be understood, but many tradesmen don't always get that. As the plumbing rough-in starts often times plumbers will start cutting and drilling framing members without regard to the structural integrity of the members they are going through. Time and again I have witnessed the thought "hey, plans say a toilet goes here, so I roughed-in for it". As with life, most take the past of least resistance and focus myopically on their specific work. When this happens in construction the results can be disastrous.

4. Depending on the type of framing materials used to build your home, TJI floor joists, PSL structural posts, microlam beams etc., their manufacturers have very specific locations and methods that they can be drilled, notched, cut, or altered and failure to adhere strictly to their requirements can render a single or multiple members useless. Depending on the complexity of your framing making a repair or performing a complete replacement of even a single framing element can be devastatingly expensive.

   Pay attention to framing that is being cut, notched, drilled, or altered in order to accomplish the installation of plumbing rough-in items. Look up the code and review the plans and specs for notes regarding manufactured framing materials. For code, see §'s 5, 6 & 8. These sections of the code will explain where and how approved drilling, notching, and cutting are permitted with any kind of framing. Approved altering of manufactured members will be further described by the manufacturer's installation instructions.

5. Pay attention to the elevation's areas of your plans. The kitchen, butler's pantry, laundry room, bathrooms and any areas with plumbing fixtures should have elevation drawings showing the finished plumbing fixtures and where they will be located. When observing the plumbing rough-in stage of your home also pay close attention to where the pipes come through walls and floors and compare those locations with what the elevations portions of the plans show to ensure they are in the right locations. Once drywall and other finishes start to be installed it becomes very expensive and time consuming to make changes.

6. Pay attention to how the rough-in work is performed. Are valves and stub-outs perpendicular to floor ceiling and wall surfaces? They should be. Are they properly secured? Again, a quick review of the code will tell you how pipes have to be secured.

7. Virtually all municipalities, city and counties throughout the nation now require a pressure test for plumbing systems. As noted previously,

8. Think about having a water spigot on each side of your home, it's just convenient.

9. If you cook a lot, consider having a pot filler at the range, you'll thank me later.

10. If you have a large bathtub in the master bath make sure the water supply piping of both hot and cold is ¾". If not by the time the tub ever fills up you might be retired.

11. Pay close attention to fixture locations in shower stalls. If you're tall make sure the shower head will not be too low. Consider the height of the shower valves. If you're Lebron James you might not want the valve to be at the same height as Simone Biles. Additionally, consider options for multiple shower heads, including rain heads directly overhead as well as a hand-spray for the master shower. Lastly, think about a steam generator for the master shower.

12. Consider a tankless water heater. They're highly efficient and have as much hot water as you want. If you do, check with the specifications, ensuring it is not undersized for the number of fixtures in your home.

13. If your contractor uses PEX® supply lines request that copper stub-outs are used.

Bonus:

If your plans call for a tiled shower stall floor I will state that you should demand (yes, demand, do it carefully and tactfully, but demand this) that your shower pan be by Schlüter Systems® or similar brand dry system tied into your shower drain.

Over the course of my career, having remodeled too many homes and bathrooms to count, I can tell you with certainty that I have NEVER demolished a shower stall with a vinyl or even lead liner that did not leak, exposing damaged and often rotted framing material. The mold that can accumulate behind tile would cause anyone with respiratory issues to have difficulties, not even knowing where it is coming from.

The difference between the use of vinyl liners with a cement base over top and a Schlüter type system is that the vinyl liner allows moisture behind the tile and the Schlüter system does not. While the Schlüter Systems® products themselves are more expensive initially, they are much easier to work with, save installers time and provide for a dry system that will stand the test of time.

HVAC

1. As with plumbing the next most important aspect of the rough-in process is HVAC, or Heating Ventilation and Air Conditioning. In order for your home to be heated and cooled properly your heating and air conditioning system will have large piping, known as ductwork, that will carry heated or conditioned air from the furnace/air handler to the vents that deliver the heated or cooled air.

   Most of today's homes are being built with what is known as flex-duct. Flex-Duct is just what it sounds like, flexible duct. It comes with a smooth plastic interior core for the air to travel through and an insulation jacket on the outside to prevent heated or cooled air to lose or gain temperature or, in an attic space to create condensation (sweating).

There are several concerns with flex-duct. One that any bends are not less than manufacturer requirements, no kinks, connections are sealed properly, ductwork is properly sized and gated from the main trunk line and return ducts are sized properly as well.

2. Examine your plans to see where the supply and return vents and grilles are to be located. This is really important do NOT let your contractor do whatever he wants here. Look at the sizes of the diffusers (vents) and grilles (returns) and ask your contractor to have his HVAC subcontractor to provide engineered calculations for the system. Where I live in Florida it's a code requirement that an engineered plan be submitted with the permit application. The calculations should demonstrate that the main unit is sized properly and that the number of and size of the vents and grilles will provide for sufficient and efficient movement of air.

3. Once installed, and prior to drywall/finishes being installed, be on the lookout for any tight bends or kinks in the duct.

4. Discuss thermostat options with your contractor. Many on the market today are electronic and offer great advantages to saving energy, even allowing for schedules and remote access via Wi-Fi.

5. Ask your contractor and his HVAC sub-contractor to offer options for return air filter systems, UV air purifiers, carbon monoxide alarms, dehumidifiers, humidifiers (dependent on your area of the country). Also ask about system ventilators. Now that code requires homes to be built in such a tight manner they don't breathe, and the air becomes stale. Ventilators help a great deal with that issue.

6. Discuss zone options with your contractor. If your home is larger (more than 3000 square feet) it will be necessary to have multiple HVAC units and multiple zones for heating and cooling. For really large homes (5000 square feet and up) I would highly recommend requesting a meeting with the HVAC sub-contractor that your contractor will employ to offer options on the manufacturer of the units, number of vents, locations of returns, electronic dampeners, and zones.

7. Once the system is up and running climb up (or hire someone to do so) into the attic or crawlspace and observe the ductwork to ensure there are no areas where sweating occurs. Have an inspector come to your home with an anemometer to verify proper air flow from each register/vent. Remember, too little air flow from a given vent can mean air is not flowing properly. Air that is not flowing properly throughout one part of the system can be the cause for a build-up of high humidity inside the duct, which can cause mold.

8. Your system should be up and fully functioning once the finishes begin to be installed, this is trim, cabinetry, built-ins, flooring etc. Failure to have the system running at this point of construction (especially in winter and summer months when temperatures and humidity levels can be so extreme) can spell disaster for these components, especially for wood where it will expand and contract. Often times contractors will shrug it off and tell you it will be fine, but I can assure you, from experience, it won't. One of the reasons contractors

don't want to turn the HVAC system on until way late in the build is that he will have to ensure that the filters are changed regularly, and even additional filtration is added during the finishes stage. This creates more work for him but remember, this is *YOUR* home!

9. I recommend that you NOT allow your contractor to supply any old, manufactured units. Ask for pricing on various SEER (efficiency) rating units and I recommend the following manufacturers that are tried and true, in no specific order: Lennox, Trane, Carrier, Bryant.

10. Make-up air. No, this has nothing to do with ladies make up ☺ Make-up air would be part of the HVAC system that provides outside air that will be needed if you have a high-volume exhaust hood over your range. Kitchens that have ranges larger than 30" should have high-volume exhaust hoods that will remove large amounts of air from your home during the cooking process. Like your HVAC system your range hood exhaust is a pump and if it is pumping air out of your home something needs to replace that air. Ask your contractor about a fresh air intake into the intake side of your air handler with a power operated shutter/damper system that will come on when you turn on the range hood. This will ensure that you home does not have a negative air balance and or will pull unconditioned/heated and filtered air into your home.

Bonus

Since an HVAC system is in effect a pump, for the comfort of your home I recommend a supply and return in each bedroom. That way when doors are closed for the evening that room is not robbed of properly flowing air. One last thing to consider, a vent in your walk-in master closets.

Electrical

1. Your electrical systems should be the last of the trades rough-ins to be installed, or at least the plumbing drainpipes and HVAC ductwork should be in place by the time the electrical rough-in begins. This will help ensure that a wire is not run in the only place a duct or drainpipe can run.
2. Your plans should specify where the main power panel will be, all outlets, switches, light fixtures, ceiling fans, exhaust fans, wall sconces, recessed lights and other electrical devices will be installed throughout your home. I cannot stress enough the importance, once your home is framed, but before the electrical rough wiring is installed, to walk the entire home with your contractor and electrician, going room by room with the plans and identifying each element that is to be installed according to the plans.

   Picture yourself walking into the kitchen and flipping the switch to understand what lights will come on. Maybe there is more than one way to enter the kitchen and you want to make sure you can turn the lights on from each entry point. Maybe there are certain lights you want to come on with one switch (overhead recessed), others with another (island pendant lighting) and others with another (under-counter), or maybe you want them all to come on at the same time.

No matter your questions, your contractor and electrician will be able to answer and help you understand what switch will operate what device. Later on I will discuss smart home technology and how you can use that to operate any switch or outlet in your home, right from your phone or tablet, using your Wi-Fi system.

The takeaway here is that your electrician will walk through the home anyway with the plans and a permanent marker drawing symbols on the studs where the devices are to be located so that the tradesmen performing the rough-in know what goes where. Why not be there when they perform this necessary step, ensuring that it is exactly what you want? The long and the short of it is that if you wait until the finishes are going in and lights are being installed, making changes, while possible, become very expensive! Additionally, your electrician will be grateful for your input and involvement, knowing that the likelihood will be low that coming back to make adjustments will be very low.

3. Consider how you live in your home, where outlets should be for a given purpose, how you will use a room and how you will place furniture. In the living or family room, make sure to consider outlets that will be in the floor, under a couch, favorite reclining chair or end table. Consider the holidays you celebrate, making sure outlets are placed so that you don't have to stretch miles of extension cords.

4. Go to your local lighting store and observe how LED lighting works and how color temperature affects the light and ambience of a room as well as how many lumens a given fixture or bulb gives off, in other words, how much light will be produced. As an example, incandescent lighting traditionally provides light in the 2700-3000 kelvin color range. Many LED fixtures today (especially recessed lighting fixtures) are adjustable from 2700-5000 kelvin, allowing the light color to go from very yellow to very white, almost florescent like.

5. Some contractors are still using old-fashioned style recessed lights that require about 8" of space in the ceiling for the rough-in housing. Ask your contractor about wafer lights. These lights are only about ½" thick and since that is the standard thickness of drywall these lights can go virtually anywhere in the ceiling desired and will not interfere with plumbing or HVAC devices.
6. Consider having your electrical system set up with surge protectors at the main panel for outlets that will be used for sensitive electronics, such as computers, TV's, large appliances, and such.

7. Consider light switches that will operate by motion.

8. Remember that you can easily gate down the amount of light in a room with dimmer switches, but if you don't have enough light to begin with it will make no difference. I recommend this site to understand how much light you should have in a given room.

9. When it comes to outlet placement think about when and where you use and charge devices. I recommend having outlets in all sitting, bedroom and kitchen areas that are equipped with USB charging ports. You can get outlets that have USB-A and USB-C ports now.

10. If you don't like having items like curling irons, hair dryers, and small, regularly used appliances in the kitchen or bathroom, this system gets installed in the back of a drawer, allowing you to leave the device plugged in and then stored easily when not in use. Docking Drawer

11. Typically, contractors will provide an allowance amount for surface mounted lighting fixtures. Make sure to ask your contractor for examples of how the allowance amount was developed to understand if his expectations of what you want in your home align with the home, neighborhood, design style of the home and quality level of the home. Hint: If you're building a 6,000 square foot home in Aspen, overlooking the ski slopes and your contractor makes a $10,000 allowance for surface mounted lighting fixtures you will be woefully short of the amount that is actually necessary.

12. Consider heated floors wherever you will have tile or stone, including your master shower! Schlüter Heat® is a great product that works very efficiently and is controllable from your phone or tablet via Wi-Fi.

13. Consider outdoor/landscape lighting, even if you don't have a landscape plan established. Think about walkway and planter bed lighting. The vast majority of this type of lighting is low voltage, but you need to ensure that the wiring or at least conduit is in place, under sidewalks, driveways etc. to avoid digging later on.

14. Most jurisdictions require the electrician to label each breaker on the main electrical panel('s). Make sure each is labeled to your satisfaction.

15. Lightning arrester system. Consider having a lightning arrester system installed as part of the construction.

16. Consider future electrical needs for future pool, hot tub, outdoor kitchen.

17. Consider an outlet beside your master toilet for a plug-in bidet.

18. Consider either a whole house generator or at least one that will power critical appliances and heating and cooling systems.

19. Hire an expert to check the system, ensuring correct polarity and grounding of outlets.

Smart Home/AV

1. Smart home systems have been on the market for decades now. They allow for controlling every single device in your home from your phone, iPad, or tablet. Wiring your home as a smart home is not just a novel consideration these days, but one that will provide for energy savings and efficiency. Think about walking in your home after a 15-hour day. Maybe you're a professional, you've been working on a case where the court doesn't care that you have other things to do. Maybe a physician having seen so many patients that

day the whole day was a blur. No matter your source of income when you walk in the door you don't want to think about too much more than you already have that day.

Smart home systems can at least take some of the thinking off your plate. Lights can come on automatically at given times, you can create various scenes in various areas of your home. Check out these manufacturers of Smart Home systems to get an idea of what I'm talking about. Brilliant Crestron LeGrand Leviton If you're more budget minded I would suggest Kasa

2. If your home will include a home theater do not accept whatever your contractor typically does as it may not be the best for your particular tastes. Many of my Clients over the years have a specific acuity to sights and sounds. I, for example have perfect pitch and nothing drives me crazier than to listen to a sound system that is less than quality. Consider visiting a sound room where you can actually listen to the various systems and view the options for video display. Some believe that a fixed screen with projector is fine, others feel it is too dark or the image is not as sharp as an OLED screen will produce. Having the chance to observe these various differences will help ensure the experience in your home is exactly what you want.

   Make sure placement of speakers and subwoofers will provide the sound quality you want. If you're looking for something over the top, where you don't have to see the speaker grilles or know where the sound is coming from, consider these speakers from Sonance that get installed at the drywall stage.

   Insist on a 7.1 surround sound system. 7.1 means there will be a total of 7 speakers and a subwoofer. Left and right at the front of the room, one in the center front of the room, two speakers left and right midway between the front and back of the room and two left and right at the rear of the room, behind the listeners and the subwoofer placed near the front of the room.

Fireplaces/Chimneys

1. You'd think that since fireplaces and chimneys are items that are codified that there would never be any problems with them. My experience in the roles as Contractor (coming behind someone else's failures), Owners Representative and Expert Witness has shown me that often times fireplaces, especially masonry fireplaces and chimneys are not built correctly and do not function properly.

2. Ask your contractor to have the mason provide information on his background as well as to provide drawings and specifications on how he will build the firebox and chimney. Again, you do NOT want to ask this in a way that is not trusting, especially if the mason has years of experience. My recommendation is that you study how these two items are constructed and simply be inquisitive of the mason. Tradesmen (good tradesmen) enjoy sharing their knowledge to those that truly want to know.

3. For a masonry fireplace consider having a thumb-turn damper control that is center of the area above the firebox opening that provides for opening and closing the damper without having to reach up inside the firebox and coming away with dirty arms and hands.

4. If you want a masonry fireplace, but don't want the complete expense and or want to have a chimney flue that will be around as long as you will, consider a unit like this from Woodland Direct. They are very simple to construct, will have a stainless steel flue and you can finish the outside of the firebox anyway you like.

5. Make sure you understand if your plans call for the hearth to be flush with the floor or elevated

6. If you're considering a gas fireplace look up the differences between vented and vent-free and how those differences will have an effect on the use and feel of the fireplace. Additionally, understand what the fireplace will actually look like when complete. Some have glass stones that are very contemporary, and others have wood grates with log sets and media that resembles red-hot coals when operating.

7. Whether gas or electric, masonry or framed, If your chimney rises out of the roof where the roof will slope down to the chimney, make sure the plans call for something known as a cricket to ensure the water is shed around the sides of the chimney.

Insulation

1. There are several types of insulation for a residential application fiberglass batt, blown, rigid and icynene. Understanding what they are and how they perform is important. The most prevalent and least expensive is batt type fiberglass with sizing and resistance value ratings typically based on code and available space. The key term for insulation is R value. R value represents the amount of resistance the insulation will have to heat flow. The higher the R value the greater the resistance.
2. Fiberglass batt insulation has stood the test of time and for the money is the best option in my opinion. These days code will dictate the R value of the insulation for a given area, but to be sure it's worth the extra to have the highest R value you can afford for your home. For that reason, I recommend building with 2 x 6 studs for wall framing to facilitate the higher R value.

3. Blown insulation in the attic will, for the money, provide a substantially higher R value than batt insulation. The thing to be careful of is walking up in the attic and packing the insulation down once it has been placed.

4. Rigid insulation is best reserved for areas where R value is necessary, but space is limited. Where I live in Florida the homes are built with masonry walls at the first-floor level, with ones on the coast all masonry. In those cases, rigid insulation installed between firring strips is the norm. Rigid insulation is also used under concrete basement slabs to help keep ground temperatures away from the living space.

5. If resources permit icynene insulation provides a fantastic R value as well as helping to ensure that there are no spaces left between framing members where batt or rigid insulation has to be cut to fit, often times leaving small air gaps, allowing cold or hot air to transfer. Icynene is applied by trained individuals with highly specialized equipment. The use of Icynene concerns me from the professional experience of Clients that have used this material at the underside of roofing framing and had a subsequent roof leak. The roof leak was not known for some time because the icynene prevented the water from flowing into the living space of the home, alerting the Owner to an issue. This does not mean that you shouldn't use this material, only that if you do you have regular inspections of your roof to ensure all is good.

6. If you're in a part of the country that gets cold weather make sure insulation is well placed between plumbing pipes and the outside wall and make sure there are no spaces where insulation is missing, allowing for cold air to freeze a pipe.

7. Observe the type of insulation placed around window and door openings. Triple expanding foam should NOT be used around windows and doors.

8. Ask your contractor to demonstrate that the insulation has been placed at the eaves to ensure there is good air flow from soffit vents into the attic space.

Drywall

1. Probably one of the biggest bones of contention in a new home build is the drywall work. While the installation of drywall is relatively easy the finishing is not and requires almost artist-like capabilities. Make no mistake, while the tradesmen that perform this work might not appear to be able to put two sentences together, by and large their abilities take years to develop, and good tradesmen are highly skilled.
2. Start with a good foundation and clear understanding of expectations of how your drywall will be installed. Your contractor and drywall sub-contractor should be familiar with the specifications guide developed by the Gypsum Association. It's called the Application and Finishing of Gypsum Panel Products, GA-216-2016. Making sure to reference this item in your contract as the industry standard for this portion of work cannot be overstated. It is so important that I have included it as one of the cut/paste items that you can have incorporated into your contract. Failure to do so and if you do have issues with the drywall and you'll be left with what the contractor wants to do about it. I cannot share it here because it is copyrighted material, but you can contact the Gypsum Association and purchase a PDF copy. I recommend you do.

3. Pay attention to whether your installer uses a construction adhesive between the framing members and drywall.

4. Request screws versus nails.

5. I recommend you observe the drywall installation prior to the finishing taking place to make sure the screw heads have not broken the paper of the drywall and the placement and number of screws is in accordance with the GA specifications.

6. Drywall should not be installed in small scrap pieces. Left over pieces are fine to be used where appropriate but refer to the Gypsum Association manual for acceptable sizes.

7. Prior to drywall installation all exterior finishes, including roofing should be complete.

8. Take photos and video of entire inside of home prior to drywall installation. Often times wires known as pigtails can be left for various high and low voltage fixtures and the tradesmen, by mistake, do not bring them through the finished surface of the wall. This can be problematic for the electrician and make a mess of an otherwise beautiful drywall job.

9. I recommend an antimicrobial drywall in wet areas such as bathrooms. Code calls for moisture resistant which is green, and antimicrobial will be purple.

10. In basement areas I recommend drywall to be held up ½" above the concrete floor.

Hardwood Flooring

1. Hardwood flooring materials should be placed inside the home with heat or AC functioning, providing for the humidity levels that will be in the space over the lifetime of the home for a minimum of 3 days prior to installation. Material should not all be stacked in one place but distributed throughout the various rooms of installation.

2. Hardwood should be installed after drywall and prior to installation of interior doors, trim and cabinetry and tile/stone. I've received pushback from some contractors on this as they say it doesn't matter and technically that's true. The reason I believe it is the proper order is twofold, first it's much easier for the installers to install hardwood in a wide-open area where there are no door jambs to install under/around, no cabinets etc. Second and I believe more importantly is that should you ever decide to make changes you'll always know that the flooring runs under everything, no patching or trying to figure out if you can get material that matches.

   Installation of hardwood prior to stone is that the hardwood is typically the thicker material and to ensure that the height transition of the two different materials is even it is easier to bring the tile to the same elevation as the hardwood by adding or subtracting a little bit of mortar. Also, the hardwood is installed and left unfinished until the trim is complete and just before the cabinets go in. Once the cabinets are ready to be installed the hardwood should be sanded and finished with two coats and protected, possibly with a material known as RamBoard to protect against damage as the final trades are wrapping up. The final finish coat should be applied once the paint work is complete, and all other trades work is complete they are out of the home.

3. To ensure the stain is the color you want, request that the finisher provide multiple samples of the stain and finish for you to review and approve prior to finishing the entire floor. Note: the darker the stain color the more dust or animal hair shows and the lighter the color the more of an opportunity for scuff marks to show. There are a number of stain brands on the market and as I have stated previously I always recommend the tried and true. For my money the most widely used stain products with the greatest degree of industry use are made by Minwax.

4. Hardwood finishing should include 3 coats of polyurethane with screening between each coat. Screening is where a mildly abrasive screen is run over the dried polyurethane coating with a machine to remove any “buggers” that fall into the finish as it dries.

5. Select the desired finish for your floors with the following in mind. The glossier the finish the more it will show anything and everything.

6. I recommend that the sanding process involve the use of heap filter type machines and vacuums to remove as much dust as possible. Also, that the installer vacuums thoroughly upon completion.

7. Transitions between hardwood and other flooring materials should be level and locations of transitions should be carefully discussed with your contractor. Typically, I prefer that transitions between materials occur under a closed door however sometimes there are openings between rooms where there are no doors, so understanding ahead of time where transitions will be is very important.

8. If your plans call for inlaid designs or patterns and or different wood species borders in a given room or rooms I recommend you be on site the day the layout is taking place, prior to installation to observe how the tradesmen plan perform the installation, ensuring he knows exactly what you want and that you don’t show up at 7pm after they’ve worked all day to tell them that you didn’t know that’s how it was going to look.

9. With the EPA attempting to remove oil-based products from market Minwax makes water-borne polyurethanes. While these are typically known to provide a tougher, higher traffic finish than oil-based products the look just isn’t there. Oil-based products simply have a better sheen and luster than water-based, but hey, that’s my opinion. Check out both for yourself and see what works for you.

Tile and stone installation

1. Ceramic, porcelain and glass tiles and stone are beautiful finishes that, when installed properly, with the proper materials and over the proper substrates, will last a lifetime. Ignorance of any aspect of tile or stone installation, especially in wet areas like bathrooms, showers, tub surrounds etc., will result in failures that are often not known until years down the line (well after your contractor has been paid and is gone) and result in major expenses involving major structural components of your home.

To ensure your beautiful and typically expensive tile and stone is installed properly there is a body of professionals that have produced a handbook by the Tile Council of North America (TCNA) called "Handbook for Ceramic, Glass, and Stone Tile Installation". The information in this handbook is the industry standard for all aspects of all types of tile, stone and glass tile/block installation. This is one of the resources we reference in our cut and paste contract items (that is included in your downloads), ensuring that whoever is installing these materials acknowledges that they agree to perform their work according to the TCNA requirements.

2. There are too many aspects of installation to attempt to cite here. My recommendation is that you first require your contractor to employ an installer that has been trained in the installation of and use of Schlüter Systems® products as substrates and installation materials. There are other brands on the market however, Schlüter is the tried and true with decades of industry experience and products that are second to none.

Trim, Interior Doors, Cabinetry & Countertops

Trim

1. This is where Owners typically start to get excited. I mean each major phase is exciting to see the progress, but these elements are where your dreams really begin to come to life and either you're really excited, watching the tradesmen do their thing, or you become almost catatonic with frustration. Believe me, you don't want to be the latter.

2. Take the time to review the plans and specifications for your whole home well ahead of the time that this portion of the work will begin. Request samples from your contractor of each molding profile that is to be used. If I had a nickel for the number of times that my customers saw the profile on a drawing, approved it and then saw the material in real life and hated it I'd have a lot more money.

3. Understand the material the trim is going to be made of. Too often today interior trim materials are made from MDF (Medium Density Fiber) material or some other type of fibrous material. In theory these are fine, but in reality they don't fare well. Both materials end up with what is known as blow-out where nailed or screwed and over time, especially if they are used as baseboard or casing that terminates at a floor, swell up from the moisture of a mop, becoming very unappealing in a very short period of time. My recommendation is to use real wood. Finger-jointed primed for any painted areas and clear for stained areas.

4. Back in the Framing phase I noted how important it was that walls, floors and ceilings be checked for plumb, level, and true, within industry standards. This is where the rubber meets the road. Installation of trim will bring out each and every little flaw in framing and drywall work because new lines of focus are being introduced into the space. Prior to the trim being installed I recommend that you walk the home with your contractor and ask him to demonstrate that the drywall walls are within the ¼" per 10' tolerance. This way when

the tradesmen begin installation of trim if there are any issues with their completed work there is no one to blame but themselves.

5. I recommend the trim crew install the trim at one window, one door, some baseboard and crown prior to the whole house being trimmed out. In doing so those areas can be documented for acceptability and provide a benchmark for quality standards.

6. All trim materials to be installed within the conditioned space should be stored in the space, with the heat/AC operating at normal temperature and humidity ranges for at least three days prior to any installation taking place.

7. Miters and running joints should be glued and mechanically fastened

8. Baseboard trim at rooms that receive carpet should have the bottom of the trim held above the subfloor at least ½", allowing for the carpet to tuck underneath.

9. I recommend that all trim be primed or, if stain grade to be stained on all sides prior to installation to help avoid the material taking on moisture over time.

Interior Doors

1. One of the most critical aspects of proper function of a door is the way in which it was installed. Most interior residential doors today are what is known as pre-hung, meaning that the door comes already hung in the jamb.

2. As with the sample installation of trim I recommend that one interior door be installed in the same room.

3. The installer should install shims on the hinge side minimally behind each hinge and on the strike side at least 4 sets with one set being behind the strike.

4. I recommend that at least one screw per hinge be long enough to extend through the door jamb and into the framing material by at least ¾". This will help ensure that the weight of the door will not allow the screws run only into the jamb to fail over time.

5. There should be a uniform 1/8" gap anywhere between the door and jamb and between 5/8 & 7/8" between the bottom of the door and the finished floor.

6. The door should stay in any position in the frame, without falling open or closed if it is plumb.

7. The latch should engage the strike of the jamb, allowing the door to close and latch easily, without binding on the jamb stop.

8. I recommend that all interior doors be solid core to aid with sound attenuation.

Cabinetry

1. In any given home the cabinetry is going to be a focal point and will make up a considerable portion of the cost of your new custom home. DO NOT SETTLE HERE!!! Discuss the cabinetry portion of your home with your contractor, going over each detail with painstaking precision. Considering that you will invest between $600-1,000 per linear foot for cabinetry and that the lead time on good cabinets can be anywhere from 12-16 weeks, you cannot afford to get this wrong.

2. Ask your contractor to provide you brochures from the cabinet companies he regularly works with. Look for companies that have associations with the KCMA. This body observes guidelines for manufacturing quality from the AWI and helps ensure that the quality, fit, the finish is exactly what you expect and they will stand the test of time. While there are good quality smaller, sole operator cabinet makers I put my money on large manufacturers every time and for the following reasons:
    a. Solid financial stability
    b. Trained personnel
    c. Reliable and timely delivery of products
    d. Quality equipment
    e. Superior quality finishes
    f. Ability to provide a proper warranty
    g. Service after the sale

3. I recommend cabinet boxes that are built from cabinet grade plywood, preferably with ¾" solid backs or top and bottom fastening rails that are a minimum of ¾" thick by 3" solid wood.

4. Request soft-close hardware for doors and drawers

5. Drawer boxes should be dovetailed, not stapled

6. Installation of cabinets and countertops should be performed by experienced tradesmen that understand and adhere to the AWS Edition 2 standards, particularly as they relate to sections 10 & 11. As part of this, ask your contractor to demonstrate that countertops either side of a range opening are the same height. If not one countertop will be higher than the other, making a tiled backsplash impossible to align and being just downright unsightly.

7. Some of the quality cabinet manufacturers that I recommend, depending on budget and design taste are: Rutt, Signature, Christiana Cabinetry, Clive Christian, Poggenpohl.

8. Do not accept anything less than top quality hardware (knobs/pulls). Many hardware manufactures today use what is known as pock or white metal under the nice finish of their hardware and it simply doesn't stand the test of time. Lol, often when installing this hardware tradesmen have had the hardware fail right away, causing damage to your brand-new door or drawer front. Stick with brands that are tried and true, for my money I recommend hardware from Top Knobs and Rejuvenation. If you can't find something to

suit your taste between these two I'm sure you could get a ride to Mars on the next flight from Mr. Musk ☺.

Countertops

1. Like cabinets countertops are a considerable portion of the expense of your new kitchen and if you select natural stone there might be only enough of that material for your kitchen and there is no room for oopsies here. With that in mind do NOT select only one type of stone, but have your preferred with at least two back-ups, just in case. Accidents happen, stones can have veining/weak spots that cause it to crack during fabrication, transport or install and every fabricator that I ever worked with stipulates that the stone you select might break and all they are responsible for is to give you your money back.

2. Consider engineered stone as an option. Manufacturers like Silestone, Caesarstone, Cambria, and Santa Margherita provide a plethora of options in colors, textures, styles to choose from and the best part is that if something gets damaged in one of the three scenarios described above another slab is typically readily available. Check with your design pro and contractor before you start getting ideas on this material as their primary fabricators may not carry these brands.

3. Ask your design professional and contractor to provide you with the various options for the edges of your countertops.

4. Ask your contractor to provide you with a layout of the countertops that shows where seams will be located. Depending on the type of material a poorly placed seam can destroy the look of the project. All seams are to be joined with color-matched epoxy and their fit in accordance with AWS standards.

5. If the cabinets have been set in accordance with the AWS standards the countertops will go in with minor shimming. Shimming between cabinets and countertops should be no more than 1/8" and if there is shimming required where the countertop meets with the finished edge/face of the cabinet the countertop installers should caulk the joint with material that matches the cabinet finish.

Painting/Finishing

1. Since the painting and finishing aspect of your home is a lot like the trim work, being subjective in nature, the best way (IMHO) to remove the subjective aspect is to develop a standard that is agreed to by all. Select an area of your home that, like the trim work discussed previously, is ready for paint and or finishes on walls, ceilings, trim and doors. Ask the Contractor to have this test area prepared and completed in the same way in which the balance of the home is to be completed so that you can observe and approve the quality and type of finish. Where I live in Florida the predominant wall finish is orange peel and the ceiling is what they call a knock-down. These finishes can be applied much different from one finisher to the next, so making sure it is uniform from one room to the next will be critical to your satisfaction.

As a side note, with the other areas of construction where I have recommended that you take these steps with your contractor, I know for sure that for some contractors this might seem over the top and too laborious and frankly a pain in the neck. While this may be true, failure to take these steps may leave you both in a position where you're not happy and he's performed work that he wants to be paid for. Then what? The then what is that you typically have one of two choices, live with what you don't like, what you've paid good money for or press your contractor to act to give you what you believe you deserve and what's stated in the contract, and he simply might not have the resources to make the change and keep you happy. Remember, most contractors are way undercapitalized!

Again, the key here is to establish this kind of expectation during the negotiation of the contract so that the contractor can know ahead of time what he's getting himself into. Yes, he will probably charge for the additional time, but at the end of the day if he's smart he'll see you as a great Owner to work for in that he doesn't have to rip things out and re-work them time and again.

2. Choose quality paints and finishes. I have had great success with Sherwin Williams products and recommend their Emerald line of paints.

3. Painting should be one of the last trades in your home and depending on the various finishes you have selected with your design professional will come just before plumbing, mechanical, electrical trim-out and the final coat of hardwood floor finish.

Trades Trim Out

1. This is a fairly straightforward aspect of the project where the plumber, HVAC and electrical subcontractors will return to install their fixtures.

2. All fixtures should be tested for proper function and HVAC system should be inspected to ensure that the A-coil is clean and free from any construction dust/debris.

3. Prior to wafer lights being installed I recommend that you consider each room and ask the contractor to have the electrician adjust the color temperature to coincide with the room type. Living areas having a warmer light and work areas and closets a whiter light.

4. Electrical switches and outlet cover plates should all be flush against the surfaces that surround them and without any caulk between the cover plate and surrounding surface.

5. Be available to be on site when the electrician is hanging chandelier and pendant type lights to ensure they are at the height *you* want them.

6. Ask your contractor to have the tradesmen demonstrate various items such as appliance function, steam generators and home theater devices.

Mirrors & Glass

1. The trades have finished trimming out, paint is complete (maybe some touch-up left) and the last thing to do is install mirrors and glass. Any mirrors that are to be permanently installed should be installed with a product called mirror mastic specifically. Installers are NOT to use anything else as it will likely cause the mirroring material to fail on the back of the mirror at some point.

2. I recommend the use of mirror channel between the bottom of the mirror and top of the backsplash to help ensure against chipping due to settlement later on.

3. Glass enclosures for showers and tub/shower units should be installed by a qualified glass subcontractor. Fixed panels should be plumb and align all ways with doors. Hardware finish for glass should match the finish of plumbing fixtures.

Project Close-out Phase

As things are winding down remember who you are (the Owner) and who's paid for all this. You!

And since it's you that have been stroking all those checks (lol, if you still use checks), making those payments in whatever form, you have the right to ensure that all of the work of the contract has been performed according to the contract requirements. Take some time to review the contract, scope, plans, and change orders and make sure all is as it should be. Don't wait until the very end to point out concerns or items that you do not believe are as they should be. Remember not to go after your contractor/PM with guns blazing if you think somethings not right. Offer the same courtesy you'd want if you were in their shoes. Also, do not wait until the very end to point out something that may take some time to work through.

Remember these items as you move to close out the contract: Substantial Completion, Final Completion, Lien Release, Warranty.

Bonus!

Recommended items for your contract:

As another bonus, the following are terms and conditions that you can have your contractor include in his contract.

We will provide all general and trade permits required by the governing authority, all inspections with approvals according to those permits and will perform all work in accordance with the International Residential Code and or local (insert the name of your incorporated township here, if necessary) codes.

Each of the manufactured items that we install will be installed in accordance with manufacturer's instructions, guidelines and or requirements. Should you (Owner) feel that any item has not been installed properly we (Contractor) will request an inspection by the manufacturer's representative, where you (Owner) may be present, and the opinions and recommendations provided in writing by that representative for a course of action shall be final.

The work of construction, workmanship, installed items and finishes shall be performed in accordance with any and all recognized industry and trade standards, including but not limited the following: AIA (American Institute of Architects), ANSI (American National Standards Institute), ASID (American Society of Interior Designers), ASTM (American Society for Testing and Materials), BHMA (Builders Hardware Manufacturers Association), CSI (Construction Specifications Institute), APA (American Plywood Association), R.S. Means Residential & Light Commercial Construction Standards, third edition, IWPA (International Wood Products Association), WMMPA (Wood Moulding & Millwork Producers Association), AWS (Architectural Woodwork Standards), AWI (Architectural Woodwork Institute), Gypsum Association GA-216-2016, TCNA (Tile Council North America) Handbook. . Should you (Owner) feel that any work has not been performed according to industry standards we (Contractor) will request an inspection by a mutually agreed upon industry expert representative, where you (Owner) may be present, and any opinions and recommendations, provided in writing by that representative for a course of action shall be final.

All invoicing, after initial deposit will be based on progress of work, not specific time frames. Invoices will be submitted no more than bi-weekly and will refer directly to specific work scope items and their relative amounts stated on the original contract scope of work. With each invoice (including the deposit) the Contractor will submit a lien release for current payment.

No work shall take place outside of the contract work scope without submission of written change order. No invoice for work outside of contract work scope shall be accepted without written and Owner-accepted change order.

Substantial Completion is that time when the work of the entire project is able to be used for the intended Owner purpose. Owner and Contractor will agree that this stage of the project has been reached and at that point the Contractor is due the remainder of the contract payment less 5% of the overall contract plus approved change order amounts. Simultaneously

with payment provided the Contractor will deliver a global lien release for the total amount paid to date and the Contractor and Owner will walk the site to develop and agree on the items that will populate a punch list of items not complete or defective and the time frame which those items will be completed. Once the punch list items have been completed to a level commensurate with industry standard Owner will deliver final payment to the Contractor and Contractor will simultaneously deliver a global lien release to Owner and a letter certifying that the Warranty is in full effect.

For various reasons we do NOT recommend that you draft the contract, but you are always able to request that the contractor add terms and conditions described that are important to you.

Now go build something great!

Blessings, Paul