

**CUSTOM HOME BUILDING
WITH WITTER CONSTRUCTION**

--A CUSTOMER PERSPECTIVE--

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Purpose of this document.

This is our **FOURTH** custom built home. We have learned many lessons along the way, so a major objective of this document is to inform the reader as to certain lessons learned, sometimes painfully. Additionally, since you may be considering relocating to the Aiken area from other parts of the country, particularly the Mid-West or New England, there are some additional building considerations relating to climate which should be taken into account when building in South Carolina. Along the way, we will also share some thoughts about general design hints which you may find useful (or not). We will NOT be commenting extensively on specific sub-contractors though we know most or all of them. Most builders are somewhat protective of their identities to help protect their business relationship with their subs.

Please keep in mind that this is a free document and therefore may be worth exactly what you paid for it, i.e., nothing.

*Perhaps most importantly, we write this document out of **EXTREME** respect, appreciation and admiration for the job that Witter Construction did in constructing our new home. They are simply stated the absolute best custom builder that we have ever worked with.*

Who we are:

My name is Bill and my wife's name is Nancy. We are 59 and 55 respectively. We started building with Witter at Cedar Creek (A Master Planned Community primarily for retired and semi retired folks) in Aiken. It happens that Herb Witter is a partner in this large development and has financial interests (as a development partner) in other housing developments.) Our previous 5500 square foot home was also custom built and was located in Amherst, NH. While our previous home was loosely based on a standard design, it was heavily modified by ourselves and EVERYTHING, even down to the actual cabinets, built-ins, lighting, most of the landscaping, etc, etc., etc, were totally our designs. Our previous builder often referred to me as his "co-general contractor" as I was on site every day and *actually* encouraged to be there, supervising the entire construction process.

My career was all in high tech with the last 25 years running as CEO both publicly traded and privately held companies. In between CEO assignments I was a high level business consultant and a frequent speaker at industry symposia often on the importance of understanding the importance of "value propositions". I only mention this last point because it has relevance to developing a business relationship with Witter Construction.

I long concluded ago that *regardless* of what the CEO or Board of Directors said was their company's value proposition (often long winded and agonizingly complex) that in reality, there are only three basic value propositions:

- Technology leadership
- Customer Intimacy
- Operational Excellence

This is not to say that a company cannot have elements of all three but there is usually one of the three which is dominant. In regards to "technology leadership", it is the (extremely) rare custom builder who lives on the "bleeding edge" of technology for several reasons. Most importantly, custom builders are generally conservative in that they know what has worked for them in the past and are resistant to change because they cannot afford a gamble on technology they are not familiar with. As I have considered forming my own construction firm in the past due to my love of construction (as you will no doubt realize if you read the entire document), I am well aware of what profit margins are on a custom built home. BTW, it's probably a lot less than you think. So, it is the rare builder who is an early adopter of new technology. Witter does not fall into this category.

I will address their customer intimacy in the next section.

But in my opinion, Witter's *primary* value proposition is that it is their operational excellence which results in a quality home.

They completed our home the EXACT week they said they would when we signed the contract and delivered it at the EXACT cost they said they would. For us, this counts for

a lot. While I do not wish to disparage other firms in the area, this is not always the case at least as related to us by fellow residents.

Who is Witter Construction?

Witter Construction, a certified Master Builder in the state of South Carolina, has been building homes for nearly the last twenty years. The firm typically builds between 20 and 25 homes a year which makes them one of the largest, but not the largest, builders in the area. From what I have been able to glean from numerous conversations with unrelated parties, Witter appears to have weathered the housing slowdown better than almost all of the other construction firms in the area.

This is a family owned business with the two principals being Herb (Founder and President) and his son Nick (Vice President). Although this is somewhat of an oversimplification, Herb handles the financial operations of the company while Nick supervises all field (construction) operations. Their efforts are assisted by two very capable Customer Support Representatives who if you move ahead with Witter, you'll no doubt have a fair amount of interaction with as their primary duty is to interface with you. Of course, a real strength of the company is the longstanding relationships they have with all of their subcontractors.

Rather than repeating here that which is on the company's website, I would like to focus on what isn't on their web site, specifically who are Herb and Nick (really) and how easy or difficult the company is to do business with. The second part is the easiest to answer ...they are extremely easy to do business with.

Herb, a lifelong resident of Aiken is a model of Southern gentility. The soft spoken, almost taciturn, impeccably polite (it took me MONTHS to get him to stop calling me Mr. Rosenberger every time we spoke; we finally settled on Mr. Bill) belies a razor sharp mind. As far as Nick is concerned, this acorn did not fall far from the tree. If anything, he is even quieter than Herb and possesses an equally sharp mind as well. It is easy to underestimate both of them due to their quiet, unassuming nature.

I will add a note of caution here. Some builders quote a price expecting the customer to attempt to negotiate a lower price. I'm pretty certain (we did not try this negotiating tactic as I sensed it would fail) that when Herb quotes a turnkey price, he knows exactly what the house is going to cost to build and what profit Witter has to make on the home. I think he would respond poorly to any negotiating attempt by a prospective buyer. He is a highly principled person who might actually feel insulted if placed in this situation. You could even find yourself looking for another builder. This is not to say that he wouldn't work with someone in a constructive manner to get a house under a certain budget figure by changing the design, etc. but this is very different than haggling over price on a given and agreed upon design.

A few personal anecdotes might shed additional light on the personalities of Herb and Nick:

- It is important to emphasize that you will receive a VERY detailed proposal and specification along with full scale drawings of your proposed home. The proposal contains a FIXED, TURNKEY price for your home. The only thing that will change this price either up or down is through “Change Orders” which **YOU** initiate and agree to. I would recommend that you pay particular attention to the “Allowances”, i.e., the amounts included in your quotation for land clearing, bricks, appliances, countertops, cabinetry, tile work, plumbing, electrical, hard wood flooring, landscaping, etc. Of course, what you select in these areas is completely up to you and therefore the allowances may be overstated or understated depending on your selections. However, Herb with all his experience and his honesty, would give honest answers if asked as to the probable accuracy of each line item in the Allowance section of the quotation. Our allowances were very accurate with the exception of appliances and landscaping, the latter being the result of our landscape design
- The height of our porch above grade turned out slightly higher than expected and due to the local building codes a railing had to be installed on one side of the porch. Nick didn’t think that having a railing on one side of the porch and not the other wouldn’t look right so he continued the railing around the entire porch, complete with railings going down the three steps to the backyard. These railings were NOT in the original proposal/quote. They also could have used far less expensive aluminum railing but instead installed the far more expensive wrought iron. We never saw a bill for this railing.
- Late in the construction process, I asked Herb how much it would be to add a chair rail to my office. He quoted me a price of about \$400. I said go ahead. (BTW, the chair rail looks beautiful.) Now I know that something like this additional expense would never be forgotten by Herb (he’s way too sharp), I just think he concluded the company made what he wanted to make on our home so he never sent us the bill for the chair rail. (Thank you Herb!)
- The final anecdote is not money related but speaks to the integrity of Witter Construction. If you are building “remotely”, you will receive pictures of the house at key points in the construction, typically every 7 to 10 days. One day we received pictures of the front of the house immediately prior to the brickwork being done. Something did not look right to me. I called Nick on his cell phone who was not on site at the time and told him something looked wrong to me but I could not put my finger on precisely what was wrong. Initially, he thought it was the camera angle which was creating an illusion. Later in the day, I had reason to speak to Herb and casually mentioned my concern. He immediately met Nick at our home site, and after 30 minutes of measuring and considerable head scratching, they figured out there was something very subtly wrong with how the front gable was framed. Herb immediately called and said, “You were right. A very good catch” (or something like that.) I think I may have even apologized for finding this minor flaw because fixing it meant demolishing a significant portion of the almost

completely finished front of the house, reframing and then reroofing. Not a small job at all. His response was “Right is right. This was not right.” He could have taken the approach that “Hey, this was a minor problem” and refuse to fix it. He didn’t. The front gable was deconstructed, reframed and reroofed correctly. You can draw your own conclusions regarding Witter’s integrity from this story.

The Witter Methodology

Truthfully, there is little to differentiate Witter’s methodology from any other area high quality builder.

The plans and specifications are very detailed. You should study them VERY carefully and get any questions on the specs answered or clarified NOW. Changes “downstream” that you initiate will result in Change Orders, many of which will increase the price of your home and may cause construction delays. All builders dislike numerous Change Orders. In any case, anytime you initiate a Change Order, Witter will document what the change order is, the cost to implement the change order, potential effect on completion date and the new resulting TURNKEY price of your new home. You will be required to approve in writing any change order. We had only three change orders which is a very low number and none had any impact whatsoever on the construction process (an irrigation well, extra floor sheathing in the attic for additional storage space, and square electrical outlets were added to the specifications.)

At the end of every month, you will get an invoice from WC for work completed that month. If you have a construction loan, a representative of the lender will go out to the property to make sure that the work was indeed done and the money released to Witter. If you are not financing, it will be time to get out the checkbook. Builders like prompt payers otherwise they end partly financing your home which affects their relationships with their subcontractors and can eat into their profit margin.

During the building process, they make the daunting (for some) task of custom building very easy. They keep and will provide a master schedule of what decisions YOU need to make and when, e.g., when the kitchen cabinet design needs to be finalized, the countertops need to be selected, plumbing, appliances, and lighting fixtures need to be selected, etc. By doing it in this fashion, you are focused on one item at a time so that all of the decisions don’t overwhelm you. It goes w/o saying that you will need to come to Aiken several times to accomplish these tasks.

If you are Internet savvy, a lot of this can be done over the net. In our case (I don’t think we are typical customers in this regard), we never stepped into Witter’s lighting supply house, the plumbing supply house, their appliance subcontractor, we selected our granite over the Internet (not recommended unless you know which granite types have uniform coloring. For example, very dark green almost black Uba Tuba looks identical slab to

slab no matter where you source it from.) and so on. However, Witter personnel will accompany you if asked to any subcontractor if you need advice or handholding.

As mentioned previously, you will get a monthly schedule of what construction activities will be accomplished in the upcoming month. You will also get photos as construction progresses on a regular basis.

In all from start to finish, Nancy and I traveled once to Aiken to pick out our lot, I traveled to Aiken to meet with Herb and Nick to sign the proposal and specification but this was preceded by a lot of back and forth over the telephone, one visit by myself to check on progress, one visit with Nancy to specify cabinets (again preceded by telephone calls and emails of preliminary designs, pick out carpeting, meet with landscaper, and perform an electrical walk through (What switches go where, etc.). The fourth trip/meeting was for the actual closing on the house.

Relocating from the Northeast (and possibly certain sections of the Mid-West)

You should understand the custom building practices (and actual construction techniques) vary from one part of the country to the next. Most of these differences are due to climactic reasons though some are historical and/or cultural. Without identifying which may be which, I offer these generalizations:

- Full basements are not a big thing in the Aiken area although I know that Witter has built homes with full basements. (I am excluding here “walk-outs” and partial unfinished basements utilized on front to rear sloping lots.) Most likely, your proposed home will utilize a crawl space under the main floor. Depending on the slope of the land, the height of this crawl space could run from 2.5 feet to 10 feet or more. This is important factor as it *can be* the main determining factor in terms of where the furnace/air handler is located (see HVAC section.)
- Roofing structures. Due to lack of snow load, roofing framing/structures are completely different in the South. Not better, not worse. Just different, and noticeably so. Being from New Hampshire, you might be surprised on how differently a hip roof in SC is “framed” than it is in New England.
- Ceilings. Southern ceilings are generally considerably higher than their counterparts in NE, and probably the Mid-West as well. They are often highly detailed, i.e., with tray or coffered ceilings being common.
- In order to protect the correct scale to the higher ceilinged interior spaces, crown molding is more elaborate and wider while baseboard moldings tend to be higher (ours is over 7 inches high) in the South.
- HVAC systems are often designed differently. In the Northeast, it is quite common to have supply and return ducts in the same room. In the Aiken area, individual rooms generally do not have HVAC returns but instead rely on a few centrally located returns (see HVAC section).

- While 2 by 6 construction is standard in the Northeast for winter insulation reasons, 2 by 4 framing is the norm in the Southeast.
- Gutters. Many New England builders will not install gutters, or allow gutters to be installed w/o invalidating the warranty on the roof due to the increased risk of ice dam formation. This obviously does not apply in SC so most homes have gutters.

While there are many differences that could be added here, the most important fact to be remembered is that in the Northeast, it's all about keeping heat in the structure. In the South, its all about minimizing "heat load", i.e., *keeping the heat out*. It is a completely different way of thinking ...

I have included historical weather information in the next section which should help illustrate the above point.

Aiken's Climate

Due to its excellent climate, Aiken attracts families from the Northeast and Midwest particularly those who are semi or fully retired. As the climate may be very different than what you may be accustomed to, and in particular, has ramifications for custom home building, I have included the following climate chart as I will be making numerous references to Aiken's climate throughout this document. If you are familiar with the *Köppen* weather classification, Aiken is classified as "humid sub-tropical".

Measurement in F°	Jan	Feb	Mar	Apr	May	June
Average High	58	63	71	79	85	91
Average Low	33	36	43	49	57	66
Record High	82	88	88	99	100	108
Record Low	-4	9	13	21	34	42

Measurement in F°	July	Aug	Sept	Oct	Nov	Dec
Average High	94	92	87	78	69	61
Average Low	70	69	62	50	42	35
Record High	108	109	100	99	88	83
Record Low	51	52	37	25	14	4

Source: www.weather.com

Notes:

- **Bold** entries represent the *average* coolest and warmest months respectively.
- Although not reflected in the above table, June has the highest precipitation, followed closely by January. It should be noted that June, July and August on a relative basis also are high in precipitation. Rain during the summer months is usually not of the “all day rain” variety but instead fall into the category of “gully washers”, i.e., *intense* lightning/thunderstorms accompanied by heavy downpours occurring usually late in the afternoon.

I. THE HOUSE ENVELOPE (EXTERIOR CONSIDERATIONS AND POSSIBLE SUGGESTIONS)

Locating the House on the Lot.

Along with the Witter “Proposal and Specification” that you will receive for your new home, you will also receive a to-scale rendition of Witter’s proposed position of your home on the lot. Sometimes, if you are building on a sloping lot you may not have too much flexibility on where the house is located. However, if you are building on a reasonably flat lot, you may have more flexibility. Where the house is sited should encourage a fair amount of careful consideration on your part.

Let me provide you an example.

When we received the Witter depiction of where they proposed to site our home, there was nothing wrong with it. However, since we a) live in a planned community with average lot sizes running between .5 and .7 acres b) our home has a large “footprint” (63 feet by 83 feet) because all of its 2808 heated square feet is on one level and we have large porches c) on the two adjacent lots, while sold, the owners have not begun construction (we had to imagine where they would site their houses) and d) there are “setbacks” (minimum distances from side and back property boundaries, we thought maybe a slightly different positioning would maximize potential distances to our future neighbors as well as improve curb appeal. So we moved the house back on the lot by about 20 feet and changed the angle of the house relative to the street.

How did we figure out that our ideas had merit and could be done?

We made a few photocopies of Witter’s proposed site plan, “whited out” where they had sited the house on one copy, used a razor blade cut out the outline of the house on another copy and then played with moving the cut out home outline on the now blank site plan

(lot) until we were happy with the result. We then glued the house outline to the site plan and faxed it back to Witter for Herb's comments.

In characteristic Witter fashion, i.e., listening and being open to their customer ideas, Herb said immediately that "he really liked it" and readily agreed that our site plan was "much better than what Witter had originally proposed."

Windows.

As mentioned previously, with ever increasing energy costs (electricity alone is expected to increase at a compounded rate of 20% each year in the Aiken area according to the electrical cooperative) one of your main objectives should be minimizing heat load and thus cooling costs. One of the best ways of accomplishing this is by specifying Low-E (low emissivity windows). BTW, Witter usually specifies Simonton brand windows, a high quality, low maintenance vinyl window, but not necessarily Low-E windows. Low-E windows are typically Argon gas filled and have a transparent film on one the panes. There are several widely accepted benefits to Low-E windows. First, in the summer they will sharply reduce heat gain through the window. Second, in the winter the window will actually reflect heat back into the room. Third, they will sharply reduce the amount of carpet, upholstery fading due to the sun's rays. I would not be surprised if five years from now EVERY new home would come with Low-E windows so not having them might be a real negative if you decided to sell your home in the future. Yes, they are more expensive initially but you will recoup the additional expense in a few years. (Our Witter home and our home in NH had Low-E windows.)

You may want to consider whether you want muntions (the grillwork typically installed between the panes of window glass) or not. This is a matter of personal preference and your sense of interior design. If your plan is to install shutters, blinds or shades having a total horizontal orientation like Hunter-Douglas Silhouette (or equivalent), you may wish to forego muntions as the vertical lines of the muntions will detract from the "clean" horizontal look of your window treatments. This decision will also save you money. However, I would always recommend muntions (sunburst or other) in the transom glass above the front door.

Radiant Barrier Technology.

This is rather new stuff but particularly important when building in warm climates. Being from NH, I had never heard of the term and to be honest, I don't even know whether it is available in the Northeast. But put in the simplest terms possible, it is roof sheathing (those 4 by 8 foot sections of plywood or OSB which cover the roof joists) with one side having an aluminum foil type covering. It is installed with the foil side down. The radiant barrier brand most used around Aiken in new home construction is called

Tech Shield. There is no difference in labor costs in its installation but it is slightly more expensive than regular roof sheathing. While a lot depends upon the roof design and its size, I would estimate that specifying Tech Shield in a 2500 square foot home would add about \$700 to your home's overall construction cost.

Without getting into the physics of how this stuff works, national tests (many done in Florida) show that the temperature in the attic is reduced by a *minimum* of 30 degrees. (The temperature in our attic on a warm sunny day must be close to 150 degrees.) No matter how much insulation (we have R-30) you have in the attic, this trapped heat eventually "bleeds through" the insulation and significantly increases the heat load on the AC unit resulting in increased cooling costs. How much will you save by having radiant barrier roof sheathing installed? A lot will depend on how much attic insulation is in YOUR specification and what temperature you set your home to during the warm summer months, how many floors you have, etc. According to numerous Web sources and doing a bit of extrapolation, if you set your thermostat's temperature to between 73 and 74 degrees, you'll save about *13% of that portion of your electricity bill which is due to AC usage* if your air handler/furnace is **NOT** in the attic and *20% of that portion of your electricity bill due to AC usage* if it **IS** in the attic. You will also have a more comfortable home. BTW, not enough studies have been done to show savings due to lower heating costs in the winter but it is believed to be negligible.

You can retrofit an attic which does not have a radiant barrier but the retrofit uses slightly different technology, costs considerably more to retrofit and does not work quite as well. We will do this retrofit to our home during the upcoming winter.

I consider MY failure to specify Tech Shield as the BIGGEST mistake in building our home.

Color of brick and asphalt shingles (roof).

Again, multiple independent studies have shown that darker roof shingle color can have a *significant* effect on attic temperatures and ceiling heat gain. By selecting a dark brick color, you are pretty much guaranteed of having a dark roof color otherwise the combination will look pretty strange. So keep the brick and asphalt roof shingles a light(er) color and reduce the heat load (and AC expense) in the summer.

Foundation/Framing.

Who cares? It's just poured footings, a bunch of cement blocks mortared together and a number of interior piers (also cement blocks) that the floor girders rest on. I can assure you that Witter does for a number of reasons.

If there is one thing that distinguishes a Witter home from any other home is the quality of the finish work which is true craftsman type quality.

Resting on top of the outer cement block wall is what is called a sill plate which is in effect a doubled (stacked) pressure treated 2 by 4s anchored to the foundation. If the sill plate is not PERFECTLY square AND level (some shimming is always required), it will make the framing crew's work most difficult with accommodations required to be made throughout the framing of the house. And if the framing isn't done right, it really makes all the trim work nearly impossible to be of the highest quality.

Craftsman quality trim and finish work is difficult enough when you are dealing with 90 degree angles. It's incredibly difficult to miter cut and cope moldings when the angles are 89 or 91 degrees (or worse).

So Witter cares and *must* take extra precautions to ensure the foundation and framing are done *perfectly* otherwise they could not possibly deliver the quality of finish work that is so indicative of a Witter home.

As evidence of this quality you may wish to consider these facts. Since we moved in April 20, 2008 and this is now October 1, 2008:

1. There has not been a single nail "pop" in the sheetrock.
2. I can't find a single seam in the finished walls or ceilings.
3. The floor is completely level with zero separations between flooring strips
4. The quality of the paint job (trim and walls) is outstanding
5. Our house has lots of custom trim work (multipiece crown moldings, arched doorways, 7 1/4" inch base moldings, complex coffered ceilings, etc.). I have yet to find a single open seam in ANY of the trim work. Furthermore, I can't even find a single obvious use of caulking in any of the trim work. (Caulking is commonly used to hide or disguise minor mistakes in trim work.)
6. We've had only two "call-backs" to correct minor things
7. I could go on and on but I think you probably get the idea. We have a beautifully finished home of uncharacteristically high quality.

Additional exterior considerations

There are a lot of things to be considered here. These are just a few.

Glass/Acrylic Block.

One of the elements of custom building which is so appealing is that it encourages imagination. Here is an idea worth considering...

If you have a set of plans which has a bathroom window on the side or rear of the house consider replacing the window with mortared glass block. It will add a touch of elegance, provide a lot of light, ensure privacy and eliminate the need for some type of window treatment which is sometimes a problem in moisture rich environments.

I would recommend staying away from acrylic block and use glass block instead because acrylic block scratches so easily.

Gutters.

It can rain extremely hard in the Aiken area. If you are a serious gardener and have foundation shrubs or perennials, they could (and will) suffer damage during a heavy rainstorm. Gutters help solve this problem but the water from the downspouts can cause significant erosion and washout of turf or mulch. For this reason, we elected to connect the downspouts to corrugated plastic pipes which are buried and carry the water away from the house to “bubblers” located in un-landscaped areas of our property.

Landscaping.

As discussed previously, the contract price for your new home will include a landscaping allowance. What you ultimately spend is entirely up to you. But there are a few comments that you may wish to consider, but only if you are real serious about gardening, having a great lawn, and having shrubs and trees that survive if not thrive.

If you are from the Northeast or most of the Mid-west, you can forget a lot of what you know about soil types, perennials, shrubs and trees. For example, New Hampshire’s state flower is the Lilac which cannot grow in Aiken’s climate (For serious gardeners, our climate is categorized as 7B-8A which is a far cry from NH’s 4.)

I should add that we are **SERIOUS** gardeners/landscapers. Nancy knows more about perennials/annuals than most people ever knew. I know shrubs, trees, turfs, and in particular, irrigation systems.

There are two widely accepted principles you should **INSIST** on in your discussions with Witter’s landscaping sub contractor. The first principle has to do with the overall irrigation system and is technically called hydro-zoning. This principle is based on the simple fact that turf, shrubs and trees all have different root structures and therefore have different water requirements that will actually *increasingly diverge* over time. On a practical basis, this means, to the extent possible, that turf areas, shrubs and trees should be on **SEPARATE** irrigation zones so that you can apply the correct amount of water to each type of plant.

The second principle applies only to turf irrigation and is known as “head to head” sprinkler spacing. This means that all areas of turf areas are “hit” with the spray from **TWO** sprinkler heads. Failure to do so will inevitably cause your lawn to have brown areas from under-watering.

Soil Types.

A small distance in miles can make a large difference in soil type in Aiken County. In Mount Vintage, another master planned golf development in North Augusta only a few

miles away, the soil is predominantly clay with some sand. In Cedar Creek where we reside, the soil is predominantly sandy with some clay mixed in. The drainage is so good in Cedar Creek that even after a drenching downpour (not uncommon) any puddles (lakes, actually) in our backyard are bone dry 15 minutes after the rain stops.

Soil types have a fair amount of influence in how an irrigation system is designed. But leaving aside the specifics, the general guidelines outlined above should be followed no matter where you are considering building. They are VERY important unless you want to compromise the ability of your turf, shrubs and trees to thrive or even survive past the warranty period.

Turf Choice.

If you are from the more northern parts of the country, your choice of grass type will be more limited than you may be accustomed to in the Aiken area. Most developments in the area specify that sod is installed. Your choices in general come down to three draught resistant (due to summer heat) varieties: Bermuda grass, Centipede, or St. Augustine. There are plusses and minuses for each. We installed Centipede which is often referred to as “lazy man’s turf” as it requires less irrigation, fertilization (once or twice a year at most), and overall care than the other two turf types.

I encourage you to engage Witter’s landscaping contractor in a discussion of what turf type is best.

For what it is worth, we installed Centipede (perhaps it was the “lazy man’s” appeal) and now wish we had installed something different. Although neither Nancy or I have ever suffered from allergies, Centipede turf is more likely to be an allergen than either Bermuda or St. Augustine. It appears we are both allergic to Centipede grass. (Who would have known?). There is a lot of Web information on these three turf types and each has their advantages and disadvantages.

Perhaps more revealingly, Cold Creek Nurseries’ maintenance personnel, who does the maintenance on our property (excellently, BTW), unequivocally recommended St Augustine as the turf of choice when we informed them of our allergic reaction to Centipede turf. It should also be noted that Centipede grass is susceptible to a certain type of fungus that is difficult to control.

Your choice ...

Irrigation wells.

I STRONGLY recommend putting in an irrigation well, regardless of where you end up building. This will cost somewhere between \$2,700 and \$3,200, depending on the depth of the well. This money will ultimately be VERY well spent, as you do not want to irrigate using municipal water.

While Witter Construction will accompany you to meetings with the plumbing supplier or cabinetry sub-contractor and the like (if you wish), you are probably on your own concerning landscaping. You will meet with one of the subcontractor's designers, discuss what you like and dislike, and will get a to-scale drawing of the proposed landscape plan. You should INSIST on receiving an irrigation plan as well. There is a very important reason for this.

Even the best landscaping companies make inadvertent mistakes or cut corners to maximize their profit margin on a given job. YOU have to make certain that neither happens.

Our only issue with Witter Construction was not concerning the actual construction of our home but with our relationship with their landscaping contractor which became quite acrimonious.

To Witter's credit, even though they had no participation in any of our landscaping discussions (however, there was a landscaping allowance), when our relationship became very difficult with the landscaping subcontractor, Nick Witter attended a critical meeting and helped broker a peaceful solution to the disagreement. It is interesting to note that while Nick is a VERY quiet and soft spoken man, he is so well regarded by all that when he spoke EVERYONE stopped talking and LISTENED. We also felt that Nick agreed with us and was solidly in our corner.

II. INTERIOR CONSIDERATIONS

The "Vision Thing"

This may be your first custom designed home or maybe you've been through the process before. It helps if you can have a vision of what you wish the home to look like and a lot of this will be determined by your furnishings, taste, interest in energy efficiency, amount of routine maintenance you wish to invest in, etc. Admittedly, people have differing degrees of talent in formulating a vision for a new home. For example, in our case when Nancy looks at plans she only sees the plan as a two dimensional drawing and cannot imagine the "spaces" that the lines represent whereas when I look at the plans, I can readily imagine on a three dimensional basis, the spaces (rooms) created by the two dimensional drawings. This is why she graciously defers to my judgment on all construction matters (but to NO others.)

In our case, we saw a Witter Showcase home (2500 square feet) in Cedar Creek in April of 2007. We fell in love with the home, nearly purchased it, but ultimately decided it was not quite the design we wanted. But we were deeply impressed with the ceiling treatments (high, multiple coffered and tray ceilings), quality of the finish work, general floor plan, and in particular, the color palette which I suspect was done or assisted by an interior decorator/consultant.

Through several conversations with Herb, and marking up the plan for the house we saw, Witter redrew the plans to our specifications.

We took this existing design which had multiple interior archways, kept the master suite the same but made significant changes to the left hand side of the house, adding one or two additional archways, increasing the home size ultimately to 2800 square feet, and kept the exact color palette with the exception of the kitchen specifics.

It follows from the above that a major theme which consistently runs all throughout our house is “arches.” In fact, we have a total of five arches which separate various public spaces. In the formal dining room, columns provide delineation from our foyer and living room and these columns terminate in arches created in the dining room ceiling. In the living room, the tops of the built in cabinets which flank the fireplace are also arched. Finally, the top section of all raised panel interior doors are also arched. We also decided to have rounded (also known as radius) sheetrock corners (a more expensive sheetrock treatment) rather than the standard 90 degree corners for a “softer” look.

This is ***YOUR*** home, not ours. Your tastes may, and are almost certainly, different than ours. However, there are things we’ve learned along the way that we will pass on here, some objective, many subjective, that perhaps will help you create your vision as well as to help you crystallize your thinking about certain design considerations and decisions.

Hardware.

Our previous homes all had polished solid brass door handles, hinges, and bathroom faucets (Baldwin and Moen respectively) The Witter home that we initially viewed had what is termed “oil rubbed bronze” (brown) lever door handles, door hinges, faucets, drains, commode handles, etc. Having had both polished brass and now oil rubbed bronze, we strongly prefer oil rubbed bronze as it is considerably more maintenance free. For some reason, the darker color of these items actually shows fingerprints and dust to a lesser degree than polished brass.

Keeping the oil rubbed bronze hardware made the color palette (the Witter Showcase home) and lighting fixture choices far easier.

Lighting.

Lighting falls into three categories: Ambient, task and accent. Ambient is general illumination, and if you go the oiled rubbed bronze route in regards to hardware, some of your decisions are made simpler. In certain rooms, your lighting fixtures should be the same oil rubbed bronze type to provide a consistent theme within the house. (All of our fixtures in our home are oil ribbed bronze. Of course, there are flush mounted, semi-flush, pendants, chandeliers and recessed lighting fixtures in our home.

Here are a few generalizations (and recommendations), again just in our opinion:

- Recessed lighting should not be used in closets. Their light is too directional and will cast deep shadows,
- Stay away from flush mounted fixtures in most rooms. Almost all of them have thick glass (think ivory colored or “Tuscan” tinted) which sharply reduces the amount of illumination they provide. Flush mounted is okay in laundry rooms and garages but realize you may need more of them than you think. Also understand that the life of these bulbs is less than bulbs in other type fixtures because the bulbs run hotter (the fixtures are totally enclosed.)
- Semi-flush is a good choice in bedrooms in that, while they usually still use heavy glass, the light reflects off the ceiling providing adequate general illumination.
- In the kitchen and perhaps the laundry room (if cabinet equipped), it is a good idea to install under cabinet Xenon (or equivalent) lighting for task purposes.
- Consider using Compact Fluorescent (CFL) bulbs in recessed lighting fixtures particularly if these lights will be on for more than an hour a day. Yes, these bulbs are more expensive initially but there are real advantages to their use. First, they last up to ten times longer than standard incandescent bulbs (this is both a cost factor and a convenience consideration particularly in rooms having high ceilings. Second, they use up to 75% less electricity than standard bulbs while providing the same amount of illumination. Third they generate much less heat than standard incandescent bulbs which become tiny “ovens” that can generate significant heat and contribute additional heat load that the AC unit has to deal with during the summer. Incidentally, they like incandescent bulbs in recessed lighting, are dimmable. **HOWEVER, NOT ALL DIMMERS ARE COMPATIBLE WITH CFLs. IT IS CRITICALLY IMPORTANT THAT WHEN YOU DO THE “WALK THROUGH” WITH WITTER’S ELECTRICAL CONTRACTOR THAT YOU EXPLICITLY STATE WHERE YOU WILL USE CFLs IN THE RECESSED FIXTURES.**
- An excellent source on home lighting, heating and energy efficiency is http://apps1.eere.energy.gov/consumer/your_home/lighting_daylighting/index.cfm/mytopic=11970.
- Consider using “rope” lighting (accent lighting) behind crown molding in recessed/tray ceilings.
- Consider using the same manufacturer for chandeliers, particularly if the chandeliers are visible from a single vantage point. For example, in our home we have three chandeliers and all three are visible from several vantage points in our home. We have a three “globe” oil rubbed bronze chandelier hanging in the kitchen, a six globe but otherwise identical chandelier in the dining nook, and an eight globe two tiered chandelier in the formal dining area. For us, using common chandeliers helped create a common theme. Just an idea...

- Consider using hidden switches in door jambs in certain applications. For example, in our home when you open the pantry door the pantry's overhead light automatically turns on.

Flooring.

This is YOUR home. You get to specify, or change the specification, that deals with hardwood flooring. There may be reasons aesthetic or otherwise, that one species of wood may be more appropriate for you than another. Of course, your taste in hardwood species and applied stain are almost certainly different than ours.

However, there are wood species that should be considered if you have small children or a large dog(s). This is because there is great variation in the hardness/durability depending on the wood species. Nothing is tougher on a hardwood floor than small children (and their toys) or a large dog. (In our previous home, we had two large Golden Retrievers with white oak (generally considered a medium/reasonably hard species) flooring. We can speak from experience that even white oak is not immune from being scratched through the finish from the nails of two 80 pound dogs.)

In any case, there is a scale (the Janka scale) which rates the relative softness/hardness of every wood species. The scale runs from 380 for white pine to 3684 for Brazilian Walnut. You can find the scale at: http://www.countyfloors.com/about_janka.html.

Although this is a commercial site, it does offer the additional benefit of actually being able to click on a species to see what the species looks like when typically finished.

You can use your imagination and select a floor species to fit the theme of your new home or you can take the "old standard", white oak (1360 on the Janka scale) and use a custom stain and finish to customize its appearance. (We used white oak with a custom stain (75% Provincial, 25% cherry), with an extra coat of polyurethane in our Witter home. This custom stain worked best with the color palette of the walls, trim and ceilings.) Witter's flooring sub contractor is more than willing to provide you samples of different stains on the flooring species you select.

Kitchen Considerations.

There is not much to say on this topic as Witter uses an absolutely fabulous cabinet provider (Crawford Cabinets.) You will work with a Certified Kitchen Designer at Crawford. Appliance selection plays a significant role in the design and because kitchen design is such a matter of personal taste, kitchen design and appliance selection are intimately connected.

But some things are worth thinking about and are *occasionally but infrequently* missed at time of kitchen design.

Countertop and Backsplash.

You have several countertop choices here and there is a wealth of options here (Laminates, Corian, Granite, synthetic stone (quartz based) products like DuPont's Zodiaq, etc.) You also have a wealth of choices in terms of backsplash, e.g., Ceramic/porcelain tile, natural stone, brick veneer, granite, Zodiaq (or similar).

There is a lot of information on the web concerning the pros and cons of various countertop materials. One such commercial site (NOT Witter's subcontractor) is www.keidel.com. You'll have to do a fair amount of site navigation here to evaluate all the countertop type options. For what it's worth, we chose granite countertops with a FULL granite backsplash. (We chose the full granite backsplash as we did not want the grout between tiles being splashed/stained by cooking activities on the stovetop.)

Height of countertop.

This is normally not a consideration as the standard height is 36 inches. But if the primary cook(s) are particularly tall, you may wish to have a slightly higher countertop for ease of food preparation.

Appliance considerations.

One consideration is what type of refrigerator do you want as it will have a major impact on your kitchen design. Without getting into a top/bottom or side to side debate, there is a more basic consideration. The most basic choice here is whether you want a counter depth (24 inch deep fridge where the compressor is on the top of the unit (makes the refrigerator taller) or do you want the more standard (and less expensive) fridge where the compressor is located in the rear of the unit which makes the fridge protrude beyond the depth of the countertop. This decision may be influenced by whether you have a center island or want panels which match your cabinetry to cover the front of the refrigerator.

Regarding cook tops and particularly on cook tops having 5 or more burners, stay away from models that have all their controls on one side (usually the right side.) The reason for this is that this knob orientation "pushes" the burners to the left which means they are not exactly centered under the vent hood and pushes the leftmost burners very close to the upper cabinets on the left. (Our six burner Viking in our previous home had this problem. Live and learn.) Also, make sure that the ventilation hood has enough capacity for the stove top you select.

Finally, you may wish absent of other factors, to purchase certain appliances (typically fridge, oven, micro) from the same manufacturer for aesthetic reasons, i.e., their handles

will generally have the same finish and shape. A small matter to be sure but most of the time a consistent handle appearance throughout the kitchen is more attractive than an inconsistent one.

Bath countertops.

In our previous house, we had marble tops with Kohler “drop in” sinks. Never again. Just simply looking at marble creates a stain and the drop ins made it a little tougher to clean around the sink’s lip This time we went with Corian countertops with molded (no lip) Corian sinks with 4” Corian backsplashes. Result: Much easier cleaning and less maintenance.

HVAC.

As mentioned earlier, HVAC systems are commonly designed differently in SC than in the Northeast. In the South, a few strategically large air returns (in our Aiken home there are three) “pull” the air from the rest of the house to re-circulate, then heat or cool the air. In our previous home, we had a supply and a return for every room. The latter approach is obviously more expensive as there is considerably more duct work and labor involved in its installation. While I do not have any major issues with centralized returns (filters are easy to change as they are located right behind the return’s grill) and our system works quite well particularly when all the interior doors are open, centralized return systems do not work as efficiently when interior doors are shut (and the return is outside the room.). The result of this situation is that in the summer the temperature in the bedroom can be markedly higher than the rest of the house. The reason for this is simple. The bedroom becomes “pressurized” with the HVAC supply vents attempting to provide conditioned air but the air has no place to go as the door’s “undercut” (the space between the bottom of the door and the finished floor) is not, and aesthetically cannot be, large enough to allow a sufficient amount of air to be pulled out of the room by the return vent located outside the bedroom.

So if you have children or expect overnight visitors who will want the privacy of a shut bedroom door, there are things that can be specified with Witter Construction at very little expense to you which corrects this minor drawback of centralized HVAC return systems. To address this issue you simply need to specify “jumper ducts” which are short lengths of ducting which run from an additional ceiling vent in the bedroom, “jumps over” the interior partition and is terminated by another ceiling grill located in the ceiling near the return duct outside the bedroom.

For those that are technically oriented (or who just need a soporific!), the following article will shed even more light on this subject.

http://www.bestofbuildingscience.com/pdf/HVAC%20system%20pressure%20relief%20HEM_23-4_p42-45.pdf.

One additional comment on air conditioning and this one is simply advisory in nature. It is very common for your lighting to *momentarily* dim *slightly* when the AC kicks on because of the amount of current the condenser/compressor draws. (For technically oriented readers, all AC units have a Locked Rotor Amperage (LRA) specification which is a good indication of how much current is *instantaneously* drawn when the unit kicks on. On our AC unit, the LRA is 117 amps. With 200 amp electrical service, it's no wonder that there is a **momentary** slight dimming of lighting.) However, if the dimming is pronounced and bothersome you may wish to take the following approach:

1. Contact your utility company and ask them to put a meter on the power coming into your house to make sure your house is being supplied with the correct voltage and amperage. BTW, in our previous home, we had rather severe dimming and had our utility company temporarily install a recorder for a few days. It turned out that we were not getting enough "juice" so they installed a different transformer at the base of our driveway and that solved the problem. This is a common problem particularly in subdivisions.
2. Contact Witter's electrician and have them check out the electrical panel's buss connections making sure that they are as tight as they can be.
3. If neither of the above steps solves the dimming issue to your satisfaction, then speak to Witter's electrician about what additional steps can be taken to mitigate the problem (commonly referred to as a "hard start" or "soft start" capability.)

Location of the furnace/air handler.

You can have a spirited debate on whether it is better to "feed" conditioned air (from the furnace/air handler) from the ceiling supply vents above (furnace/air handler is in the attic) or from the floor supply vents in which case the unit is in the basement or crawlspace. Your design may even have a mechanical room on the first floor to contain the unit.

In any case, your home design and the slope of your lot will probably determine where the unit is located. However, I would NOT recommend putting the unit in the attic without installing the radiant barrier roof sheathing discussed earlier.

Plumbing Considerations.

Sometimes the design of the house dictates how the plumbing is done but often the customer can make decisions that can have a dramatic effect on energy savings, albeit at a slightly higher additional cost.

Domestic hot water.

Here is where you will probably have a choice. You could go for a standard (probably gas fired) hot water tank, typically they are about 50-75 gallon capacity. They operate as

you would probably expect. They constantly heat the water in the tank, or more precisely, they turn themselves on when the temperature in the tank falls below a set limit and turn themselves off when the upper temperature limit is reached. Counting the required clearances from walls and such, a fifty or so gallon water heater takes up around 9 square feet of floor space. Hot water tanks are not very expensive but generally have an estimated life of around 10 to 12 years depending on water quality.

There is an alternative to a hot water tank and that is a tank-less, “on demand” system. These systems only turn themselves on when there is demand for hot water, and unlike a capacity limited tank system, it will provide an endless supply of hot water. Although initially more expensive, for a typical home, your annual operating costs for the same amount of hot water would be about 33% less for a tankless system. They can be installed either inside or outside and simply “hang” on a wall.

In our Witter home, we have a Noritz tank-less system which we love.

However, if you choose to go with a Noritz system I would recommend having a serious conversation with Witter about where the unit should be located. As the Noritz system is only guaranteed to operate without freezing (the repair is expensive and not covered under the warranty) to a *wind chill* of five degrees, I would not recommend outside installation. Of course, if you never travel in the winter or if you don’t mind the rather simple draining process if you do winter travel, then I suppose it’s location does not matter.

But if it were me making the decision today, we would locate the unit in the garage or some other location inside the house.

Type of plumbing pipe.

There was a time that copper was almost universally used in new home construction despite its serious drawbacks (labor intensive installation, many solder joints each a potential leak hazard, mineral build-up in the pipes, corrosion of the pipe depending on water quality, etc.). This of course doesn’t even address its major drawback, namely the skyrocketing price of copper over the last several years.

Now the majority of new home construction uses plastic rigid pipe, known as CPVC (chlorinated polyvinyl chloride). Sections of pipe, 90 degree, “T” fittings and the like are simply glued together. Our home uses CPVC water supply pipes and PVC for drain pipes.

It is important to note that traditional copper and the newer CPVC piping systems both rely on a “trunk and branch” topology. By this I mean that a fatter pipe represents the “trunk” and narrower diameter pipes are the branches that actually connect to the faucets, commodes or whatever.

There is nothing wrong with “trunk and branch” systems (they have been used for hundreds of years) save perhaps that sometimes the use of one faucet, commode, or washing machine on the *same* branch *may* affect the water pressure for the person taking a shower serviced by the same branch.

We have never experienced this problem which means that our plumbing system was extremely well designed and installed.

I would be remiss if I did not mention another plumbing option discussed below which is gaining popularity very quickly.

If we were building today, I would speak to Herb and Nick about this option. If their plumbing contractor (and Witter) had experience with the following technology, this is what I would specify today along with the Noritz tank-less system.

PEX/Manifold Plumbing.

This is a controversial topic even among plumbers themselves. Plumbers who have installed PEX/manifold systems are overwhelmingly positive towards this type of plumbing and those that haven't are generally quite negative to it. It is, however, a proven technology.

Instead of a trunk and branch topology, a PEX(cross linked polyethylene) manifold system is a “home run” plumbed, meaning that there is a two chambered distribution manifold (looks like an electrical panel) located close to the water heater, with two inputs (hot and cold water) with multiple connections (think of threaded garden hose connections) on each side of the manifold. Blue (cold water) PEX flexible pipes (usually a half inch in diameter and look like hoses) are on one side of the manifold and the red (hot water) PEX pipes connect on the opposite side of the manifold. These pipes/hoses are run DIRECTLY to sinks, commodes, washing machine, etc. often without a *single* fitting (“T”, 90 degree, etc.) in the plumbing “run”. In the manifold, each fitting is clearly labeled as to where the pipe is run.

I think it is appropriate to remind the reader that this is not a Witter publication. I do not know what Witter Construction thinks of PEX/manifold systems or whether their plumbing subcontractor has experience in PEX installations. Most importantly, the advantages of PEX systems listed below would not be enough for me to cause Witter to do something that they were not comfortable with, and in particular, specifically having them change their plumbing sub contractor just to realize the benefits of PEX. I guess what I am trying to say is that the benefits of keeping the existing Witter sub contracting team together outweighs the benefits that PEX provides. Why didn't we use PEX? Simply stated, I know much more about PEX today than I did a year and a half ago.

PEX advantages:

- Less fittings means less chance of a leak in the future
- Elimination of “water hammer” sounds

- You can work on a plumbing fixture w/o turning off all the water in the house
- Quicker delivery of hot water to each fixture (you're not heating up the water in the entire trunk)
- More energy efficient
- Less water pressure variations when multiple fixtures are in use

In terms of cost, it is probably close to a wash compared with CPVC. It's less labor intensive than CPVC (much more flexible and easier to "pull", less connections to glue, etc.) but you end up using more piping because of its "home run" topology.

So if Witter is comfortable with installing a PEX/manifold system with a Noritz tank-less water heater, this is what I would specify today.

Other considerations.

Built-in Cabinetry.

If your plan has built in cabinetry in a family or living room and you wish to display objects d'art (not a bookcase), you may wish to consider the following. Specify hidden low voltage (technically called MR-16 lamps) in the top section of the cabinet(s) and controlled by a wall dimmer. The shelves have a center area that is glass which is "laid into" and is flush with a wood frame for each shelf. In this fashion, all objects regardless of which shelf they are on are accent lit. A very elegant appearance is the result. Of course, this is something you discuss and specify with Witter's cabinet subcontractor.

Soundproofing.

You may wish to consider the benefits of soundproofing certain rooms which can be done inexpensively. Rooms you may wish to inexpensively soundproof are powder rooms, laundry rooms, and shared (Jack and Jill) bathrooms. For these rooms, simply filling the stud space with fiberglass batts will do the trick.

However, there may be rooms, specifically the wall between the master bedroom and a family room having a home theatre where the above approach will not be enough particularly if someone is a night owl. In cases like this, it is highly desirable to remove any solid common conduit of sound between the adjacent rooms. (Sheetrock on both sides of a common wall fastened to the SAME vertical studs is a **VERY** good conductor of sound.) Although a little difficult to explain, the ideal soundproofing solution in these cases involves using a **2 by 6 inch bottom and top plate** for this wall but the **2 by 4 vertical studs** are staggered (16 inches on center) on both sides of the wall. In this fashion, no stud connects the sheetrock in both rooms. As in the above example, fiberglass batts are installed in the wall as well. If this explanation is not clear, speak to Witter Construction. Yes, this approach is more expensive (twice the number of studs in

this one wall) but is *much* more effective than the first approach particularly in adjacent home theatre rooms and bedrooms.

Fans.

Your proposal and specification from Witter will indicate how many and which rooms will be pre-wired for ceiling fans. This is not a time to skimp because adding a fan (and associated wiring/switches) later will be MUCH more expensive than specifying where fans *MAY* go in the future in Witter's proposal/specification. I would also strongly recommend that you pre-wire any outdoor porches with ceiling fan capability and install fans from day one. A few days of a hundred plus degrees will make you feel good about this decision.

III. ELECTRICAL, GAS AND SERVICE AMENITIES

Surge Protection.

Due to the likelihood of electrical storms particularly in the summer months, I would recommend adding to the specifications a reasonably capable (Intermatic or equivalent) with a "high clamping specification" whole house surge protector directly wired into the electrical panel at time of initial construction. True, this could be added later after move-in date at a slightly higher price, but wouldn't you want the protection from day one?

This may seem to be a trivial issue but from our personal experience, it certainly is not. One month after moving into our previous home which was *not* on a hill, lightning struck one of our driveway lamps, the current ran into our house and did about \$25,000 worth of damage. The expression "lightning doesn't strike twice in the same spot" is not true. Lightning has no memory. The second time we were struck (actually a nearby ground strike), we had \$5,000 worth of damage mostly to the irrigation system. Please understand that those puny surge protector strips provide you no serious protection from a lightning strike. After the second occurrence (and an increase in our home insurance premiums), we installed a heavy duty whole house surge protector wired directly into the electrical panel.

A lesson painfully learned. We have a whole house surge protector in our Witter home.

Outdoor outlets:

While Witter always specifies a number of outdoor AC outlets for every home, if you plan on an outdoor grill with rotisserie option, it is very easy to add an additional outlet to the patio (if in the design) to the specifications. It shouldn't be that difficult to figure out now the likely location of the gas grill. Also, now is the time to decide whether to move your existing propane grill or whether you want to get a new outdoor natural gas grill for your new home. (BTW, we left behind a 900 pound \$5,000 (when new) Frontgate/DCS

propane grill and sold it with our previous home as an extra amenity) and purchased a new natural gas grill (Fire Magic Custom II) over the Web. One of our better decisions! Not only do we never run out of gas at the most inopportune moment but natural gas grills are usually hotter, with each burner (on EXACTLY) the same model grill (but natural gas vs. propane) offering an additional 1,000 BTU per burner. And it is a great barbecue, even better than our previous much more expensive Frontgate/DCS grill!)

Of course, if you plan to have a natural gas barbecue, this is the time to specify an additional natural gas line to be run close to the AC outlet on the patio where the barbecue will be located. Doing this later will result in a very high additional cost.

Home Theatre and Whole House Audio:

This is the time to decide whether you want home theatre and/or whole house audio because it's a lot easier and less expensive to pull all the necessary wiring while the house is under construction than after your home is completed.

As a certifiable audiophile/videophile "nut", I could write a huge section on this topic alone but I will try to keep it simple and very abbreviated.

1. Determine whether you want to move your existing TV/home theatre to your new home. Figure out where you will locate your home theatre system. Keep in mind that the newer technology plasma and LCD TV's performance is affected by the amount of ambient light in the room which can be an issue if you watch daytime TV. BTW, LCD TVs are slightly better than plasmas in well lit rooms. (In our case, we actually deleted two windows in our home theatre (family) room for this reason.)
2. Determine whether you want a whole house audio system and which features are important to you. Do all rooms require audio? Is it important that different rooms be able to simultaneously play music/news/etc. from *different* sources? Do you want to be able to control the audio (source, loudness) from the room you're in? (Our system, not inexpensive, can play multiple sources in different rooms and is controlled by wall switch panel in each room.)
3. If you are a true audiophile/videophile "nut", consider running a dedicated electrical circuit to where the TV/audio equipment will be located. There is NO doubt that having other appliances/lighting on the same circuit introduces electronic "hash" on the same circuit that will degrade video/audio performance.
4. If you are REALLY serious about audiophile quality whole house stereo, I would wholeheartedly recommend Noble Fidelity L-85 in ceiling speakers. At \$595 a pair, they are not cheap, but favorably compare to in ceiling speakers costing several times more. In our Witter designed home, the rooms that I (aka, "the stereo nut") tend to spend time in have these speakers, while the rooms that Nancy spends time have much less expensive ceiling speakers. Having said this, even Nancy hears the difference in the tonal quality of the speakers in "her" rooms and mine.

5. If you have *any* interest in either home theatre or whole house audio, speak with Witter's electronics subcontractor. They are true experts and very responsive.

Smoke detectors.

Who cares? They are covered under both national and building codes and the basic variety (AC powered with battery back-up) are included in the Witter specification. But you might want to know a little more.

These unattractive "ceiling warts" actually come in two varieties: photoelectric and ionization chamber. **IT IS IMPORTANT TO NOTE THAT BOTH VARIETIES MEET NATIONAL AND LOCAL BUILDING CODES.** Photoelectric detectors are *slightly* better, i.e., quicker, at detecting smoldering fires while ionization chamber smoke alarms are *slightly* quicker in earlier detection of open flame fires.

If this is important to you than photoelectric based detectors should be installed in the bedrooms and living areas while ionization chamber detectors should be installed in the kitchen (you'll have to put up with an increased incidence of false alarms from burning toast and the like), garage and basement area (if any). If this difference is important to you, your specification should call this out explicitly.

There are two things to remember. First, **BOTH** types meet national and local building codes. Second, and most important to us, is that in general both types have a 9 volt battery that should be replaced once a year otherwise the unit will begin "chirping" (which one?) indicating a low battery condition.

With 8 or 9 foot ceilings, this is a problem but if you have 10-13 feet ceilings (as our Witter home has) this becomes a major project.

Now add in "Bill's Rules" regarding smoke detectors:

- The unit(s) never chirps when you already have the ladder out
- The units never chirp during the day, only at "half past dark"
- There is an excellent chance you will not have spare 9 volt batteries around.
- Chirping ALWAYS occurs just when bedroom intimacy begins. While birds gently chirping are quite romantic, the shrill electronic 70 decibel detector chirping is as romantic (and effective) as an ice cold shower.
- Of course, if I was smarter, at 3 AM when this happens, I would change ALL the 9 volt batteries in EACH of the detectors. But human nature being what it is, I change only the offending battery which GUARANTEES that EXACTLY the same thing is only going to happen a few days/weeks later. Of course, I've already put away the ladder by this time.

There is an alternative at the time of this writing and maybe even more alternatives in the future. This alternative just came on the market, was not available at time of our construction, but is being retrofitted to our home (all smoke detectors replaced).

Kidde, a recognized leader in fire protection, has announced their “Silhouette” line of smoke detectors. They represent a quantum leap forward both in terms of aesthetics (they are extremely “shallow” in terms of their protrusion from the ceiling and would fit with any décor and second and perhaps most importantly, they have a lithium 10 year battery which never needs replacement (!!!). Yes, they are more expensive than what Witter usually installs but when you think about the cost of 10 years of 9 volt battery replacement every year times the number of smoke detectors, the price difference is not much at all. Specifying these detectors will probably result in an additional cost of \$40 per detector but per the preceding section, might it not be money well spent? Your call, but as I said, we’re replacing every one of our detectors with Kidde Silhouettes. Further information can be found at www.silhouette.kidde.com.

High Speed Internet Access/Cable/DSL/Satellite.

Most people have migrated away from dial-up Internet access (wait,wait, and more waiting) towards high speed Internet access.

Please be aware that your ability to get high speed Internet is dependent upon your location. If you are building in a new subdivision, or a new section of an established subdivision, cable TV and cable Internet access may not be available for some period of time. The reason for this is that cable companies do not necessarily install their “trunks” until a certain population density is reached. From a financial perspective (and as an ex-board member of a cable company), I can tell you that cable companies have formulae that calculate when cable (a “sunk” cost without immediate return) should be installed in a new sub division or a new part of an existing subdivision.

In our case and being in a new section of Cedar Creek, cable was not and is still not available. Best guess is that in another 6 months cable TV and high speed Internet access will be available.

So what do you do for high speed Internet access and cable is not yet available?

If you are fortunate, you are close (roughly 20,000 feet to a Telco’s (Southwest Bell) Central Office. If this is the case, then you can subscribe to Digital Subscriber Link (DSL) service and typically get between 3 and 6 megabit per second download speed Internet access. If cable is not immediately available then you should contact Southwest Bell, give them the nearest address of an existing home, and ask if DSL service is available to them (and you). If the answer is yes, you are fine.

Of course, if cable is not available your only option for television reception is a satellite dish and service from DirecTV or Dish Network. You will also require a second dish for high speed Internet access if neither cable or DSL service is not available.

Summary

We had an unbelievably positive building experience with Witter Construction. Regardless of the decision you make, we wish you well. I hope this “little” (it could have been much longer!) booklet has been of some assistance to you.

If you have questions or any feedback on this document, feel free to call or email me (contact info is on the cover).

Happy Building!

**Best regards,
Bill Rosenberger
November, 2008**