

Working with contractors when building or renovating a healthy house



Building or renovating an environmentally safe home may involve an architect, a general contractor and several tradespeople. This article discusses hiring and dealing with these people, as well as the role of the owner.

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Using an architect

An architect designs the house based on the customer's wishes and needs, and also provides some oversight during the construction process. Architects can make a house into a piece of art and tailor the layout to the lifestyle of the customer.

Architects are rarely used for MCS houses, as they are expensive to use and tend to focus more on the visual appeal than the basic needs of the MCS patients. People with multiple chemical sensitivity who are on a budget typically learn from other well-designed MCS houses and then draw their own plans.

Using a general contractor

A general contractor organizes the project, including hiring, paying and scheduling subcontractors. The general contractor orders and hauls materials, deals with the building inspectors and oversees all aspects of the project. In principle, the owner of the new house need not be involved in the project, except for fundamental decisions. The owner can live far away and just talk to the general contractor on the phone once in awhile. This is the common approach in the regular world.

In the MCS-world, there needs to be more involvement by the owner. There are extremely few general contractors with experience building successful healthy houses. Even if the general contractor was handed, say, this series of articles and asked to duplicate it all, problems would still happen. If for no other reason than many people who do construction work entered that field because they were not the type who readily learn from a book, but were more practically oriented. Conversely, very few college professors would be able to build their own house, tools in hand.

In any case, there needs to be some oversight by a person who has a deep personal experience with the illness. Otherwise, the general contractor, and the contractors themselves, will make a lot of the decisions. They may call and ask sometimes, but they will most likely think that a lot of details are not significant enough to call about. It could make the difference between moving in a few months after the house is finished, or a couple of years. Perhaps several years. In the construction trades, speed is king, while quality and checking on things are secondary. This is engrained and cannot readily be changed for a single project.

The other involvement is the selection of materials and building parts. This could possibly be done from afar, such as by purchasing all the available brands of caulk from the local chain stores and testing them, and then instructing the general contractor which one to buy. But it is so easy to overlook something when not there all the time. Even materials that work for most people with MCS may not work for you. Some people do wonderfully with Elmer's glue or the latest "safe" paint, while others are bothered by them for years, for example. Just because a product is sold as "green" or "for people with MCS" doesn't mean it will work for you. Several houses have sat empty for years for that reason.

Using a general contractor appears to add about ten to twenty percent to the cost of the project, though this author never considered hiring one and has not looked much into the going rates.

The decision to use a general contractor may be stipulated by whomever finances the project: many banks simply require one.

Green builders

There are contractors who advertise themselves as green builders. Be very clear that “green” and “MCS safe” are not the same thing. “Green” often means using less energy-intensive and recycled materials, while indoor air quality is just one issue they *may* consider.

“Green” builders often use manufactured wood and other products that are unhealthy. They can be as narrow-minded and resistant to doing things differently as regular builders.

Find an experienced advisor

If you can enlist the help of someone who has already *successfully* built a healthy house, that can be a tremendous help. Even if they are just available to you over the phone. Steer clear of those people who know all about MCS housing, but have never built one they actually lived in.

Being your own general contractor / owner-builder

Filling the role of the general contractor does not require prior experience in house building, nor does it require a degree in engineering or anything like it. But only if it is your own house. Then you are an “owner-builder.”

What it does require is some personality traits, such as being organized and able to follow through on a project, even on a bad day. The inner strength, and health, to show up at the work site every day, at least just for an hour, even if getting whacked by someone wearing cologne or fabric softener. Even if sick or tired. Then to go make phone calls to find suppliers for products not available locally and to keep up with the contractors who are needed later, to make sure your project is still on their schedule and that they know when they are needed.

Then a couple of times a week it’s off to the building supply stores to buy more materials, or order them delivered. Or perhaps send someone to pick them up. When the project is running, it is sometimes like trying to feed an insatiable beast that is constantly demanding more. The day after a truckload of lumber arrives, there will be a new list with the pieces the framers forgot to ask for.

If you are still in the hyper-reactive, hyper-vigilant state we all go through in the early years of this illness (and some never get past), it is most likely best to defer building a house until your situation is more stabilized. Of course, that is often a chicken-and-egg situation — you need a safe house to stabilize.

A professional general contractor can maybe finish the house in six months, from breaking ground to finish. If you manage it yourself, there will be more delays and downtime. A year is more realistic. Trying to go faster will be a tremendous strain – you'll likely welcome some days off in between.

From when the land is purchased to when the house is finished, count on two years. Plus, some time for off-gassing afterwards. Some have built faster than that, while some have taken three years.

Doing this job will take its toll. One person got so sick she had to stop the project halfway and rest for a year. Others have had to resort to various stimulants to keep going, such as sugar, caffeine and alcohol. One petite woman gained twenty pounds (10 kg) during construction, and this author gained eight pounds. It has taken some people a year or two to recover to their former level of health.

Being your own general contractor has benefits as well. Most tradespeople are nice folks who will cut a rookie owner-builder some slack, maybe even enjoy sharing some of their knowledge. Even though they may not have much formal schooling or fancy degrees, they will be able to teach you something. A lot. Building a house is an amazing education. And it can be very helpful with later upgrades and maintenance.

Being able to make a decision

Regardless of how the job is organized, you will need to make a lot of very important decisions regarding materials. You will need to start working on choosing the materials well in advance of when they are needed. And be ready when the contractors are. And not keep changing your mind. This greatly annoys contractors, and in fact may drive them away. Contractors will quickly lose respect for someone who changes their mind several times.

It also helps greatly if you are able to read up on how to build healthy houses. Some people are too brain-fogged to do this. Be aware that much information on the web is written by people who have little (or no) experience building or renovating houses. Also, be very cautious with the simplistic one-page answers to difficult questions. Mistakes can be very costly, and can often be avoided.

Hauling materials

If you haul your own materials, a pick-up truck or a trailer is a must. This author bought a small trailer at Home Depot for \$700, which had an 8 x 4 ft bed. The ends could be laid down flat, so it could haul lumber up to 12-14 ft long. It was pulled by a sturdy sedan with a small (75 horsepower) engine, which did fine on

the trips to Home Depot 45 miles (70 km) from the work site. It worked well and saved a lot of money and trouble.

If you are not hauling yourself, it can be a good idea to have a designated person do it. Someone who really understands MCS. If the contractors do it, it is likely to be much more expensive, and they may not think of passing over the lumber that has been sitting out in the rain and gotten a bit moldy, or to buy sinks with sound deadeners of tar. You will either pay for their time, and/or a percentage will be added to the cost of the materials.

Building supply stores and lumber yards usually have a delivery service, which is often quite reasonable. It is sometimes even free on large orders.

A respirator is very useful for the time spent inside the very toxic building supply stores. Even when using one, expect to get sick anyway, at least from the stinky clothes you'll be wearing when driving home. Respirators are usually pretty toxic themselves and need a long time to offgas. Buy a couple and hang them up to offgas when you start thinking about building. They should come with a VOC filter, or multiple-gases filter.

It can be a good idea to set up an account with the building supply store, and get multiple cards, one for each person who may be sent to pick something up. Some stores also have special deals and discounts for their cardholders. Some stores have lower rates for contractors and owner-builders, but you'll have to ask for them.

Many contractors are not good at estimating what materials they need. Some insist on bringing their own materials, which makes good sense when they are expected to do their task within a day, so they are sure they have what they need.

Choosing contractors

There will be a need for many types of contractors when building a house, though you may get lucky and find one who can do most of the work. There are usually many handymen available in rural areas, but in remote areas they may be scarce and not willing to drive far. If the contractor has to drive far, you can offer gas money. Another option is to hire someone who comes with a travel trailer and camps on the building site until the house is done, and then goes on to the next project. This also provides theft protection.

It is very important to get contractors who are willing to do the details correctly. Most modern construction is simply a matter of slapping things up as fast and cheaply as possible; true workmanship is not valued by the American building

industry. If you are building an airtight house, it is imperative that every crack in every electrical box is sealed, every seam is fully taped, nothing is passed over. If you use old-fashioned grout and thinset without chemical additives for tile work, it is essential that the contractor has the patience to hold the tile in place for the extra ten seconds before letting go, so the tile won't come loose later. Many contractors are not willing to do this, when they are used to doing things as quickly as possible.

Some contractors wear cologne, smoke, or use fabric softener. There is nothing to be done about that, other than either living with it, or finding another one. It is not possible to get them to quit, and even if they try, it is very unlikely to work as it is embedded in their clothes and will be coming out their skin for weeks or months. It will just be a continuous source of agitation that can very well poison the relationship. Stinky contractors are unlikely to contaminate the house, at least before the inside walls are finished.

A compromise is that no smoking is allowed within 20 ft/7 m of the house and allow them smoke breaks. The distance requirement should prevent cigarette butts from being left in wall cavities, which is common practice.

Contractors are usually very conservative in how they do their job. They are probably not very interested in learning new methods and new materials, when what they already know works from their perspective. New methods and new materials will take time to learn and also carry the danger of failure. It may not work because it is not a good method or material, or because they did not do it right yet. If there is a problem, who is responsible for the cost of fixing it? Discussing that issue up front may help alleviate their resistance.

Don't expect a contractor to really understand MCS. Spouses and doctors rarely do, so why would a contractor?

It is extremely important to find a contractor whom you can communicate with. One who won't listen won't do the job properly, and thus the project has a higher chance of failure. Steer away from the cocky ones, who are quick to tell you they know all about MCS, unless they have really solid references.

The ones to hire are the ones who are interested in cooperating with you, and don't mind working with you being around. One who seems genuinely interested in learning something new, one who will listen to you, and also give you his opinions. One who will take the time to do the job right.

The quality of the contractor can vary dramatically, especially in rural areas. Some of them frankly do shoddy work that may not be easy to see, but could mean

costly repairs years later. Ask around to find out who has a good reputation. If there is a building boom and the contractors are all busy, be careful with the contractor who can start the next day.

Be aware that many contractors are socially conservative, especially in rural areas. That may mean they consider women inferior to men, which can cause problems when they are hired by a woman.

Bidding

It is common for contractors to bid on large parts of the project, such as the entire foundation or the framing of a house. Small jobs, such as blazing the driveway or installing a new sink are not biddable jobs.

Contractors bid based on their experience. They know how much time it takes to install a roof on a 1000 sq ft house using plywood decking and tar shingles, and thus know what to bid, so they are reasonably paid for their work.

Bidding on an MCS project involves a lot of unknown for the contractor to see. He doesn't know how long it takes to do the work, when it must be done differently, and what if something goes wrong? The result is that some contractors will not bid on such a project and others will tend to bid higher, to be sure they are covered. This can add considerable cost to the project.

The common alternative is to hire the contractors as hourly labor instead, so they are paid every week or at the end of each smaller project. This way the contractors do not need to add uncertainty to their price, and they can easily be fired if they do not perform. This method is commonly used for the jobs that are done differently than the norm, while jobs that are done conventionally, such as framing, can still be bid at a fixed price.

Working with contractors

Contractors are usually not well educated with degrees and diplomas, but they work with construction every day and they may suggest better designs than what is on the drawings. It is at your peril to simply hand the drawings down from on high and insist on doing it in a certain way, without carefully listening to (and encouraging) what they suggest.

Some contractors are visually oriented, i.e. they understand things by seeing them and are not geared towards symbols on a page. Perhaps one reason they didn't go to college. It may not work simply to give them a book or these articles and expect them to build the perfect house.

An experienced worker with a good attitude is worth gold, and worthy of your respect. Even the most careful and skilled contractor does make mistakes now and then, just like everybody else. It happens.

But there can be problems with them, too. Some will go out of their way to make sure they are not supervised. Most of us do not like the boss looking over our shoulder, so that is not so hard to understand. But it can be a problem, and not just with special MCS things.

They may forget a detail, or misinterpret the drawings, which can be very expensive to correct later on. Or the person doing the drawings forgot something that is obvious once the house is being built. The contractors will use their own judgment if there is a problem, but it may not be how you would choose.

In a few cases, they may try to pull a fast one. A friend had a contractor who built up a stem-wall of hollow concrete blocks. The drawings and the building code both require that all the cavities in the blocks be filled with concrete. This contractor saved a lot of money for his own pocket by putting in a layer of kraft-paper under the top layer of those blocks, and then just filled the top layer with concrete. This could easily have caused complete failure of the foundation some years later, but it was discovered in time and corrected. This was even a licensed contractor.

Respect the contractor's needs

You pay for it all, you are in charge and have the final say, but use that power wisely. Contractors will walk off a job if they find the owner unreasonable to work for. I have seen it happen repeatedly for two MCS owner-builders.

Contractors need stable work. They are not paid for days they are not working, so if you abruptly stop construction, they lose income if they do not have other jobs waiting. They will not be pleased if you keep stopping and starting work. Even worse is if they show up as agreed upon, and you are not ready for them, so they have to go home again.

If you are not able to keep the project going five days a week (such as for health reasons), talk to the contractor. He may be willing to work fewer days each week, while working on another project on the other days.

Most contractors take pride in their work. If you disagree on something, discuss it respectfully. It is not productive to insult the contractor if you wish to continue working with him.

The contractors are likely to do a better job working for someone they like and respect than someone whom they can't communicate with or who bosses them around.

Licensed and unlicensed contractors

Licensed contractors must take a course, pass a test and then pay a substantial amount of money to become "bonded." This is a sort of insurance policy that a botched job will be made right, according to a standard criteria (probably not MCS criteria, unless you have a solid contract spelling it out in detail).

If a bank or public agency finances the construction, they will most likely require the use of licensed contractors. If you use a general contractor, he will probably only use them as well. He may in fact be legally required to do so.

Using unlicensed contractors can save a lot of money if you are an owner-builder, as their rates are much lower and they may be more willing to let you purchase the materials. With a great all-round person, it can make a project much easier, rather than having to use a great many different contractors. But you run more of a risk. The quality of the workmen can vary enormously and then you are responsible for reading up on building codes, etc.

Whether it is a good idea depends enormously on the local area. What is common practice, availability of good workers, legalities, etc. Ask around locally, and inquire what the rules for owner-builders are at the local building inspection office.

Trash

Construction will generate a lot of trash, such as left-over concrete, sawn-off lumber, broken tile, etc. You could rent a dumpster or haul it to the dump yourself. You can ask the contractor to pile it up in a certain spot.

Some contractors are in the habit of burying all trash, including trash from their lunches.

Protection of plants and landscapes

Building a house is very destructive to the landscape. When workers and machines move around, protecting the landscape is absolutely of no concern to them. The contractors are focused on the job, not on preserving bushes, trees or other natural features. They are just a nuisance to them.

Operators of delivery trucks and earth moving machines can be more inclined to take a wide circle around the yard, rather than backing up to get around. Even if they are asked, and they promise. A backhoe or a big cement truck can do a lot of damage in 30 seconds. It is simply a fact of the business.

Most commercial construction companies simply start the project by bulldozing the entire lot, removing all vegetation. On large lots, they may just bulldoze an acre or two. Sometimes they sell off the stripped topsoil, leaving the new homeowner with an infertile piece of wasteland that will take many years to become fertile again. Many new American houses have “rolled out” lawns that are forever in need of artificial fertilizer and other chemicals.

Discuss this with the contractor ahead of time, or they may simply do it as a matter of standard practice.

When building in a natural area, it is often desirable to keep the place as undisturbed as practical. In some areas of the United States, invasive species such as tumbleweeds (Russian Thistle) will take over with amazing speed any area with disturbed soil. Some species are also legally protected, such as the saguaro cactus and Joshua Trees in Arizona. In areas of little rain, it can take many years for vegetation to recover. Even a single tire track can be seen years later.

It appears that the only way to prevent unneeded roving vehicles is to fence off sensitive areas. This can be done by ramming a row of fence posts (T-posts) in the ground, 10-15 ft (3-5 m) apart. Or place posts around bushes and trees that need to be protected. There is no need to put up wire between the posts, though bright ribbons can be useful. An alternative is placing concrete blocks on the ground, though they are less visible to a backhoe operator.

To be really effective, plant small U.S. flags — no contractor would dare run down the national flag! At least not in conservative states.

But be careful not to be too restrictive. The machinery does need a lot of room to maneuver; much more than a car. The contractors could be hampered and perhaps even angered if unduly restricted. Perhaps wait until the foundation is done, as concrete trucks are the most space-needing vehicles around the house.

More healthy house construction articles

More articles about constructing and renovating housing for people with environmental illness can be found at www.eiwellspring.org/saferhousing.html.

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