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AN ESSAY FOR HOMEOWNERS

Who Designs Your House?

Most homeowners assume the drawings are finished before the building begins.

By Brian Hope, Principal · Published by Hope CGI, LLC · Bisbee, Arizona · November 2026
Written for homeowners planning a renovation, an addition or a new house.

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HOMEOWNERSHIP

Who Designs Your House?

Most homeowners assume the drawings are finished before the building begins. The narrow gap between what is drawn and what is actually decided is where renovations quietly come apart.

BY BRIAN HOPE

Somewhere in the second week of a kitchen remodel, the wall comes down and the foreman finds something. A vent stack where the plans show open air. A floor that drops half an inch over eight feet. A header that someone, decades ago, framed out of two-by-fours and optimism. The foreman sets the tools down and calls the homeowner, because a decision has to be made and the drawings do not make it. Move the island, or move the stack? Shim the floor, or live with the slope? The homeowner, standing in what used to be a kitchen, makes the call in under a minute. And in that minute, without ever applying for the job, they have become the designer of their own house.

This happens on nearly every project, and almost no one names it for what it is. Homeowners brace for the wrong dangers. They agonize over cabinet finishes and the warmth of a contractor's handshake, over whether the countertop should be honed or polished. Those choices are real. They are not where projects fail. Projects fail in the space between what a homeowner pictured and what was written down before the work began. A question the drawings leave open does not disappear. It waits. Then it gets answered on site, by whoever happens to be holding the tape measure that morning, in whatever way is fastest to build.

The familiar story of a renovation is a story about money and trust. Find an honest builder, agree on a price, pray it holds. The more useful story is about authority, and it is rarely told. Who, exactly, gets to decide the hundreds of small things a house requires before it is finished? The homeowner believes they have hired a professional to build their decisions. Surprisingly often, those decisions are still unmade when the build begins, and they get made, and paid for, as the work goes.

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Every line on a set of construction drawings does one of two things. It decides something, or it hands the decision to someone else. A note reading "30-inch base cabinet, full-extension drawers, slab front" decides. A note reading "cabinets per allowance, style to be determined" defers. A wall drawn with a real dimension to the center of a window decides. The same wall drawn with "verify in field" defers. On a printed sheet, the two look equally official. They are opposites.

There is a whole vocabulary of deferral, and once you learn to see it you cannot stop. *As required. Contractor to verify. Per field conditions. Or equal. By others. To match existing.* Each phrase is a decision postponed, an IOU written against the future. A few of them scattered through a large set of drawings are normal; no one can predict

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what a wall hides until it is opened. But a set built mostly out of such phrases is not a design. It is a list of decisions the homeowner will be asked to make later, one at a time, with the demolition already done and the crew already waiting.

Economists have a name for this predicament, if not for the drywall. In 2016, the Nobel in economics went to Oliver Hart and Bengt Holmström for their work on contracts, and in particular on a problem they called incompleteness: no contract can possibly specify everything, so the interesting question becomes who holds the right to decide the things it left out. A renovation may be the purest incomplete contract most people will ever sign. Every gap in the drawings is one of those rights, quietly changing hands. The homeowner keeps the bill. The pen moves to the job site.

Every gap in the drawings is a right to decide, quietly transferred. The homeowner keeps the bill. The pen moves to the job site.

To hold onto that pen, a homeowner needs something most of them have never seen: a complete set of drawings. They have usually been shown only the floor plan, because the floor plan is the part that photographs well and reads at a glance. Behind it, in a real set, are the sheets that actually govern the build. Elevations that fix the heights. Sections that cut vertically through the building and resolve how one floor sits on the next. Details that show precisely how a window is flashed and a stair is framed. Schedules that pin every door and window to a size and a number so nothing is ordered by guess. And specifications, the written half of the documents, that name the materials and standards the drawings can only gesture at.

A homeowner does not need to read any of this the way a professional does. A few blunt checks, run at the kitchen table in fifteen minutes, will tell you whether a set is real. Pick a wall and follow its string of dimensions from one end to the other; the small numbers should add up to the big number printed across the whole wall, and if they do not, the builder will have to resolve the difference on site, at your cost. Look at whether every door and window carries a tag that points to a schedule. Look hardest at the details. Are they drawn for your house, your wall thickness, your foundation, your roofline? Or are they generic, the same clip-art details that could belong to any house in the country? Generic details are the clearest possible sign that the hard thinking was skipped and handed downstream to the crew. The same goes for the mechanical, electrical, and plumbing work. If it appears as a scattering of symbols with no sizes and no layout, treat it as undrawn, because that is exactly what it is.

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New construction begins on clean ground. A remodel begins inside a building that already exists and has opinions. Many remodel surprises trace back to a single omission, made long before the first surprise: no one measured the existing building accurately before designing the new work. A designer working from a rough tape sketch, or from twenty-year-old plans that no longer match reality, is designing against a house that is not there. The walls are not where the drawing says. The floors are not level. None of it shows up until demolition reveals it, by which time the design is committed and the change order is already taking shape.

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The cure is unglamorous. Capture the existing building precisely before any design begins, whether by patient hand survey or by a laser scan that measures every visible surface, so the new work is drawn against the house that exists rather than the one everyone assumed. A scan cannot see inside a wall, but on an old or out-of-square building it heads off a large share of the overruns that start with a bad measurement. There is a legal layer here as well, one that catches owners off guard. The code that governs work on existing buildings sorts alterations into levels by how much you are changing, and crossing from one level into the next can trigger upgrades no one budgeted for, from fire separations to bringing part of the structure up to current standards. A designer who understands those thresholds will tell you where your project sits before you commit, not after the inspector does.

All of which points to an order of operations older than any building code: decide, then price, then build. Design first, send a complete set to several builders, and the bids come back describing the same house, comparable line for line. Hire the builder first, before a design exists, and the order inverts itself. The builder becomes the designer by default. The decisions tilt toward whatever keeps the job moving. And there is no independent document against which to measure the result, so neither side can show that the work was done right. This is not a knock on builders, whose skill is real and worth paying for. It is the wrong skill to aim at the design of your house.

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A complete set of drawings protects a homeowner only if it is followed. On a surprising number of jobs, somewhere between the permit and the final inspection, the build departs from the drawings. The specified window is back-ordered, so a different one goes in. The detail calls for a membrane the crew has never used, so the opening is flashed the way it has always been flashed. The beam is drawn as an engineered product, and with a crew waiting, the framer builds it from what is already on the truck. Often, none of these choices is announced. Most are made in good faith. Every one of them is a design decision, made by someone who was not hired to make it.

Part of this is habit. Building is a trade learned by doing, and a method that has worked for twenty years is hard to set down. But materials and methods now change faster than anyone can track from memory. Continuous exterior insulation, fluid-applied air and water barriers, unvented roof assemblies, ductless heat pumps, engineered lumber, stay-in-place concrete forms, and an energy code that now tests how airtight a house actually is: each one depends on sequence, so the detail has to carry it. Where the drawings do not show the assembly step by step, the crew falls back on the method it knows works. The substitution looks fine on the day it is installed. Its consequences arrive later, and they arrive at the owner's address.

The rule that prevents this is simple, and it belongs in the contract. The contractor installs what the documents show. When the contractor has a reason to do something else, and sometimes the reason is a good one, the change is proposed in writing, reviewed by the designer, approved by the owner, and, when it touches the structure, reviewed by the engineer, all before anything is built. A good builder welcomes that rule, because it settles in advance who decided what.

A change proposed in writing and approved before it is built protects everyone on the job.

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What does an unapproved change actually cost? Rarely what it appeared to save. The consequences are mostly hidden, and most of them surface long after the crew has gone home:

1. **The permit no longer matches the building.** The inspector approved the drawings, not the improvisation. A deviation can fail inspection or force a revised submittal to the building department, with its own fees and delays.
2. **The structural design no longer applies.** The engineer designed the beam, post, or connection that was drawn, not the one that was installed. An unreviewed substitution leaves part of the structure that no one has checked.
3. **Warranties quietly lapse.** Window, roofing, siding, and membrane manufacturers typically warrant their products only when they are installed to the manufacturer's instructions. A different method can void a warranty the owner believes they have.
4. **The wall stops working as a system.** A wall or roof assembly manages heat, air, and water in layers. Change one layer, the vapor control, the flashing sequence, the insulation, and moisture can be trapped where no one will see it until the rot or the mold does.
5. **The energy performance drops.** A substituted window, a different insulation, or a skipped air seal can fail the energy code test and raise the utility bill for the life of the house.
6. **The next trade inherits the problem.** A wall moved six inches moves the plumbing, the outlets, and the cabinets with it. Their work no longer fits, and the change orders multiply downstream.
7. **The record is wrong.** The drawings no longer describe the house. The next remodeler, the next owner, and the insurer after a loss will all work from a document that is no longer true.
8. **The costs escalate.** A deviation is cheapest to correct on paper, costs more once it is built, and costs most after it is covered by drywall, roofing, or concrete. Fixing it late means tearing out finished work, paying the trades twice, and paying the engineer and the building department again to review the fix. Each day the work is stopped adds idle crews, extended rentals, and carrying costs on the loan, and a deviation found after move-in can mean living around the repair.
9. **The dispute has no referee.** When an undocumented change fails, fault becomes a matter of memory and argument. A written, approved change answers that question before it is ever asked.

Every one of these lands on the owner. Warranties run out. The house does not.

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Ask anyone who has finished a renovation what broke the budget, and they will rarely name the original price. They will name the change orders. A change order is the running accounting of everything the drawings left unsaid. Some are honest surprises, the vent stack no one could have seen. Many are not. They are gaps, and they are priced after the homeowner is committed, when the room is open and the crew is standing in it and the answer cannot wait. This is

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the whole argument arriving at the bank statement. A "verify in field" note is often a change order with a delayed fuse. With a thin set of drawings, the lowest bid may simply be the one that assumed the least. The missing decisions return later, at the least convenient moment.

A complete set protects the builder as much as the owner. Every bidder prices the same house, so the job is won on price and schedule, not on who left the most out. Questions are answered before the crew is waiting. And when a real change comes, there is a written baseline that shows it was a change, so the builder is paid for it.

There is one more party to the project that homeowners tend to resent and shouldn't: the building department. The permit and inspection process is one of the few moments when someone with real authority checks the work on the homeowner's behalf, for the price of the permit fee, and without the homeowner needing to know what to look for. In Arizona, as in most states, residential work is reviewed against the International Residential Code before a shovel moves, and an inspector returns at each stage of the build, from footings to framing to the final, signing off only when the work passes. A contractor who suggests skipping the permit to save time is offering to move the risk onto the owner. Unpermitted work stalls sales, fails appraisals, voids parts of an insurance claim after a loss, and can leave a homeowner personally on the hook to tear it out.

The state offers quieter protections, too, for those who bother to use them. Arizona licenses its contractors through a Registrar whose database is open to anyone; two minutes will tell you whether the person you are about to trust with six figures is in good standing or trailing a history of complaints. The same agency keeps a recovery fund that can repay a homeowner as much as thirty thousand dollars when a licensed contractor's work goes wrong. It is a backstop that exists only if the contractor was licensed to begin with, which is precisely why the two-minute check is worth more than it looks.

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The reassuring myth of a renovation is that its decisive moments are loud ones: demolition day, the final reveal, the before-and-after. The truth is duller and far more useful. The decisive moment is quiet, and it comes early, at a table, over a set of drawings, before a single permit is pulled. That is the one stretch of the whole project when a homeowner holds every decision in their hands and every decision is still cheap. The skill that matters is not picking the right tile or negotiating a bid. It is refusing to let the questions disappear, unanswered, into the wall, where they wait with great patience to be answered in cash. Who designs your house? On the projects that go well, there is only one good answer. You did, on paper, while you still could.

A note on sources and scope. This essay is general information for homeowners, not legal advice or a substitute for a licensed design professional, engineer, attorney, or your local building department. The economics of incomplete contracts draw on the work of Oliver Hart and Bengt Holmström, awarded the 2016 Sveriges Riksbank Prize in Economic Sciences. Arizona contractor licensing, the Residential Contractors' Recovery Fund (capped at $30,000 per claimant, per residence, as of November 2026), and the handyman exemption are administered by the Arizona Registrar of Contractors under A.R.S. Title 32, Chapter 10; codes and figures change, so confirm current requirements with the authority having jurisdiction. Manufacturer warranty terms vary; read the installation requirements for the products on your project. Published November 2026 by Hope CGI, LLC, a building and construction consultancy in Bisbee, Arizona. AZ BTR Firm Registration 26939.

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